REVITALIZING ESSENTIAL FACILITIES

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I. INTRODUCTION

There is a vigorous debate concerning the merits of private control over various types of resources. Treating something as private property grants the property holder the right to exclude others or to grant them access on differing terms. Treating something as an open access commons conversely welcomes all users on a nondiscriminatory basis. The battle over which regime best serves society's interests exists in numerous areas of the law, including intellectual property, regulated industries, and antitrust. It is also currently in vogue to "propertize," privatize, and deregulate legal regimes under a variety of rationales all connected with maximizing wealth, supporting price discrimination, promoting allocative efficiency, and internalizing externalities.

These issues are most prominent in contemporary debates over the continued expansion of intellectual property rights.[1] The conflict over

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[1] For an overview of these debates and discussion of the expansion of intellectual property rights, see generally Yochai Benkler, The Wealth of Networks: How Social Production Transforms Markets and Freedom (2006); William M. Landes & Richard A. Posner, The Economic Structure of Intellectual Property Law (2003); Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society (Rochelle Cooper Dreyfuss et al. eds., 2001); Lawrence Lessig, The Future of Ideas (2001); Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 Tex. L. Rev. 1031 (2005) [hereinafter *Property, Intellectual Property, and Free Riding*].

access and exclusion is a central, persistent feature of intellectual property law. Those who create, invent, innovate, and participate in similar intellectually driven, productive activities often borrow from or share with others. It is impossible to divest from oneself that which one has been exposed to; inevitably, the intellectual products of past and contemporary producers serve as inputs into each of our own productive activities. So, to be intellectually productive, we necessarily borrow and share. Open access facilitates widespread borrowing, sharing, and participation in intellectual production.[2]

But at the core of intellectual property is the right to exclude, without which some producers would abandon their efforts for fear of free riding (unlicensed sharing) by competitors. Without some exclusion, competition by unlicensed borrowers would, at times, undermine incentives to invest resources in the first place. Yet exclusion introduces deadweight losses and may stifle productive use of intellectual resources. In the end, intellectual property laws strike a balance and create a semi-commons arrangement—a complex mix of private rights and commons designed to facilitate both exclusion and open access.[3] The pivot on the intellectual property seesaw has steadily been pushed to favor privatization, but the debate persists.

In telecommunications, these issues have surfaced again and again. Communications networks have traditionally been conceptualized as infrastructure subject to substantial access and nondiscrimination norms and, as a result, have been heavily regulated. In recent decades, efforts to introduce competition and at the same time to deregulate communications industries has led to vociferous debates about the merits of private control, government regulation, and open access.

In antitrust law, the same fault lines appear—only they often are not recognized as such. The essential facilities doctrine holds that dominant firms may incur antitrust liability if they do not provide access to their

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[2] *See* Brett M. Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917 (2005) [hereinafter *An Economic Theory of Infrastructure and Commons Management*]. For a comprehensive account of widespread peer production of information, see BENKLER, *supra* note 1; *see also* Brett M. Frischmann, *Cultural Environmentalism as a Lens to (Re)View the Wealth of Networks*, 74 U. CHI. L. REV. 1083 (2007) (reviewing YOCHAI BENKLER, A WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM (2006)). R

[3] *See generally* Brett M. Frischmann & Mark A. Lemley, *Spillovers*, 107 COLUM. L. REV. 257 (2007). Whether intellectual property law has struck the proper balance continues to be debated and appears to be impossible to determine empirically. The question largely appears to be a normative one. *See, e.g.*, FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (2003), *available at* http://www.ftc.gov/os/2003/10/innovationrpt.pdf.

unique facilities, even to competitors, on a nondiscriminatory basis where sharing is feasible and the competitors cannot obtain or create the facility on their own.[4]

Although antitrust liability based on the essential facilities doctrine is long established in past case law and enforcement actions of the Department of Justice Antitrust Division and the Federal Trade Commission, the doctrine is currently being challenged on four fronts. First, the Supreme Court has dealt with the essential facilities doctrine through an apparent strategy of death by dicta, all but disavowing its prior case law on the subject. Second, Congress created an antitrust review commission that considered whether to recommend narrowing or abolishing the doctrine, and the Commission ultimately recommended leaving the matter to the courts. Third, U.S. and foreign antitrust enforcement agencies have conducted hearings on the legal standards governing dominant firms, in which the essential facilities doctrine faced significant critique. Finally, academic scholars have subjected the essential facilities doctrine to criticism for years. Not surprisingly, those who would shield dominant firms from having to share their property under pain of antitrust liability use the same rhetoric of private rights that is fueling the same positions in hotly contested debates in intellectual property, telecommunications, and other fields.

We propose in this article not only to reinvigorate the essential facilities doctrine, but to do so on economics grounds and to tie its revitalization to the ongoing debates over open access in other fields. Seen in this wider context, the essential facilities doctrine is one expression of the venerable principle in Anglo-Saxon law favoring open access for certain

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[4] Closely related is the possibility of antitrust liability for dominant firms that refuse to deal with competitors, even the possibility of liability for refusal to license intellectual property rights. *Compare* Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1216 (9th Cir. 1997) (refusal to license without objective business justification may be antitrust violation), *with* Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322, 1327–28 (Fed. Cir. 2000) (no duty for owner of intellectual property to deal with competitors), *cert. denied sub nom.* CSU, L.L.C. v. Xerox Corp., 531 U.S. 1143 (2001). *See generally* 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 (2006); Michael A. Carrier, *Refusals to License Intellectual Property after* Trinko, 55 DEPAUL L. REV. 1191 (2006); Robert Pitofsky, *Challenges of the New Economy: Issues at the Intersection of Antitrust and Intellectual Property*, 68 ANTITRUST L.J. 913, 919–23 (2001); Richard J. Gilbert & Carl Shapiro, *An Economic Analysis of Unilateral Refusals to License Intellectual Property*, 93 PROC. NAT'L ACAD. SCI. USA 12749 (1996), *available at* http://pnas.org/cgi/reprint/93/23/12749.pdf; David McGowan, *Regulating Competition in the Information Age: Computer Software as an Essential Facility Under the Sherman Act*, 18 HASTINGS COMM. & ENT. L.J. 771 (1996).

facilities, assets, and property that are "affected with the public interest."[5]

In more modern parlance, these kinds of assets and facilities are often described as infrastructure. Traditional infrastructure includes bridges, highways, ports, electrical power grids, and telephone networks—but infrastructure can also include nontraditional, even noncommercial, items, such as ideas, the Internet, and other assets that are vital inputs to the production of wealth at later stages of production on a basis disproportionate to their actual use. The significant positive externalities ("spillovers") that open access produces make open access socially desirable and internalization through exclusive property rights inefficient. Stated more broadly, open access to infrastructural resources supports society's economic interest in wealth maximization and allocative efficiency as well as other societal goals of fairness, equality, and nondiscrimination.

In the antitrust field, all this is an abstract debate until a dominant firm controls such a unique infrastructural asset and unreasonably refuses to grant access to a competitor that needs access in order to compete with the monopolist at some other stage of production. This could include a long-distance telephone company that requires interconnection to the local phone system, or a wholesale power company that requires physical interconnection with the local power transmission or distribution system. There is no theoretical reason why a computer program, the Internet itself, or even an idea might not similarly constitute infrastructure and thus require a regime of open access. When refusal to grant access to infrastructure (as defined below) is a means of either acquiring or maintaining a monopoly, antitrust liability should ensue.

In this article, we set out our theory of why the essential facilities doctrine is a vital, but limited, tool to ensure more efficient and economically desirable open access to both traditional and nontraditional infrastructure. We reframe the debate to ask the question of whether a dominant firm is denying access to infrastructural assets for which non-

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[5] Walton H. Hamilton, *Affectation with Public Interest*, 39 YALE L.J. 1089, 1100–01 (1930). The notion goes back in U.S. law to *Munn v. Illinois*, 94 U.S. 113 (1876), and the other Granger cases that upheld the constitutionality of rate regulation for railroad grain elevators. In English law, it goes back to the writings of Lord Matthew Hale in 1676. *See generally* HERBERT HOVENKAMP, ENTERPRISE AND AMERICAN LAW, 1836–1937, at 199–204 (1991); ITHIEL DE SOLA POOL, TECHNOLOGIES OF FREEDOM (1983); BRUCE WYMAN, THE SPECIAL LAW GOVERNING PUBLIC SERVICE CORPORATIONS AND ALL OTHERS ENGAGED IN PUBLIC EMPLOYMENT (1911); Charles Fairman, *The So-Called Granger Cases, Lord Hale, and Justice Bradley*, 5 STAN. L. REV. 587 (1953); Breck P. McAllister, *Lord Hale and Business Affected with a Public Interest*, 43 HARV. L. REV. 759 (1930); Bruce Wyman, *The Law of Public Callings as a Solution to the Trust Problem*, 17 HARV. L. REV. 156 (1904).

discriminatory access would benefit us all, and respond to the many critics of the current formulation of the essential facilities doctrine.

We review the traditional essential facilities doctrine as applied in practice by the U.S. Supreme Court and by name in the lower courts in Part I of the article. In Part II, we define our theory of infrastructure, explain why infrastructural assets require a regime of open access, and connect infrastructure theory to the essential facilities doctrine in antitrust. We assert that infrastructure theory best explains how the essential facilities doctrine works in antitrust law in Part III.

We then respond to the principal criticisms of the essential facilities doctrine in Part IV. In Part IV.A, we address critics' concerns that the essential facilities doctrine merely divides, and does not increase, consumer welfare. We address critics' concerns over how the essential facilities doctrine affects incentives in Part IV.B. We argue in Part IV.C that courts are able to apply these concepts in a consistent and administrable manner.

Part V then ties together the theoretical discussion and responses to critics with a number of concrete applications. We ground our theoretical discussion in practical real-world contexts and demonstrate that our model provides a coherent basis for determining whether open access is needed. We do so by applying our theory to a series of past, present, and future controversies, including access to sports stadiums, ski slopes, the Associated Press network, modern telecommunications networks, Microsoft Windows, and Apple's iPod/iTunes. Finally, in Part VI, we conclude by discussing the critical role of a rehabilitated essential facilities doctrine in an era of deregulation.

II. THE ESSENTIAL FACILITIES DOCTRINE

Although the essential facilities doctrine has been described as having "a long and respected history as part of U.S. antitrust law,"[6] it has also been a controversial doctrine. As a result, the essential facilities doctrine has fluctuated in popularity, definition, and use by the courts and enforcement agencies as a basis for imposing antitrust liability. In recent years, attempts to restrict or eliminate its use have become more pronounced.

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[6] Robert Pitofsky, Donna Patterson & Jonathan Hooks, *The Essential Facilities Doctrine Under U.S. Antitrust Law*, 70 ANTITRUST L.J. 443, 445 (2002).

A. The Traditional Doctrine

The essential facilities doctrine arose early in the history of U.S. antitrust law. The Supreme Court used Section 1 of the Sherman Act in a variety of settings to impose obligations of equal and nondiscriminatory access, although it did not use the essential facilities doctrine by name. In *Terminal Railroad Association*, the Court in 1912 directed the issuance of an injunction requiring the joint operators of the only railroad bridge across the Mississippi River to grant open and equal access to all competitors.[7] Later, in 1945, the Court required the Associated Press to offer nondiscriminatory membership terms to news organizations that competed with its existing members.[8] Finally, in *Otter Tail*, the case closest to the core conception of the essential facilities doctrine, the Court in 1973 affirmed the grant of an injunction against a regulated power company that refused to transmit power generated by competing companies through its transmission system to municipal distribution systems that wanted to buy cheaper power from the defendant's competitors.[9]

The Seventh Circuit laid out the modern version of the doctrine in 1983, in *MCI v. AT&T*.[10] The *MCI* case concerned an antitrust challenge by a long-distance competitor of the then-regulated monopolist local telephone company, AT&T. AT&T controlled the local phone systems necessary to connect both ends of any long-distance phone call. MCI alleged that AT&T unjustifiedly failed to interconnect MCI's superior microwave technology to the local loop so that MCI customers' calls could be completed. AT&T argued that its refusal to interconnect was justified based on cream-skimming arguments, technological incompatibility, and lack of regulatory approval.[11]

On appeal, the Seventh Circuit affirmed liability under the essential facilities doctrine. It required the plaintiff to establish the following elements:

1. The monopolist controls access to an essential facility;

2. The facility cannot be reasonably duplicated by a competitor;

3. The monopolist denies access to a competitor; and

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[7] *See* United States v. Terminal R.R Ass'n of St. Louis, 224 U.S. 383, 411–13 (1912).

[8] Assoc. Press v. United States, 326 U.S. 1, 4–5 (1945) (*Associated Press II*).

[9] Otter Tail Power Co. v. United States, 410 U.S. 366, 382 (1973).

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

[11] *Id.* at 1133–1141 (describing and rejecting AT&T's regulatory and other defenses of its refusal to interconnect).

4. It was feasible for the monopolist to grant access.[12]

Following *MCI*, the lower courts widely adopted the essential facilities doctrine,[13] but the Supreme Court has never used it by name. The closest the Supreme Court came to doing so was in *Aspen Skiing*—in which it affirmed a jury verdict of antitrust liability that the appellate court had affirmed in reliance on the essential facilities doctrine.[14] In *Aspen Skiing*, the defendant "monopolist" controlled three of four ski mountains in Aspen, Colorado.[15] The defendant had engaged in a longstanding pro-consumer joint venture with the remaining competitor, which owned the fourth mountain in the valley. The defendant then abruptly terminated the joint venture without a credible business justification. The Supreme Court affirmed the verdict for the plaintiff, but declined to address the essential facilities test used by the lower court. Instead, the Supreme Court relied on the monopolist's termination of a successful consumer-friendly program that lacked a plausible business justification, and on the defendant's willingness to sacrifice profits to injure competition on a long-term basis.[16]

Since *MCI* and *Aspen Skiing*, there has been a gradual narrowing of the essential facilities doctrine. Courts have applied the doctrine more stringently and more sparingly. Nonetheless, the lower courts have repeatedly turned to it because it represents a fundamental understanding about the misuse of monopoly power.

Courts are becoming increasingly sophisticated about insisting on the truly "essential" nature of the facility at issue. For example, even a small-town hospital is not an essential facility for antitrust purposes to a doctor that it excluded, where the excluded doctor had other reasonable alternative facilities available to perform surgical procedures, including outpatient surgery in an office setting.[17] Courts have had even easier times

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[12] *Id.* The Seventh Circuit reversed liability on certain other theories and remanded for a new trial on damages. The case subsequently settled.

[13] Cases collected at 1 ABA SECTION OF ANTITRUST LAW, ANTITRUST LAW DEVELOPMENTS 261–66 (6th ed. 2007).

[14] Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 611 (1985), *aff'g*, 738 F.2d 1509 (10th Cir. 1984).

[15] For reasons that are inexplicable, the defendant never appealed the finding in the lower court that it had monopoly power in a relevant market for downhill skiing in Aspen, Colorado. *See id.* at 596 n.20, 600 n.26.

[16] The significance and legacy of the *Aspen* decision is debated in a recent symposium issue in the *Antitrust Law Journal. Symposium*, Aspen Skiing *20 Years Later*, 73 ANTITRUST L.J. 59 (2005).

[17] Castelli v. Meadville Med. Ctr., 702 F. Supp. 1201, 1209 (W.D. Pa. 1988), *aff'd*, 872 F.2d 411 (3d Cir. 1989). *See also* McKenzie v. Mercy Hosp., 854 F.2d 365, 371 (10th Cir. 1988). The largely unsuccessful line of essential facilities doctrine cases in the health care

rejecting essential facilities claims when the plaintiff wanted access to advertising in a competitor's magazine when it was free to create its own magazine or advertise in other media channels.[18] Most recently, little more than common sense doomed an antitrust claim by a disfavored seller excluded from an annual three-day re-creation of 19th century fur trading in Wyoming. The court sensibly relied on the fact that the plaintiff remained free to sell his wares anywhere he wished, except on the event grounds for the particular weekend of the fair.[19]

The best cases for the essential facilities model typically involve the denial of access to infrastructure and networks, particularly in the context of regulated industries in transition.[20] In a time of privatization and deregulation, antitrust generally is being asked to do the heavy lifting previously done by traditional command-and-control regulation to assure a competitive marketplace. However, it is precisely these cases, despite being well supported by theory and precedent, that are most under attack and most in need of revival.

B. Death by a Thousand Cuts

The counterattack against the essential facilities doctrine is in full bloom. The doctrine has been subject to increasing scholarly criticism.[21]

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area is surveyed in Scott D. Makar, *The Essential Facility Doctrine and the Health Care Industry*, 21 FLA. ST. U. L. REV. 913, 927–43 (1994).

[18] Twin Labs., Inc. v. Weider Health & Fitness, 900 F.2d 566, 569 (2d Cir. 1990).

[19] Gregory v. Fort Bridger Rendezvous Ass'n, 448 F.3d 1195, 1204–05 (10th Cir. 2006).

[20] *See* discussion *infra* Part III.

[21] HERBERT HOVENKAMP, THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION 237 (2005) [hereinafter THE ANTITRUST ENTERPRISE]; PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW § 771c (2d ed. 2002) ("harmful," "unnecessary," and "should be abandoned"); Paul D. Marquardt & Mark Leddy, *The Essential Facilities Doctrine and Intellectual Property Rights: A Response to Pitofsky, Patterson, and Hooks*, 70 ANTITRUST L.J. 847 (2003) (advocating a narrow application of the essential facilities doctrine to intellectual property licensing); Abbott B. Lipsky & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1187, 1248 (1999) (no coherent rationale for doctrine); Allen Kezbom & Alan V. Goldman, *No Shortcut to Antitrust Analysis: The Twisted Journey of the "Essential Facilities" Doctrine*, 1996 COL. BUS. L. REV. 1 (1996); Gilbert & Shapiro, *supra* note 4 (forced licensing of IP equivalent to essential facilities doctrine and normally not welfare enhancing); David McGowan, *supra* note 4; Keith N. Hylton, *Economic Rents and Essential Facilities*, 1991 BYU L. REV. 1243 (1991); Phillip Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 ANTITRUST L.J. 841 (1990); Gregory J. Werden, *The Law and Economics of the Essential Facility Doctrine*, 33 ST. LOUIS U. L.J. 433 (1987); Michael Boudin, *Antitrust Doctrine and the Sway of Metaphor*, 75 GEO. L.J. 395, 397–403 (1986); 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 (1988); Daniel E. Troy, Note, *Unclogging the Bottleneck: A New Essential Facilities Doctrine*, 83 COLUM. L. REV. 441 (1983) (claiming that essential facilities doctrine is not applied with principled consistency and arguing for narrower rule of reason version of doctrine with additional defenses for incumbent firms). *But see* LAWRENCE A. SULLIVAN & WARREN S. GRIMES, THE LAW OF ANTITRUST: AN INTEGRATED HANDBOOK

In the influential Areeda and Hovenkamp treatise, for example, the authors describe the doctrine as "harmful" and "unnecessary," and argue forcefully that it "should be abandoned."[22]

The *Trinko* decision in 2004 represents the near extinction of the doctrine in the Supreme Court, in a case in which it probably should not have been discussed at all.[23] In *Trinko*, a customer of the incumbent local phone service monopolist brought a private antitrust class action challenging the dominant firm's discrimination against a competitor, which allegedly resulted in overpriced and inadequate phone service. The Supreme Court ultimately ruled that the sole remedy was through state and federal regulatory provisions and that the complaint otherwise failed to state a claim under the antitrust laws.

Although its statements on the doctrine were not "essential" to the ruling, and technically dicta, the Court in *Trinko* appeared to go out of its way to restrict, and nearly reject, the essential facilities doctrine. It stated:

> This conclusion would be unchanged even if we considered to be established law the "essential facilities" doctrine crafted by some lower courts, under which the Court of Appeals concluded respondent's allegations might state a claim. We have never recognized such a doctrine, and we find no need either to recognize it or to repudiate it here. It suffices for present purposes to note that the indispensable requirement for invoking the doctrine is the unavailability of access to the "essential facilities;" where access exists, the doctrine serves no purpose. Thus, it is said that "essential facility claims should . . . be denied where a state or federal agency has effective power to compel sharing and to regulate its scope and terms." Respondent believes that the existence of sharing duties under the 1996 Act supports its case. We think the opposite: The 1996 Act's extensive provision for access makes it unnecessary to impose a judicial doctrine of forced access. To the extent respondent's "essential facilities" argument is distinct from its general argument, we reject it.[24]

124–30 (2d ed. 2006) (supporting doctrine for jointly operated facilities and more limited version of doctrine for unilaterally controlled essential facilities); Pitofsky et al., *supra* note 6 (endorsing doctrine as currently defined); Glenn O. Robinson, *On Refusing to Deal with Rivals*, 87 CORNELL L. REV. 1177 (2002) (endorsing essential facilities doctrine in lieu of broader general duty to deal for monopolists); James R. Ratner, *Should There Be an Essential Facility Doctrine?*, 21 U.C. DAVIS L. REV. 327, 367–68 (1988) (supporting a narrowly defined version of the doctrine). R

[22] AREEDA & HOVENKAMP, ANTITRUST LAW, *supra* note 21, § 771c. R

[23] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko LLP, 540 U.S. 398 (2004).

[24] *Id.* at 410–11 (citations omitted). This passage can be viewed more neutrally, but we believe that properly viewed in context it represents a fundamental embrace of skepticism as to both the essential facilities doctrine and judicial enforcement of Section 2 of the Sherman Act more generally. *Trinko* arguably preserved a version of the essential facilities doctrine for joint refusals to deal under Section 1 of the Sherman Act. 540 U.S. at 410 n.3.

The essential facilities doctrine has been reviewed in various forums, including the U.S. Antitrust Modernization Commission[25] and joint hearings by the FTC and the Antitrust Division of the Justice Department on single-firm dominance.[26] In addition, the International Competition Network has created a working group on exclusionary conduct,[27] and the European Union is reviewing standards for abuse of a dominant position under their competition law.[28] It is anticipated that, with the possible exception of the European Union, the essential facilities doctrine may be in for further criticism in these and other future forums.

III. ESSENTIAL FACILITIES, INFRASTRUCTURE, AND OPEN ACCESS[29]

As traditionally conceived, essential facilities doctrine focuses mostly on supply-side considerations. The existing doctrinal test focuses on the nature of an upstream resource and the market conditions for supplying the resource, asking whether competitive supply is possible.[30] "Essentiality" in the existing test appears to be a rather inarticulate and unrefined demand-side consideration. It is not very clear what exactly "essentiality" means: what makes a facility essential other than the lack of alternative substitutes? Many have critiqued the essential facilities doctrine on the grounds that it is too open-ended and insufficiently defined. We believe that this is a result, at least in part, of the demand-side piece being underspecified. Infrastructure theory, we argue, provides a needed theoretical and practical set of demand-side considerations that should be incorporated into the essential facilities doctrine.

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[25] *See* ANTITRUST MODERNIZATION COMMISSION, REPORT AND RECOMMENDATIONS (2007), *available at* http://www.amc.gov/report_recommendation/amc_final_report.pdf; Antitrust Modernization Comm'n, Public Hearings, Exclusionary Conduct: Refusals to Deal and Bundling and Loyalty Discounts (Sept. 29, 2005), *available at* http://www.amc.gov/commission_hearings/pdf/050929_Exclus_Conduct_Transcript_reform.pdf.

[26] *See* U.S. Dep't of Justice, Public Hearings, Antitrust Division, Single-Firm Conduct and Antitrust Law, Issues for Consideration, http://www.usdoj.gov/atr/public/hearings/single_firm/sfchearing.htm#issues.

[27] *See* Int'l Competition Network (ICN), Unilateral Conduct, http://www.internationalcompetitionnetwork.org/index.php/en/working-groups/unilateral-conduct.

[28] *See* European Comm'n, Article 82 Review, *available at* http://ec.europa.eu/comm/competition/antitrust/art82/index.html.

[29] This Part is drawn with some adaptation from Frischmann, *An Economic Theory of Infrastructure and Commons Management*, *supra* note 2. R

[30] Recall the *MCI* factors discussed above. Factors #1, #2, and #4 ask: *Is access to the facility controlled by a monopolist? Can it be reasonably duplicated? Is it sharable?* The behavior or conduct of producer-suppliers is relevant (*see* Factor #3: *denial of access by monopolist*), but the key economic question seems to be whether there are impediments to competitive supply of the facility in question.

A. INFRASTRUCTURE RESOURCES

Infrastructure resources generate value as inputs into a wide range of productive processes, often supporting many distinct markets downstream. The term "infrastructure" generally conjures up the notion of physical resource systems made by humans for public consumption. A list of common examples includes: (1) *transportation systems*, such as highway and road systems, railways, airline systems, and ports, etc.; (2) *communication systems*, such as telephone networks and postal services; (3) *governance systems*, such as court systems; and (4) *basic public services and facilities*, such as schools, sewers, and water systems.

Two generalizations about infrastructure are worth noting at the outset. First, the government has played, and continues to play, a significant and widely accepted role in ensuring the provision of many infrastructure resources. While private parties and markets play an increasingly important role in providing many types of traditional infrastructure due to a wave of privatization, as well as cooperative ventures between industry and government, the government's position as provider, coordinator, subsidizer, and/or regulator of traditional infrastructure remains intact in the United States and in most communities throughout the world. The wave of privatization should be associated with more, not less, need for the essential facilities doctrine, as infrastructure once held in government hands is now private.[31]

Second, traditional infrastructures generally are managed in an openly accessible manner. They are managed so that the resources are accessible to members of a community who wish to use the resources on nondiscriminatory terms. This does not mean that access is free. We pay tolls to access highways; we buy stamps to send letters; we pay telephone companies to have our calls routed across their lines, and so on.

Nor does it mean that access to the resource is unregulated. Transportation of hazardous substances by highway or mail, for example, is heavily regulated. Other aspects of infrastructure are more lightly regulated, but the government remains active as overseer of the infrastructure and the terms of access. The key point is that the resource typically is openly accessible to all within a community on nondiscriminatory terms regardless of the identity of the end-user or the end-use.

Managing infrastructure in this fashion makes economic sense. Doing so maintains openness, does not discriminate among users or uses of the resource, and eliminates the need to obtain approval or a license to use

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[31] Oddly, the law is moving in the opposite direction. *See supra* Part I.B.

the resource. As a general matter, managing infrastructure resources in this fashion eliminates the need to rely on either market actors or the government to "pick winners" downstream. This facilitates competition downstream, innovation and experimentation with new uses, and often the generation of positive externalities that result in large social gains.[32]

B. Demand-Side Theory of Infrastructure

Infrastructure constitutes an important class of resources for which society values common public access. Our point is not that all infrastructure resources should be managed in an openly accessible manner. Rather, for certain classes of resources, the economic arguments for managing the resources in an openly accessible manner vary in strength and substance.

Infrastructure resources tend to satisfy the following demand-side criteria:

1. The resource may be consumed non-rivalrously;
2. Social demand for the resource is driven primarily by downstream productive activity that requires the resource as an input; and
3. The resource is used as an input into a wide range of goods and services, including private goods, public goods, and/or non-market goods.[33]

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[32] *See* Frischmann, *An Economic Theory of Infrastructure and Commons Management*, *supra* note 2; Frischmann & Lemley, *supra* note 3. Most economists agree that infrastructure resources generate significant positive externalities that result in "large social gains." W. Edward Steinmueller, *Technological Infrastructure in Information Technology Industries*, *in* Technological Infrastructure Policy: An International Perspective 117, 117 (Teubal et al. eds., 1996). Carol Rose was the first legal academic to draw an explicit, causal connection between open access and these positive externalities. In her path-breaking article, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. Chi. L. Rev. 711 (1986), Rose explained that a "comedy of the commons" arises where open access to a resource leads to scale returns—greater social value with greater use of the resource. *Id.* at 723. With respect to road systems, for example, Rose considered commerce to be an

> interactive practice whose exponential returns to increasing participation run on without limit. . . . Through ever-expanding commerce, the nation becomes ever-wealthier, and hence trade and commerce routes must be held open to the public, even if contrary to private interest. Instead of worrying that too many people will engage in commerce, we worry that too few will undertake the effort.

Id. at 769–70. Critically, as Rose recognized, managing road systems in an openly accessible manner is the key to sustaining and increasing participation in commerce, and commerce is itself a productive activity that generates significant positive externalities. **R**

[33] We are defining a category of infrastructure resources. The category is not all-inclusive in the sense that some resources generally considered to be infrastructure do not fit within this definition neatly. This does not affect our analysis, which only applies to resources that do fit within the definition.

Traditional infrastructure—such as roadways, telephone networks, and electricity grids—satisfy this definition, as do a wide range of resources not traditionally considered as infrastructure resources, such as lakes, ideas, and the Internet.

The first demand-side criterion describes the "sharable" nature of infrastructure resources. Infrastructure is sharable in the sense that the resources can be accessed and used by multiple users at the same time. Infrastructure resources vary in their capacity to accommodate multiple users, and this variance in capacity differentiates non-rivalrous (infinite capacity) resources from partially non-rivalrous (finite but renewable capacity) resources. Simply put, non-rivalry opens the door to widespread access and productive use of the resource. For non-rivalrous resources of infinite capacity, the marginal costs of allowing an additional person to access the resource are zero.

For partially non-rivalrous resources of finite capacity, the cost-benefit analysis is more complicated because of the possibility of congestion through competing uses and users. These resources may be consumed non-rivalrously or rivalrously, depending upon the conditions, such as how the resource is managed, the number of users, and the available capacity. During off-peak hours, for example, the highway may be consumed non-rivalrously, but when usage is at its peak there may be congestion, in which case consumption becomes rivalrous. Congestion problems can be overcome by management choices, such as capacity expansion, regulation by the market (by price), government regulation (command and control), norms, or even technology.[34]

The second and third demand-side criteria focus on the manner in which infrastructure resources create social value. The second criterion emphasizes that infrastructure resources are intermediate goods that create social value when utilized productively downstream and that such use is the primary source of social benefits. In other words, while some infrastructure resources may be consumed directly to produce immediate benefits, most of the value derived from the resources results from productive use rather than consumption.

The third criterion emphasizes both the variance of downstream outputs (the genericness of the input) and the nature of those outputs (particularly, public goods and non-market goods). The reason for em-

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[34] If a particular asset were fully congested and could not accommodate additional users, this would be a defense under the fourth prong of *MCI* under the traditional formulation of the essential facilities doctrine. Nothing in our infrastructure theory would change this result.

phasizing variance and the production of public goods and non-market goods downstream is that, when these criteria are satisfied, the social value created by allowing additional users to access and use the resource may be substantial, but extremely difficult to measure. The information problems associated with assessing demand for the resource and valuing its social benefits plague both infrastructure suppliers and users where users are using the infrastructure as an input to produce public goods or non-market goods. This is an information problem that is pervasive and not easily solved.

Whether we are talking about transportation systems, the electricity grid, basic research (ideas), environmental ecosystems, or Internet infrastructure, the bulk of the social benefits generated by the resources derives from the downstream uses. Value is created downstream by a wide variety of end users that rely on access to the infrastructure. Yet social demand for the infrastructure itself is extremely difficult to measure.

From an economic perspective, it makes sense to manage certain infrastructure resources in an openly accessible manner because doing so permits a wide range of downstream producers of private, public, and non-market goods to flourish. As Professor Yochai Benkler has noted, "[t]he high variability in value of using both transportation and communications facilities from person to person and time to time have made a commons-based approach to providing the core facilities immensely valuable."[35]

To better understand and evaluate these complex economic relationships, we define three general categories of infrastructure resources, illustrated in Table 1, based on the nature of the distribution of downstream activities: commercial, public, and social infrastructure.

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[35] Yochai Benkler, *Property, Commons, and the First Amendment: Towards a Core Common Infrastructure* 47–48 (Brennan Ctr. for Justice, NYU School of Law White Paper, Mar. 2001), *available at* http://www.benkler.org/WhitePaper.pdf.

TABLE 1: TYPOLOGY OF INFRASTRUCTURE RESOURCES

Type	Definition	Examples
Commercial Infrastructure	Non-rivalrous or partially non-rivalrous input into the production of a wide variance of *private* goods	1. Basic manufacturing processes 2. Ports 3. Highway systems 4. Electrical power grid
Public Infrastructure	Non-rivalrous or partially non-rivalrous input into the production of a wide variance of *public* goods	1. The Internet 2. Electrical power grid 3. Basic research
Social Infrastructure	Non-rivalrous or partially non-rivalrous input into the production of a wide variance of *non-market* goods	1. The Internet 2. Highway systems 3. Electrical power grid 4. Basic research

These categories are neither exhaustive nor mutually exclusive. Real-world infrastructure resources often fit within more than one of these categories at the same time. For example, the Internet is a combination of all three types of infrastructure and is thus a *mixed infrastructure*. The analytical advantage of this general categorization scheme is that it provides a means for understanding the social value generated by these infrastructure resources, identifying different types of market failures, and formulating the appropriate rules to correct such failures.

Pure commercial infrastructure resources are used to produce private goods. Consider the examples listed in Table 1. Basic manufacturing processes, such as die casting, milling, and the concept of the assembly line, are all non-rivalrous inputs into the production of a wide variety of private manufactured goods. Similarly, basic agricultural processes and food-processing techniques are non-rivalrous inputs into the production of a wide variety of private agricultural goods and foodstuffs. Many suppliers productively use commercial infrastructure resources purely as delivery mechanisms for manufactured goods, agricultural goods, foodstuffs, and many other commercial products. Ports, for example, act as an infrastructural input into the delivery of a wide range of private goods. Similarly, the Internet and highway systems are mixed infrastructures used by a wide range of suppliers to deliver private goods and services. The Internet and highway systems, in contrast with ports, also are used as inputs to support a wide range of other socially valuable activities.

Public and social infrastructure resources are used to produce public goods and non-market goods, respectively.[36] For both public and social infrastructure, the ability of competitive output markets to effectively generate and process information regarding demand for the required input is less clear than in the case of commercial infrastructure. Infrastructure users that produce public goods and non-market goods suffer valuation problems because they generally do not fully measure or appropriate the benefits of the outputs they produce and consequently do not accurately represent actual social demand for the infrastructure resource. Instead, for public and social infrastructure, demand generated by competitive output markets will tend to reflect the individual benefits realized by a particular user and not take into account positive externalities enjoyed by society as a whole.[37] Difficulties in measuring and appropriating value generated in output markets translates into a valuation/

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[36] From the demand side, the important distinction between these outputs—what separates non-market goods in particular from public goods—is the means by which they create value for society. The value of public goods is realized upon consumption. That is, upon obtaining access to a public good, a person consumes it and appreciates benefits (value or utility). The production of public goods has the potential to generate positive externalities. Whether the benefits are external to production depends upon the conditions of access and whether the producer internalizes the value realized by others upon consumption. By contrast, the value of non-market goods is realized in a more osmotic fashion and not through direct consumption. Non-market goods change environmental conditions and social interdependencies in ways that increase social welfare. Take, for example, active participation in democratic dialogue or education. While participants may realize direct benefits as a result of their activity, non-participants (non-consumers) also benefit—not because they also may gain access to the good (dialogue or education), but instead because of the manner in which dialogue or education affects societal conditions. *See generally* Frischmann, *An Economic Theory of Infrastructure and Commons Management*, *supra* note 2, at 964–67. R

[37] In contrast with network effects, infrastructure effects do not necessarily increase users' willingness to pay for access to the infrastructure resource. A user's willingness to pay for access to the infrastructure resource is limited to the benefits that can be obtained by the user, which depend upon the nature of the outputs produced, the extent to which such outputs generate positive externalities, and the manner in which those externalities are distributed. Infrastructure effects resemble indirect network effects in the sense that a larger number (or a wider variance) of applications may lead to an increase in consumers' valuation of the infrastructure or network, but the externalities generated by public and social infrastructure are even more indirect in that they are diffuse, derived from public and non-market goods, and not simply a function of increased availability of desired end-users or end-uses. Further, the externalities generated by public and social infrastructure often positively affect the utility of non-users, that is, members of society that are not using the infrastructure itself. In a sense, the positive externalities generated by the outputs are closely connected to the nature of the outputs and only loosely connected to the complementary relationship between the infrastructure and the output. This is important because the prospect of infrastructure suppliers internalizing complementary externalities is much less likely, making the possibility of a demand-side market failure much more likely. *See generally* Frischmann, *An Economic Theory of Infrastructure and Commons Management*, *supra* note 2, at 970–74. However, the presence of strong network effects further supports an open access requirement. *See generally* Carl Shapiro, *Exclusivity in Network Industries*, 7 GEO. MASON L. REV. 673 (1999). R R

measurement problem for infrastructure suppliers, which will not fully take into account, or provide the services for, the broader set of social benefits attributable to downstream producers of public or non-market goods.[38] As our typology shows, however, the issue of open access to infrastructure is "ubiquitous."[39] We now turn to why and when open access is desirable.

C. THE CASE FOR OPEN ACCESS TO INFRASTRUCTURE

The case for open access must be evaluated carefully and contextually. This Part briefly sets forth the demand-side economic arguments for managing these different types of infrastructure in an openly accessible manner.[40]

For commercial infrastructure, downstream producers of private goods normally accurately manifest demand for infrastructure because consumers realize the full value of the goods (i.e., there are no positive externalities), and are willing to pay for such benefits. Accordingly, from the demand-side, there is less reason to believe that government intervention into markets is necessary, absent anticompetitive behavior that affects supply.

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[38] Consider the Internet, for example. Common nondiscriminatory access to the Internet infrastructure facilitates widespread end-user participation in a variety of socially valuable productive activities.

> End-users . . . engage in innovation and creation; they speak about anything and everything; they maintain family connections and friendships; they debate, comment, and engage in political and nonpolitical discourse; they meet new people; they search, research, learn, and educate; and they build and sustain communities.
>
> These are the types of productive activities that generate substantial social value, value that too easily evades observation or consideration within conventional economic transactions. When engaged in these activities, . . . end-users interact with each other to build, develop, produce, and distribute public and nonmarket goods. . . . [P]articipation in such activities results in external benefits that accrue to society as a whole (online and offline) [and] are not captured or necessarily even appreciated by the participants.

Frischmann, *An Economic Theory of Infrastructure and Commons Management*, *supra* note 2, at 1017–18 (footnotes omitted). R

[39] *See* 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, 88 (2003) ("The open access question is even more ubiquitous than it may first appear, as policymakers and commentators often use different terms to describe the issue. Antitrust commentators discuss the 'primary' (or 'bottleneck') market and the 'secondary' (or 'complementary') market. In telecommunications, participants talk of 'conduits' and 'content.'").

[40] This point is developed more fully in Frischmann, *An Economic Theory of Infrastructure and Commons Management*, *supra* note 2, at 942–56. R

For public or social infrastructure, the case for open access becomes stronger for a number of reasons. First, output producers are less likely to accurately manifest demand due to information/appropriation problems. It is difficult for these producers to measure the value created by the public good or non-market good outputs. Producers of such outputs are not able to appropriate the full value because consumers are not willing to pay for the full value due to positive externalities. Such producers' willingness to pay for access to the input likely will be less than the amount that would maximize social welfare.

The social costs of restricting access to public or social infrastructure can be significant, and yet evade observation or consideration within conventional economic transactions. Initially, we may analyze the issue as one of high transaction costs and imperfect information. However, input buyers would still not accurately represent social demand, even with perfect information and low/no transactions costs, because it is the benefits generated by the relevant outputs that escape observation and appropriation. To the extent that infrastructure resources can be optimized for particular applications, there is still a risk that infrastructure suppliers will favor existing or expected applications, and applications that generate appropriable and observable benefits, at the expense of those applications that generate positive externalities.

Economists recognize that there is a case for subsidizing public and non-market goods producers because such goods are undersupplied by the market. The effectiveness of directly subsidizing such producers will vary, however, based on the capacity for subsidy mechanisms to identify and direct funds to worthy recipients.

In some cases, open access to infrastructure may be a more efficient, albeit blunt, means for supporting such activities than targeted subsidies. Open access eliminates the need to rely on either the market or the government to "pick winners" or uses worthy of access. On one hand, the market picks winners according to the amount of appropriable value generated by outputs, and consequently output producers' willingness to pay for access to the infrastructure. On the other hand, to subsidize production of public goods or non-market goods downstream, the government needs to pick winners by assessing social demand for such goods based on the social value they create. The inefficiencies, information problems, and transaction costs associated with picking winners under either system may justify managing public, social, and mixed infrastructure resources in an openly accessible manner.

D. TWO ROLES FOR THE ESSENTIAL FACILITIES DOCTRINE IN ANTITRUST

We see an important but limited role for the essential facilities doctrine in antitrust law with respect to infrastructure. Liability would be imposed only when open access to infrastructure would provide the societal benefits outlined above, and the conduct of the defendant or defendants otherwise satisfies the standards for a violation of Section 1 or 2 of the Sherman Act.

First, when dealing with pure commercial infrastructure—that is, infrastructure resources primarily used to produce private goods, the doctrine should play a very narrow, cautious role. The doctrine should only mandate nondiscriminatory access on clear satisfaction of the grounds articulated in *MCI*. Non-discriminatory access would consist of granting competitors access to infrastructure on terms no less favorable than those granted to the incumbent's current internal or external users. Our proposal would essentially screen for infrastructure before applying the traditional legal tests in the area.

Second, when dealing with mixed infrastructure—that is, infrastructure that supports productive activities that yield private, public, and/or nonmarket goods—the doctrine should play potentially a larger role because the case for nondiscriminatory access is stronger than for pure commercial infrastructure. As we discuss below, non-discriminatory access would also be broader by prohibiting differential treatment among users.[41]

1. *Commercial Infrastructure*

For pure commercial infrastructure, basic economic theory predicts that (1) competitive output markets should work well and effectively create demand information for the input; (2) market actors (input suppliers) will process this information; and (3) these market actors will satisfy the demand efficiently. Simply put, for commercial infrastructure, producers should appropriate sufficient benefits of the private good outputs via sales to consumers and thus should accurately manifest demand for the required inputs in upstream markets. Therefore, with respect to demand for commercial infrastructure, the key is maintaining competition in the output markets, where producers are competing to produce and supply private goods to consumers. Competition is the linchpin in this context because competitive markets can best assess and satisfy the demands of the public.

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[41] *See infra* Part III.B.

For pure commercial infrastructure,[42] traditional antitrust principles provide a sufficient basis for determining whether access is desirable. The essential facilities doctrine, however, still can play an important role in the antitrust framework where pure commercial infrastructures are at stake. The doctrine helps remedy supply-side problems where monopoly power and the inability to duplicate infrastructure impedes competitive supply. The *MCI* test can be understood as exactly such a policing mechanism.

Under our theory, the essential facilities doctrine would operate slightly differently than in its current contours.[43] Before applying the traditional legal tests, we would first screen to determine whether the facility being denied to competitors is infrastructural. Liability might well be less broad than it is currently for many types of pure commercial infrastructure because access would not lead to the substantial, yet hard to measure, spillovers than make access desirable in the first place. Access to non-infrastructural assets, such as sports stadiums and convention bureaus, would not be granted on the basis of our proposed essential facilities doctrine.[44] An infrastructure theory of essential facilities would expand access (and potential liability) to infrastructural assets, products, platforms, networks, and processes that support significant downstream positive externalities.[45]

2. *Public, Social, and Mixed Infrastructure*

Public, social, and mixed infrastructures are critical to the fabric of our society. We tend to take for granted many of these foundational resources and fail to recognize the array of mixed infrastructure that is truly essential to our economic and social systems. As a result, a far greater number and type of infrastructural assets should be considered more than purely commercial in nature. These infrastructures also contribute to social and public goods. Nondiscriminatory access to such as-

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[42] We should emphasize that "pure" categories of infrastructure are the exception, rather than the rule. Most infrastructure resources are mixed.

[43] We would require strong supply-side reasons to justify mandating access. The *MCI* test reflects the relevant supply-side considerations, such as the lack of alternative means of supply.

[44] *See* Fishman v. Estate of Wirtz, 807 F.2d 520, 539 (7th Cir. 1986) (access to publicly subsidized sports stadium); Hart Prods., Inc. v. Greater Cincinnati Convention & Visitors Bureau, 1990-2 Trade Cas. (CCH) ¶ 69,233 (S.D. Ohio 1990) (access to convention bureaus).

[45] Although infrastructure effects differ from network effects, *see* discussion *supra* note 37, they each support open access requirements for slightly different reasons. *See generally* Shapiro, *supra* note 37. R

sets is more likely to generate the kind of hard to measure spillovers that justify a somewhat more expansive use of the essential facilities doctrine.

The essential facilities doctrine plays a critical role in ensuring nondiscriminatory access to public, social, and mixed infrastructures. We are not arguing for a broad essential facilities doctrine.[46] Rather, we are providing a way to understand what makes nondiscriminatory access to certain facilities essential. Infrastructure theory helps us identify when facilities are "affected with the public interest,"[47] and thus optimal candidates for open access via essential facilities or other related doctrines, such as common carriage.[48] We believe that this theory strengthens the case where the traditional factors are present—that is, the traditional test for essential facilities should remain in place, but we should generally feel more comfortable with its application to mixed infrastructure.

Changing the focus from a textual analysis of the "essentialness" of the facility in question to an economic analysis of its role as infrastructure, as we have defined it, does two important things. First, it better captures the essence of what the case law has been doing for nearly one hundred years. The law basically gets it right that phone networks, pipelines, electrical power grids, networks for the production and dissemination of news, and transportation networks require some form of nondiscriminatory access and support the imposition of antitrust liability when the denial of access creates or maintains a monopoly at one of the stages of production.

Second, our theory responds to the critics who contend that there is no sound theoretical basis for the doctrine. We agree that judges and antitrust enforcers should do more than a seat-of-the-pants analysis of whether the defendant controls something that is "essential." Refocusing the inquiry on the issue of the presence of infrastructure and the question of downstream externalities may be difficult in particular cases, but it is a veritable Occam's Razor compared to the current formulations and the criticisms they have engendered.

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[46] This should be evident in our addition of new criteria to the *MCI* test. *See supra* Part II.B.

[47] *See generally* Hamilton, *supra* note 5, at 1100–01. **R**

[48] *See* RICHARD A. EPSTEIN, PRINCIPLES FOR A FREE SOCIETY: RECONCILING INDIVIDUAL LIBERTY WITH THE COMMON GOOD 279–318 (1998) (detailing the history of common carrier regulation); *see also* Marissa A. Piropato, *Open Access and the Essential Facilities Doctrine: Promoting Competition and Innovation*, 2000 U. CHI. LEGAL. F. 369, 387 (2000) (drawing connection between essential facilities doctrine and common carrier doctrine); Earl N. Cannon, *What Constitutes a Common Carrier*?, 15 MARQ. L. REV. 67 (1931) (analyzing in context of transportation industry).

IV. THE ESSENTIAL FACILITIES DOCTRINE, REGULATION, AND INFRASTRUCTURE

It is our goal to restore the essential facilities doctrine to its important, but limited, place in helping to police access to those types of infrastructural assets that require open access in order to create the positive externalities that benefit society as a whole. The essential facilities doctrine works best as a theory of monopolization when dealing with infrastructure, in the sense that the facility in question is an input that creates such substantial downstream positive externalities that a regime of open access is socially desirable.[49] If the firm controlling the essential infrastructure is not a competitor to those seeking access, certain duties to deal have been imposed since common law times under the common carrier doctrine, but antitrust law is not at issue.[50] In these circumstances, no antitrust liability has been imposed for the denial of access, regardless of whether the facility is essential.[51]

If the firm controlling the essential infrastructure is a competitor of those seeking access and uses that control to maintain its dominance, then, and only then, has the essential facility doctrine come into play as an antitrust concept. The antitrust enforcement agencies from the Reagan administration to the present, even while publicly critiquing the essential facilities doctrine, have all recognized this notion and included provisions in key consent decrees requiring such dominant firms as AT&T, AOL/Time Warner, Intel, and Microsoft to provide equal access to upstream competitors in these situations.[52]

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[49] For a more complete discussion of infrastructure theory in these terms, see Frischmann, *An Economic Theory of Infrastructure and Commons Management*, *supra* note 2, at 960, and Lawrence Lessig, *Reply: Re-Marking the Progress in Frischmann*, 89 MINN. L. REV. 1031 (2005). *Cf.* Gerber, *supra* note 21, at 1073 (proposing an economic theory of essential facilities requiring proof of four salient characteristics: that the facility is unique, that it remains unique while its output is widely distributed; that it must be centrally located in the path of the users' production; and that it has the ability to impede or enable the process by which the users do their business). R

[50] EPSTEIN, *supra* note 48, at 279–318. If the owner of the facility is not a competitor of the entity seeking access, no antitrust liability has been imposed for the denial of access regardless of whether the facility is essential. *See* 1 ABA SECTION OF ANTITRUST LAW, *supra* note 13, at 278 (collecting cases). R R

[51] *See* ABA Section of Antitrust Law, *supra* note 13, at 283 (collecting cases).

[52] *See, e.g.*, Silicon Graphics, Inc., 120 F.T.C. 928 (1995); Decision and Order at II.A, Intel Corp., FTC Docket No. 9288 (Aug. 3, 1999), *available at* http://www.ftc.gov/os/1999/08/intel.do.htm; United States v. AT&T Co., 552 F. Supp. 131, 142–43, 195–200 (D.D.C. 1982); Final Judgment at III, United States v. Microsoft Corp., No. 98-1232 (CKK) (D.D.C. Nov. 12, 2002) (consent decree), *available at* http://www.usdoj.gov/atr/cases/f200400/200457.pdf; *see also* Aaron M. Wigod, Comment *The AOL-Time Warner Merger: An Analysis of the Broadband Internet Access Market*, 6 J. SMALL & EMERGING BUS. L. 349, 363–66 (2002) (analyzing open access provisions of consent decree authorizing merger between AOL and Time-Warner).

Most antitrust cases with any merit that have invoked the essential facilities doctrine by name or by implication have dealt with some aspect of infrastructure. These include the cases that the *Trinko* Court distinguished as involving joint refusals to deal under Section 1 of the Sherman Act rather than monopolization under Section 2.[53] However, the only railroad bridge across the Mississippi at the turn of the century,[54] the network of newspapers comprising the Associated Press around the time of World War II,[55] the local phone loop controlled by AT&T (and later Verizon),[56] the transmission lines controlled by Otter Tail Power,[57] and under extraordinary circumstances intellectual property rights,[58] all nicely fall into this notion of infrastructure in both the technical sense we use and in the colloquial everyday sense of the word.[59]

The vast majority of infrastructural assets for which open access would be socially valuable are neither wholly regulated nor fully deregulated. If regulation is all encompassing, then statutory or implied antitrust immunity is likely to be present, and neither the essential facilities doctrine nor the rest of antitrust law would have any application. However, in a number of cases including *MCI* itself, a regulated firm was seeking to maintain or extend its power to an unregulated or less regulated adjacent market.

In the alternative, it is hard to find any truly unregulated facility that is essential in the sense required by *MCI* and its progeny.[60] The economist Bruce Owen goes so far as to state: "Essential facilities, problematic and perhaps nonexistent outside the regulated sector, are common in the regulated industries, where public policy creates absolute entry bar-

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[53] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko LLP, 540 U.S. 398, 410 n.3 (2004).

[54] United States v. Terminal R.R. Ass'n of St. Louis, 224 U.S. 383, 394 (1912).

[55] Assoc. Press v. United States, 326 U.S. 1, 4 (1945).

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

[57] Otter Tail Power Co. v. United States, 410 U.S. 366, 368–69 (1973).

[58] Case C 418/01, IMS Health GmbH & Co. v. NDC Health GmbH & Co., 2004 E.C.R. I-5039, 4 C.M.L.R. 28 (2004); Joined Cases C-241 & C-242/91, Radio Telefis Eireann (RTE) v. Comm'n, 1995 E.C.R. I-743, 4 C.M.L.R. 718 (1995) (*Magill*); *see infra* Part V.F.

[59] It is also additional support for Professor Fox's conclusion in a recent article that *Trinko* is a much easier and better case to impose Section 2 liability than *Aspen* itself. *See* Eleanor M. Fox, *Is There Life in* Aspen *after* Trinko*? The Silent Revolution in Section 2 of the Sherman Act,* 73 ANTITRUST L.J. 153 (2005). For a more complete analysis of *Aspen* and *Trinko* using infrastructure theory, *see infra* Parts V.A & V.B.

[60] Former FTC Commissioner Mary Azcuenaga discussed real estate multiple-listing services and, separately, Chicago Title & Trust ownership of the only complete set of land title records in Cook County, Illinois, predating the Chicago Fire as possible examples. Mary L. Azcuenaga, *Essential Facilities and Regulation: Court or Agency Jurisdiction?*, 58 ANTITRUST L.J. 879, 882–83, 885 (1990).

riers."[61] Even the handful of cases treating sports stadiums as essential facilities may be better explained by virtue of the heavy public subsidization of such facilities, making them impossible to duplicate with purely private resources.[62] As a result, the courts have dismissed without much ado most essential facilities cases of the purely unregulated unsubsidized type on the grounds that the plaintiff could create its own alternative facility.[63]

If anything, the Supreme Court in *Trinko* has it precisely backwards in its views on the relationship between the essential facilities doctrine and regulation. As discussed below in Part V.C, the courts and regulators have a complementary relationship regarding access to infrastructure. The Supreme Court appears to reject the application of the essential facilities doctrine when access to the facility is regulated, but potentially permits the application of the doctrine when regulation is absent.[64] *Trinko* thus appears to reject the essential facilities doctrine where it is most needed, and appears to preserve it where it is rarely needed in the first place.[65]

Most of the strongest essential facility cases occur in the twilight zone of partial regulation, which *Trinko* appears to have cast into the legal abyss. Take *MCI v. AT&T,* which is generally cited as the source of the modern version of the doctrine.[66] The defendant, AT&T, was the regulated monopolist of local telephone service but it also confronted competition in the long-distance market. AT&T denied MCI access to the local telephone system, which was necessary to complete the long-distance calls carried over MCI's microwave network. MCI was physically,

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[61] Bruce M. Owen, *Determining Optimal Access to Regulated Essential Facilities*, 58 ANTITRUST L.J. 887, 887 (1990).

[62] HOVENKAMP, THE ANTITRUST ENTERPRISE, *supra* note 21, at 247. R

[63] *See* Twin Labs., Inc. v. Weider Health & Fitness, 900 F.2d 566, 569 (2d Cir. 1990); McKenzie v. Mercy Hosp., 854 F.2d 365, 370–71 (10th Cir. 1988); Case C-7/97, Oscar Bronner GmbH & Co. v. Mediaprint Zeitungs, 1998 E.C.R. I-7791, 4 C.M.L.R. 112 (1999).

[64] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko LLP, 540 U.S. 398, 410–11 (2004).

[65] *Cf.* Spencer Weber Waller, Microsoft *and* Trinko*: A Tale of Two Courts*, 2006 UTAH L. REV. 741 (2006) [hereinafter Microsoft *and* Trinko]; Adam Candeub, Trinko *and Re-Grounding the Refusal to Deal Doctrines*, 66 U. PITT. L. REV. 821 (2005); John T. Soma et al., *The Essential Facilities Doctrine in the Deregulated Telecommunications Industry*, 13 BERKELEY TECH. L.J. 565, 606 (1998) ("It is within this regulatory context [1996 Telecommunications Act] that the essential facilities doctrine has unique relevance."); Werden, *supra* note 21, at 478 ("[L]iability should be imposed only if the essential facility is subject to pre-existing price regulation"); Hylton, *supra* note 21, at 1245 ("[A] presumption against essential facilities claims in regulated markets is not clearly desirable because the doctrine may serve as a disincentive to anticompetitive transfers of property rights from public to private ownership."). R R

[66] MCI Commc'ns Corp. v. AT&T Co., 708 F.2d 1108 (7th Cir. 1983).

legally, and practically prevented from building its own local telephone system. AT&T claimed it could not interconnect with MCI because of existing regulatory restrictions and also because of technological and system integrity concerns. The courts found all of these purported justifications to be legally or factually insufficient, and frequently pretextual, and imposed Section 2 liability under the essential facilities doctrine.[67] The handful of subsequent verdicts imposing liability under this theory primarily have concerned dominant firms resisting deregulation or misusing partial deregulation. The D.C. Circuit of the *Microsoft* opinion would probably characterize such behavior as unlawful monopoly maintenance but the Supreme Court in *Trinko* appeared to consider such conduct beyond the scope of the antitrust laws entirely.[68]

The Supreme Court's own discussion of the essential facilities doctrine in *Trinko* does not lead to the result it claims. The *Trinko* opinion states that "essential facility claims should . . . be denied where a state or federal agency has effective power to compel sharing and to regulate its scope and terms."[69] The discussion that follows in the opinion hardly suggests that there was effective regulatory power in this particular case. For its actions, Verizon was subject to fines totaling $13 million and various reporting obligations.[70] There was no discussion—and there could not be any at this early procedural stage of the case—of whether these remedies were "effective" in forcing Verizon to live up to its obligations under state and federal telecommunications law. However, there is every indication that they were not. Verizon was prepared to incur litigation expenses far in excess of this modest fine and reporting obligations to avoid the one set of penalties that actually would be effective in mandating nondiscriminatory access.[71]

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[67] The court also affirmed liability based on the sham litigation doctrine but reversed portions of the judgment based on predatory pricing claims and remanded for a new trial on damages based solely on that conduct found to be unlawful. *Id.* at 1166–69. The case subsequently settled for a fraction of the original verdict.

[68] United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001). *See* Waller, Microsoft *and* Trinko, *supra* note 65. R

[69] *Trinko*, 540 U.S. at 411 (citing PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW, §§ 150 & 773e (2003 Supp.)).

[70] *Id.* at 404.

[71] There is nothing in the record to suggest that such modest sanctions were "effective" in any normal sense of the word. Neither Congress nor most commentators think so. There is also nothing in the numerous past opinions of the Supreme Court on recent telecommunications issues that shows a great deal of faith in the 1996 Telecommunications Act, FCC regulation, or even regulation in general to create or maintain competitive markets. *See* Waller, Microsoft *and* Trinko, *supra* note 65, at 747; Michael A. Carrier, *Of* Trinko*, Tea Leaves, and Intellectual Property*, 31 J. CORP. L. 357, 369–70 (2006); Candeub, *supra* note 65, at 833; *see also* Philip J. Weiser, *The Relationship Between Antitrust and Regulation in a Deregulatory Era*, 50 ANTITRUST BULL. 549 (2005) [hereinafter *The Relationship of* R

A viable essential facilities doctrine of necessity exists in the vast economic canyon between fully competitive markets and fully regulated ones. Fully regulated markets come with extensive regulatory oversight and accompanying antitrust immunities. Fully deregulated competitive markets rarely raise the issues of denial of access in the first place. Antitrust has never been particularly clever at dealing with the real world problems of the complicated twilight zone in between that grows ever larger in the continuing deregulatory era in which we live.[72] A properly focused essential facilities doctrine is one modest tool to fill that gap.

We recognize that in some ways a judicially enforced essential facilities doctrine may be a second best solution to a comprehensive well-thought-out general social policy regarding open access. However, such a general social policy is unlikely to emerge for several reasons. First, Congress is unlikely to ever tackle open access questions as a general category. This is simply not the way legislation emerges. Rather, discrete examples of open access questions percolate up through the legislative process and are debated and acted upon in specific contexts—network neutrality for the Internet and telecommunications regulation being recent examples. When regulatory structures are created to implement specific access regimes, they rarely involve cross-disciplinary contact and learning. The structure of mixed state and federal regulation for many of these areas makes a consistent and comprehensive regulatory approach even more unlikely.[73]

Antitrust and Regulation] (arguing for analysis of whether regulatory alternative would prevent anticompetitive behavior); Andrew I. Gavil, *Exclusionary Distribution Strategies by Dominant Firms: Striking a Better Balance*, 72 ANTITRUST L.J. 3, 56–57 (2004) (criticizing dismissal of *Trinko* at pleadings stage).

[72] Albert A. Foer, *Electricity: Notes on the Transition Phase*, 33 LOY. U. CHI. L.J. 813 (2002).

[73] Along the same lines, a number of commentators have argued that the essential facilities doctrine operates as a second-best solution to correcting overly expansive intellectual property rights. James Turney, *Defining the Limits of the EU Essential Facilities Doctrine on Intellectual Property Rights: The Primacy of Securing Optimal Innovation*, 3 NW. J. TECH. & INTELL. PROP. 179, Parts II.B, IV (2005) (arguing that EU essential facilities doctrine cases involving intellectual property rights "concerned dubious claims to exclusivity" or the "dubious existence of the intellectual property right"); Thomas F. Cotter, *Intellectual Property and the Essential Facilities Doctrine*, 44 ANTITRUST BULL. 211 (1999); Gilbert & Shapiro, *supra* note 4, at 12750, 12755 (critiquing use of essential facilities doctrine as proxy for defining scope of intellectual property right); McGowan, *supra* note 4, at 850–51 (arguing antitrust, generally, and essential facilities doctrine in particular, is ill suited to calibrate optimum level of intellectual property protection). *But cf.*, Amy Rachel Davis, Note, *Patented Embryonic Stem Cells: The Quintessential "Essential Facility"?* 94 GEO. L.J. 205 (2005) (arguing that essential doctrine provides superior and more realistic alternatives to redrawing boundaries of intellectual property rights); Elizabeth A. Nowicki, *Competition in the Local Telecommunications Market: Legislate or Litigate*, 9 HARV. J.L & TECH. 353 (1996) (making same argument in telecommunications industry prior to enactment of 1996 Telecommunications Act).

Whether the legislature and/or regulatory agencies address open access piecemeal or comprehensively, they still need a framework in which to do so. While we believe that the judiciary can adequately implement an infrastructure theory of essential facilities in the overwhelming majority of cases,[74] we also believe it provides a strong framework for application in other institutional settings as well.[75]

More importantly, we do not live in a regulatory age: quite the opposite. Deregulation is the spirit of the age, with most deregulatory impulses relying heavily on competitive markets and the role of antitrust as a substitute for traditional regulation.[76] Over and over, the mantra has been to substitute general antitrust principles for sector specific regulation. Antitrust has even been referred to as "light regulation."[77] While this is frequently an improvement on traditional utility regulation, one cannot argue in good faith for both deregulation and also the disabling of the courts from enforcing the antitrust rules that were part of the bargain for deregulation in the first place.

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[74] *See infra* Part IV.A.

[75] *See* AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366, 388 (1999) (alluding to similarity of essential facilities doctrine and Congressional access requirements in 1996 Telecommunications Act). Justice Breyer's concurrence alludes to potential application of essential facilities doctrine in same context. *Id.* at 428; *see also* Piropato, *supra* note 48, at 369 (recommending the FCC adopt guidelines for open access in telecommunication based on the essential facilities doctrine); Donna M. Gitter, *The Conflict in the European Community Between Competition Law and Intellectual Property Rights: A Call for Legislative Clarification of the Essential Facilities Doctrine*, 40 AM. BUS. L.J. 217 (2003) [hereinafter *A Call for Legislative Clarification*]. R

[76] *See e.g.*, W. KIP VISCUSI, ECONOMICS OF REGULATION AND ANTITRUST (2005); RUDOLPH J.R. PERITZ, COMPETITION POLICY IN AMERICA 1888–1992: HISTORY, RHETORIC, LAW 262–64 (1996) (analyzing rhetoric of deregulatory movement); GILES H. BURGESS, JR. THE ECONOMICS OF REGULATION AND ANTITRUST (1995); ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS (1988); Dennis W. Carlton & Randal C. Picker, *Antitrust and Regulation* (John M. Olin Law & Econ. Working Paper No. 312 (2d Series), 2006), *available at* http://ssrn.com/abstract=937020. For examples of this argument in industry-specific contexts, see, e.g., Ex Parte Filing of the U.S. Dep't of Justice, Broadband Industry Practices, WC Dkt. No. 07–52, 2007 WL 4227354 (FCC, Sept. 6, 2007) ("The FCC should be highly skeptical of calls to substitute special economic regulation of the Internet for free and open competition enforced by the antitrust laws."); Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARV. J.L. & TECH. 1 (2005); Symposium, *Competition, Consumer Protection and Energy Deregulation*, 33 LOY. U. CHI. L.J. 749 (2002); Robert D. Atkinson & Philip J. Weiser, *A "Third Way" on Network Neutrality*, INFORMATION TECH. & INNOVATION FOUND., May 30, 2006, at 1, http://www.itif.org/files/netneutrality.pdf; (calling for the FCC to police exclusionary conduct by networks through an antitrust-like approach); Philip J. Weiser, *Toward A Next Generation Regulatory Strategy*, 35 LOY. U. CHI. L.J. 41 (2003) [hereinafter *Toward A Next Generation Regulatory Strategy*] (same).

[77] Daniel L. Cendan, *Filling the Gaps: A Principled Approach to Antitrust Enforcement Provides a Necessary Complement to the Telecommunications Act of 1996*, 78 N.Y.U. L. REV. 1755, 1780, 1787 (2003); Robert H. Lande, *Professor Waller's Un-American Approach to Antitrust*, 32 LOY. U. CHI. L.J. 137, 144 (2000); Spencer Weber Waller, *Market Talk: Competition Policy in America*, 22 LAW & SOC. INQUIRY 435, 452 n.35 (1997).

The very nature of courts as generalist institutions may be a strength and not a detriment in guaranteeing open access in appropriate cases. Judges (at least federal judges with life tenure) may have individual predilections and biases, but they are institutionally protected from the kind of concerns that have spawned the capture theory and public choice literature analyzing the tendency of legislatures and regulatory agencies to favor the interests of concentrated organized minorities with a great deal at stake over the more diffuse, less intense interests of the general public, even if the unorganized masses hold a greater aggregate stake in a dispute.[78]

The question of the correct rule for requiring open access is partially intertwined with the question of which institution (legislatures, regulators, courts, elections, markets, or other social arrangements) should enforce the rule.[79] However, infrastructure theory can help whichever institution ends up being assigned the task of deciding these questions.

V. RESPONDING TO THE CRITICS

Despite its venerable lineage, the essential facilities doctrine is out of favor with a wide variety of legal and economic commentators.[80] Most of the serious criticisms can be grouped into three categories: First, the doctrine leaves consumers no better off;[81] second, application of the doctrine creates undesirable incentives for the incumbent, the new entrant, or both; and third, the doctrine cannot be meaningfully applied by a generalist federal district court judge. In this Part, we respond to these criticisms.

A. Effects on Consumer Welfare

Critics of the essential facilities doctrine maintain that consumers gain nothing when a court forces a monopolist to provide access to essential facilities. Competitors refused access may gain access, but they will be charged the monopoly price in any event, and that price will be passed on to consumers (as it would if the doctrine did not apply). As the price paid by consumers remains the same, so does the quantity of goods or

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[78] *See* DANIEL A. FARBER & PHILIP P. FRICKEY, PUBLIC CHOICE: A CRITICAL INTRODUCTION (1991); MANCUR OLSON, JR., THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS (1965).

[79] *See infra* Part IV.A.

[80] *See* sources cited *supra* note 21.

[81] AREEDA & HOVENKAMP, ANTITRUST LAW, *supra* note 21, at 171–72; see Gerber, *supra* note 21, at 1084 (single monopoly rent critique of the essential facilities doctrine); Ratner, *supra* note 21, at 361 (same). R R

services consumed, and infrastructure capacity as well.[82] So, for example, this view suggests that requiring nondiscriminatory access in *Terminal Railroad* may increase the number of railroads using the bridge and terminal facilities, but it will not increase the number of passengers; the passengers will simply be spread over more railroads.[83]

This view rests on the premise that, because access will not affect the price for consumers (the monopoly price), it will not affect output in terms of quantity or quality and thus will not affect consumer welfare. However, this premise does not necessarily hold in the infrastructure context.

Infrastructure theory supports open and nondiscriminatory access as a remedy even if the incumbent firm charges a monopoly price.[84] While price clearly matters and a competitive price will produce more social benefit than a monopoly price, even nondiscriminatory access at the monopoly price helps—in two ways.

First, a nondiscrimination rule may increase access.[85] Remember, the question is whether to require nondiscriminatory access upon denial of access by a monopolist which refuses to deal with a competitor/cus-

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[82] *See id.* Critics also point out that granting access in itself cannot expand capacity. We agree and do not contend otherwise.

[83] *C.f.* E. THOMAS SULLIVAN & HERBERT HOVENKAMP, ANTITRUST LAW, POLICY AND PROCEDURE: CASES, MATERIALS, PROBLEMS 703 (5th ed. 2003):

> One powerful argument against expansive use of the essential facility doctrine is that it flies in the face of antitrust principles by turning the defendant into a utility, but without appropriate agency regulation. For example, suppose that the defendant owns a monopoly pipeline for which distribution costs are $5.00 per unit. Because the defendant is a monopolist, however, it charges $8.00 per unit, building the overcharge into the price of the gas delivered through the pipeline. Now the defendant is forced to share the pipeline with a rival. What price will it charge? Clearly, if $8.00 is its profit maximizing price when it is billing consumers directly, that will also be its profit-maximizing price when it shares its space with a rival. As a result, output will be no higher and price no lower.
>
> That is to say, forced sharing does not improve the welfare of consumers, it only makes room for another firm in the market.").

[84] For the narrow set of cases where infrastructure theory would support an essential facilities claim, there is often much more involved in context that will constrain the monopolist's ability actually to charge the monopoly price—for example, existing regulation, contractual (RAND-like) commitments, or even the EU's explicit concern with fair and reasonable pricing. As noted in the text, price clearly matters and a competitive price will produce more social benefit than a monopoly price. By constraining the distortionary impact of a monopoly to (i) the facility market and (ii) the form of price, the essential facilities doctrine may force a sort of transparency that provides better signals regarding the need for price regulation (or even government provision/subsidization of infrastructure expansion).

[85] We have framed our argument mainly in terms of how to best allocate existing infrastructure but have not rested our argument on the idea that the essential facilities doc-

tomer at any price. Requiring open access at whatever price the monopolist charges other current customers may increase the quantity of output in the downstream market that it serves where, for example, the competitor is a more innovative or efficient provider of the downstream output.[86] For example, if the railroads granted access on nondiscriminatory terms and have higher capacity railcars (or some other more efficient way to deliver services to customers) than the incumbents, who may have sunk costs in less efficient delivery systems, then the price charged to customers may well decrease and output may increase.

Economists maintain that, at least in "fixed proportions" cases, the monopolist will take into account margins in downstream markets, set its input price for facility access to maximize profit, which ensures that the price in downstream markets charged to consumers is at the monopoly level, and thus capture the full monopoly profit.[87] But, for infrastructure, margins likely vary across downstream markets—recall that by definition, we are concerned with facilities that are inputs into a wide variety of markets—and margins may be subject to dynamic change due to innovation. These complications may raise the transaction costs for a monopolist seeking to set input prices that lock in monopoly profits. While a monopolist would presumably seek to adjust its prices to capture the competitors' cost savings (associated with the more efficient technology), there very likely will be constraints on the monopolist's ability to make such adjustments.[88] First, existing regulations, or even contractual RAND-like commitments, might preclude such opportunistic adjustments.[89] Second, where a pricing pattern already exists, a court implementing a nondiscrimination rule may look to that pattern and be

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trine will expand access or usage of existing infrastructure. We are concerned primarily with the conditions of access and their impact on downstream markets and innovation.

[86] Consider also *MCI* as the archetypical infrastructure case. AT&T simply refused to provide MCI with access to its local loop at any price. If it granted access at the regulated price, or even an unregulated monopoly price, the total long-distance telephony market would be increased by the addition of new cheaper MCI microwave long-distance traffic minus the loss of the more expensive hard wire AT&T long-distance calls forgone. Standard price theory predicts that there should be a net increase in output and consumer welfare in this situation. But at the same time, if the net amount of long-distance traffic increases, then by definition net local telephony also will increase because the local loop is a component of every long-distance call as well and there is no evidence that customers substitute long-distance for local calling. *See* Spencer Weber Waller, *Areeda, Epithets and Essential Facilities*, 2008 WISC. L. REV. (forthcoming).

[87] *See, e.g.*, David Reiffen & Andrew N. Kleit, Terminal Railroad *Revisited: Foreclosure of an Essential Facility or Simple Horizontal Monopoly?*, 33 J.L. & ECON. 419, 421–22 (1990).

[88] Some might argue that a monopolist would attempt to set prices ex ante at levels that account for potential cost savings associated with innovation in downstream markets, but it may be prohibitively difficult to do so, especially across a range of downstream markets.

[89] The *MCI* case is a good example.

unwilling to tolerate significant price increases, even though the defendant may claim a right to charge a monopoly price. Finally, transaction and information costs alone might make such price increases by the monopolist unlikely. These considerations suggest that a nondiscrimination rule for infrastructure may be an effective way to encourage decentralized innovation and competition in downstream markets by avoiding centralized control by the monopolist.[90]

This leads to the second way in which nondiscriminatory access, even at the monopoly price, can improve consumer welfare. Specifically, nondiscrimination can also affect the quality (type) of outputs in downstream markets. Assuming the monopoly price has been and will be charged, allocation of access and usage of infrastructure capacity on a nondiscriminatory basis may be beneficial where some range of the uses generate spillovers. The rent obtained by the monopolist presumably remains the same under the one monopoly rent theory; consumers potentially obtain a wider diversity of downstream outputs because the monopolist cannot restrict, prioritize, or discriminate among downstream users; and society potentially benefits from the spillovers produced by users.

The quality and diversity arguments raised above call into question the assumption of "fixed proportions" that underlies the one monopoly rent theory. When that assumption is relaxed, as we believe it often must be for infrastructure, then the consumer welfare arguments in favor of the essential facilities doctrine may be even stronger.[91]

B. THE QUESTION OF INCENTIVES

Critics have also focused on the question of incentives. They raise the concern that an overly expansive application of the essential facilities doctrine will reduce the incentives of the incumbent firm to invest in

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[90] *See* Frischmann & Lemley, *supra* note 3; Brett M. Frischmann & Barbara van Schewick, *Network Neutrality and the Economics of an Information Superhighway: A Reply to Professor Yoo*, 47 JURIMETRICS J. 283 (2007). **R**

[91] There are a variety of exceptions to the "one monopoly rent" theory. For a recent exposition and application to the Internet, see Barbara van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J. TELECOMM. & HIGH TECH. L. 329 (2007), *available at* http://ssrn.com/abstract=812991. It is beyond the scope of this article to discuss each of the exceptions, the relevant theoretical models, and limiting conditions. But we will point out that (1) some of the important conditions for exceptions (scale economies, externalities in complementary markets, dynamic and uncertain innovation, etc.) are commonly found in the mixed infrastructure context, and (2) many infrastructure cases do not fit the "fixed proportions" scenario because of variance across downstream markets. Of course, the one monopoly rent theory sets forth impossibility conditions for anticompetitive harm, and fitting within the exceptions still leaves for consideration whether the challenged conduct is pro- or anticompetitive.

the facility in the first place, reduce the incentives for the unintegrated competitor to seek to innovate or invent, encourage free riding on the incumbent's facility instead, distort signals sent to future incumbents and competitors, and generally decrease welfare.[92] These are fair concerns, but, like many of the criticisms of the essential facilities doctrine, are either overblown or more properly applied to an essential facilities doctrine unanchored to the concept of infrastructure.

1. *Incumbent Incentives*

The incentives of the incumbent firm are far more complex than most critics contend. The essential facilities doctrine, properly applied, prevents the incumbent firm from unlawfully acquiring or maintaining a monopoly in the market where it faces, or potentially faces, competition. This can promote innovation, rather than retard it, in either the incumbent's market constituting the infrastructure or that of the competitors or users.[93] This was the essence of MCI's claim in the private antitrust case, and the Department of Justice's claim in the government case against the old AT&T. MCI with its microwave transmission system was the Schumpterian innovator, not AT&T, which was using its control over the local loop to fight off potential competition in the long-distance market.[94]

At times, essential facilities are not productive at all, but merely act as gatekeepers or bottlenecks. The incumbent lives off of the productive activities of others that take place downstream by extracting rents that

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[92] AREEDA & HOVENKAMP, *supra* note 21, at § 773e; Mats A. Bergman, *The Role of the Essential Facilities Doctrine,* 46 ANTITRUST BULL. 403, 421–22 (2001); Kezsbom & Goldman, *supra* note 21, at 2; Hylton, *supra* note 21, at 1261–62; Marquardt & Leddy, *supra* note 21, at 863; Lipsky & Sidak, *supra* note 21, at 1219; Piropato, *supra* note 48, at 406; Werden, *supra* note 21, at 473; Gilbert & Shapiro, *supra* note 4, at 12753–54; McGowan, *supra* note 4, at 804–06. R R R R

[93] *See* Cyril Ritter, *Refusals to Deal and "Essential Facilities": Does Intellectual Property Require Special Deference Compared to Tangible Property?*, 28 WORLD COMPETITION 281, 296–97 (2005), *available at* http://ssrn.com/abstract=726683; Jonathan B. Baker, *Promoting Innovation Competition Through the* Aspen/Kodak *Rule*, 7 GEO. MASON L. REV. 495 (1999); Piropato, *supra* note 48, at 407 (arguing that without open access, many smaller companies will not get the opportunity to innovate so as to refine or actually better the initial technology); Robert Pitofsky, Chairman, Fed. Trade Comm'n, Prepared Remarks, Antitrust Analysis in High-Tech Industries: A 19th Century Discipline Addresses 21st Century Problems (Feb. 25–26, 1999), *available at* http://www.ftc.gov/speeches/pitofsky/hitch.htm. R

[94] A similar story can be told about AT&T's use of its control of the local loop to prevent the introduction of competition in the market for peripherals and equipment. United States v. AT&T Co., 524 F. Supp. 1336 (D.D.C. 1981). *See generally* Roger Noll & Bruce Owen, *The Anticompetitive Uses of Regulation: United States v. AT&T*, *in* THE ANTITRUST REVOLUTION (John E. Kwoka & Lawrence J. White eds., 1989); THE AT&T SETTLEMENT: TERMS EFFECTS PROSPECTS (1982); THE BREAKUP OF AT&T: OPPORTUNITIES PROSPECTS CHALLENGES (Reuben B. Robertson & Richard E. Wiley eds., 1982).

the downstream producers or upstream suppliers need for their own proper incentives. Such bottlenecks should be discouraged.[95]

Most incumbents will have sufficient incentives to invest in the facility in the first place.[96] The critics are correct, though, that the proper perspective is ex ante, rather than ex post.[97] They fail to acknowledge, however, that most essential facilities, or infrastructure in our terminology, rarely arise fully formed. As a recent commentator has noted: "'Essential facilities' do not necessarily result from substantial investments or risk-taking but are often government-sanctioned infrastructure or weak intellectual property rights."[98]

Most also arise over time, allowing the incumbent to reap sufficient returns to justify the initial investment and risk taking. In other situations, the incumbent will have full incentives in the primary market, and an open access requirement involving a secondary market will have no effect at all on those incentives.[99] In addition, the frequent presence of past or present regulation in connection of the essential facilities doctrine means that the question of recoupment for the initial investment normally has been already addressed or achieved.[100]

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[95] *See* Davis, *supra* note 73, at 209–15 (hypothetical discussion how patent on essential facility for embryonic stem cell technique chokes off downstream innovation); *cf.* Gerber, *supra* note 21, at 1074. In addition, the acquisition or denial of access to an essential facility could also be part of a deliberate predatory strategy of raising the costs of the rivals to the incumbent firm. *See* Hylton, *supra* note 21, at 1262–66; Gilbert & Shapiro, *supra* note 4, at 12751 ("This 'two-level entry' requirement may raise the cost of entry into the final product."). *See generally* Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209, 230–49 (1986). R R R R

[96] The question of incentives is of course highly particularized. IMS, the respondent in the EU competition case involving access to its data brick structure in Germany, competes in the United States, Canada, and Australia, where copyright protection is not available, and continues to compete in the United Kingdom even after it granted a perpetual, non-exclusive, royalty-free license as part of a settlement of a separate competition case. Gitter, *A Call for Legislative Clarification*, *supra* note 75, at 291–92. While Gitter is correct that one needs to be mindful of the effect of the EU case, not just on IMS, but on other similarly situated incumbents and competitors, *id.* at 292, it is unproven what lessons such firms would draw from this complex picture. The *IMS* case is discussed in greater detail *infra* Part VI.F. R

[97] *See e.g.*, Bergman, *supra* note 92, at 422–23. R

[98] Ashwin Van Rooijen, *The Role of Investments in Refusals to Deal*, 31 WORLD COMPETITION 63 (2008).

[99] For example, in the *Magill* case in the European Union, several commentators have noted that requiring the television stations to license their program information should have no effect on their incentives to produce the television programming in the first place. Gitter, *A Call for Legislative Clarification*, *supra* note 75, at 252–53 & n.67 (citing sources). We discuss *Magill* in greater detail *infra* Part VI.F. R

[100] Hylton, *supra* note 21, at 1268. R

The application of the essential facilities doctrine does not preclude the dominant firm from continuing to receive a return, even a monopoly return, on that investment. It merely requires access to competitors on nondiscriminatory terms, lest the downstream producers be choked off and society deprived of the resulting spillovers. Thus, nothing in the essential facilities doctrine, or antitrust law in general, would preclude the incumbent firm from charging a monopoly price.[101] Similarly, nothing would also preclude the body politic from setting the price in such a way as to compensate the incumbent for its sunk costs or to create the proper incentives for investors as a whole.[102] Society may also choose to subsidize the creation or maintenance of the infrastructure to cover sunk costs and create the ex ante incentives for investment. In addition, there are many models of public-private partnerships for the construction and operation of infrastructure that also address the sunk cost problem. Any of these alternatives would reduce, if not eliminate, the need for price discrimination in order to recover sunk costs.[103]

The proper question is not whether the potential application of the essential facilities doctrine, or any legal regime, has *some* effect on innovation and investment decisions, but whether the legal regime provides *sufficient* incentives for societally beneficial investment and innovation to proceed.[104] This is a recurring question in many areas of the law, particularly intellectual property.[105] Numerous commentators have sought to quantify whether patent and copyright law provides too little, too much, or the proper amount of incentives to generate the innovation that is at the heart of granting intellectual property protection in the first place. Most conclude that the answer is indeterminate and highly situation-specific.[106]

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[101] LAWRENCE A. SULLIVAN, ANTITRUST 129 (1st ed. 1977); Troy, *supra* note 21, at 476. R

[102] *See* Piropato, *supra* note 48, at 372. R

[103] Limiting the essential facilities doctrine to infrastructural assets also addresses the other issue frequently raised with respect to price discrimination. Critics point out, correctly, that price discrimination may increase output by expanding sales to price-sensitive customers. *See* Gilbert & Shapiro, *supra* note 4, at 12751. However, in the case of infrastructure the essential facility is by definition an input into a wide array of non-market goods where market demand is not properly manifested, making it difficult to determine who are the price-sensitive customers. *See supra* Part II.B.3. R

[104] Frischmann & Lemley, *supra* note 3, at 276. R

[105] *Id.* at 278.

[106] *See, e.g.,* Lemley, *Property, Intellectual Property, and Free Riding*, *supra* note 1, at 1065–66 & nn.136 & 137 (2005) (discussing studies); Peter S. Menell, *Intellectual Property: General Theories*, *in* 2 ENCYCLOPEDIA OF LAW AND ECONOMICS 130 (Boudewijn Bouckaert & Gerrit de Geest eds., 1999) (surveying studies); INTELLECTUAL PROPERTY AND DEVELOPMENT: LESSONS FROM RECENT ECONOMIC RESEARCH (Carsten Fink & Keith E. Maskus eds., 2005) (collecting studies); LANDES & POSNER, *supra* note 1, at 422–23. Menell notes that "[t]aken together, these studies suggest a growing consensus among economists that in- R

Finally, certain facilities may cease to constitute infrastructure as technological change and other exogenous factors create new paths of access, freeing the incumbent from any obligation to serve all comers on nondiscriminatory terms.[107] More simply put, items can both become and cease to be infrastructure over time. Local telephony is one example of a network that eventually became infrastructural over time and may cease to be in the future as a result of technological developments, most notably wireless telephony and Voice over Internet Protocols (VoIP). The possibility that for a period of the lifespan of the facility the incumbent will have to serve all comers, and still be compensated for it, should thus rarely affect investment decisions where the prospect of infrastructure status lies in an undetermined and uncertain future.[108]

Any negative effects on investments (and we concede that the effect is likely to be small but greater than zero) must nonetheless be balanced against the downstream externalities that result from access to the infrastructure that is created.[109] We seek to balance the benefits and incentives of unconstrained private property rights with the needs and resulting benefits of society as a whole. Neither traditional nor intellectual property is unconditional nor unconstrained.[110] All other legal rules have some effect on property and incentives but do so when societal needs require something other than unrestrained business freedom.

We require open, but paid-for, access in the limited group of cases when significant downstream externalities exist but are difficult to measure. Our proposal seeks to make more rigorous an existing regime that expresses the constant balancing and limits already present in the law.

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tellectual property rights offer a real, but limited, incentive to innovate in some industrial sectors, the importance of such rights vary significantly across industries and fields of innovation and the linkage between intellectual property rights and social welfare improvement is extraordinarily complex." Menell, *supra*, at 136. Similarly, the literature on whether competitive or monopolistic markets are more conducive to innovation is similarly indeterminate. *See* Michael L. Katz & Howard A. Shelanski, *Mergers and Innovation*, 74 ANTITRUST L.J. 1, 18–19 (2007) (surveying literature). *But see* Jonathan B. Baker, *Beyond Schumpeter vs. Arrow, How Antitrust Fosters Innovation*, 74 ANTITRUST L.J. 575, 583–86 (2007).

[107] *See* Lipsky & Sidak, *supra* note 21, at 1216 (arguing that if doctrine is to recognized, it should be temporally limited). **R**

[108] Anecdotally, we note that the popularity of the successful privatization and commercialization of even traditional infrastructure suggests that the private sector currently views such investments highly favorably and with more than enough incentives for investors. *See Buttonwood: Road Runners*, THE ECONOMIST, Jan. 20, 2007, at 31, *available at* http://www.economist.com/finance/displaystory.cfm?story_id=8565029.

[109] Critics of the essential facilities doctrine raise the specter of negative incentive effects of requiring access, but those effects are speculative and not quantified.

[110] *See generally* Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1 (2004).

2. *Challenger Incentives*

Our focus on the infrastructural nature of the facility, rather than the necessity of the plaintiff, also responds to the second concern that the unintegrated competitors will merely seek to appropriate the investment of their predecessors rather than seeking to blaze their own trails. Our infrastructure lens means that in the vast majority of cases there will be economic and legal barriers to the duplication of the facility, rather than a free-rider story being played out. Many of the infrastructural assets already discussed have sufficient natural monopoly characteristics that it is not societally beneficial to duplicate the facility. These include the local phone loop, the local electrical transmission network in the 1970s, and any other partially regulated infrastructural entity where entry is restricted legally, undesirable under natural monopoly theory, or impossible as a practical matter.

The vast majority of the existing case law already is acutely aware of these concerns, which frequently form the expressed basis, or at least the background atmospherics, for rejecting specious claims by plaintiffs. Such concerns more properly form the basis for rejecting a particular plaintiff's claim or distinguishing a free rider from a legitimate essential facilities doctrine claimant. How else to explain the myriad cases where the courts have relatively easily rejected the plaintiff's claims to access the defendant's distribution or advertising facilities, telling those plaintiffs to do it themselves?[111]

3. *Nondiscriminatory Access*

An additional issue relating to incentives has been to challenge the requirement of access on nondiscriminatory terms. Critics suggest that allowing the incumbent monopolist to price discriminate may allow more efficient use of the downstream resources by channeling use toward the most efficient and most intensive users and preventing lower intensity users from being priced out of the market altogether.[112]

There are several responses to this argument. First, the theoretical possibility, but real-world absence of, perfect price discrimination renders part of the argument a red herring. Truly perfect price discrimination would be efficiency enhancing, but it simply does not exist in the real world. Second, economists are of mixed opinions on the welfare

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[111] *See supra* notes 17–18, *infra* notes 174–78, and accompanying text.

[112] *See* Hylton, *supra* note 21, at 1272–73. R

effects of imperfect discrimination.[113] In fact, we recognize there may be a trade-off between the benefits of a nondiscriminatory access rule and the potential benefits of price discrimination. However, the special characteristics of infrastructure justify eliminating price discrimination as a possible justification for the monopolization of these societally valuable assets. Third, congestion or usage based pricing need not be discriminatory. Thus, intensity of use can be accounted for on a nondiscriminatory basis. The real issue is whether prioritization of access leads to the most efficient allocation of scarce resources.[114]

As discussed above,[115] we would require nondiscriminatory access for commercial infrastructure only to the extent of granting entrants access equal to that enjoyed by the incumbent or its users. If the incumbent happened to impose some form of price discrimination on its existing affiliates or customers, then the incumbent would be required to grant access to the new entrant on no less favorable terms but would not be required to eliminate any existing distinctions between classes of customers or uses.

For public, social, and mixed infrastructure, we have also indicated why open access requires more—i.e., access on true nondiscriminatory terms, no less favorable than granted to any other user. The information and transaction cost problems that make imperfect price discrimination troubling and perfect price discrimination impossible are only worsened where the users' market demand falls short of social demand.

The critics' concerns over nondiscriminatory access diminish in importance when applied to infrastructure within the meaning of our theory. By definition, we apply an open access regime to those assets that are inputs for the production of social and public goods where demand is not properly manifested in the market. There would be no practical way for the incumbent controlling the essential infrastructure to know

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[113] DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 448–50 (1990).

[114] *See* Frischmann & van Schewick, *supra* note 90, at 403–06: **R**

> While we occasionally employ congestion pricing to alleviate congestion on infrastructure, such as major highways during peak load times, these pricing mechanisms (1) are the exception rather than the rule, (2) tend to be either flat fees or usage-sensitive fees that vary based on the time of day or actual crowding effects, or both, and (3) do not employ "Coasean proxies" that differentiate among users based on their identity, destination, or activity at their final destination. Thus, where congestion pricing of infrastructure access has been employed, it has been implemented in a manner that sustains the infrastructure commons.

Id. at 405.

[115] *See supra* Part II.C.1.

who would be the high-volume, high-value downstream users or the low-volume low-intensity users for purposes of price discrimination. To be more concrete, an incumbent controlling a software platform deemed to be infrastructure would have no way of knowing which users would use the platform for societally beneficial purposes and which would not.[116] In the absence of such knowledge, there is no way to price access to the infrastructure to maximize the downstream spillovers that justify the open access regime in the first place.

Moreover, the private sector recognizes the need for nondiscriminatory open access in an area closely analogous to the essential facilities doctrine. In the standards-setting area, competitors jointly select an industry standard—which can be a process, technology, or platform—for producing a resulting downstream product or products. Industry standards can be unilaterally established or jointly created. They can be explicitly selected through an agreed-upon process or simply evolve over time. Examples include standardized sizes for railroad track, the formats for DVDs and compact disks, or the technology for producing environmentally friendly gasoline and other petroleum derivatives. Once the industry standard has been selected, it is for all intents and purposes an essential facility, since existing producers or new entrants will be required to use that standard in order to produce saleable goods or services. In many cases, such industry standards will also constitute infrastructure within the meaning of our theory, depending on the nature of the downstream use and the resulting spillovers.

In most of these settings, reasonable and nondiscriminatory (RAND) licensing is the norm.[117] Most standard-setting organizations require RAND licensing terms once the industry standard has been selected.[118] While the question of the reasonableness of the resulting licensing terms is frequently controversial,[119] few, if any, question the need for

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[116] *See* Frischmann & Lemley, *Spillovers*, *supra* note 3, at 258–60 (discussing invention of spreadsheet and telephone, and resulting but unpredictable downstream uses). **R**

[117] CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 16 (1999) ("[P]articipation in most formal standard-setting bodies in the United States requires a commitment to license any essential or blocking patents on 'fair, reasonable and non-discriminatory terms'"); Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1904 (2002) (2002 survey indicating that 29 out of 36 standards-setting organizations use RAND licensing terms).

[118] *See* Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. 351 (2007); Damien Geradin, *Standardization and Technological Innovation: Some Reflections on Ex-Ante Licensing, FRAND, and the Proper Means to Reward Innovators*, 29 WORLD COMPETITION 511, 512 (2006), *available at* http://ssrn.com/abstract=909011.

[119] *See* George W. Jordan III, *How to Avoid RAND Disputes*, MANAGING INTELL. PROP., Apr. 2006, http://www.managingip.com/Article.aspx?ArticleID=1254684.

nondiscriminatory access once an industry has settled on a particular standard. Indeed, antitrust investigations and litigation have ensued when firms seek to manipulate standard-setting processes to obtain control of the industry standard and to use it to deny reasonable access to competitors.[120]

4. *Avoiding Collusion*

The final incentives issue raised by critics relates to a very different concern. A number of commentators have questioned the propriety of granting mandatory access to an incumbent's facility on the grounds that sharing will create incentives for collusion between the incumbent(s) and the challenger.[121] Most critics present this as a theoretical concern, without any actual examples of where this has come to pass. While such a result is possible, it seems unlikely for several related reasons.

First, if the incumbent wanted to collude with the challenger, it would have presumably granted access and not denied it in the first place. Second, the urge to collude should not be irresistible once access is granted. After all, access and the resulting sharing is publicly known and frequently subjected to at least partial regulatory control. This is hardly the best forum to engage in collusion. Such illegal collusion in publicly scrutinized, open joint activity is hard to conceal. Such collusion would tend to be per se illegal and subject to the strictest criminal penalties and strict government and private enforcement. Both the incumbent and the new entrants would have every incentive to defect from the collusive scheme under the government's amnesty and leniency program.[122] Third, any potential for collusive or oligopolistic behavior as a result of mandatory access could be lessened through the imposition of

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[120] Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297 (3d Cir. 2007); Opinion of the Commission, Rambus, Inc., FTC No. 9032 (2006), *available at* http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf; Decision and Order, Union Oil Co. of Cal., FTC No. 9305, 2005 WL 2003365 (Aug. 2, 2005); Dell Computer Corp., 121 F.T.C. 616 (1996) (consent order). *See generally* James B. Kobak, Jr., *Standard Setting, IP and Antitrust*, 867 PLI/PAT 187 (2006); Christopher L. Sagers, *Antitrust Immunity and Standard Setting Organizations: A Case Study in the Public-Private Distinction*, 25 CARDOZO L. REV. 1393 (2004).

[121] AREEDA & HOVENKAMP, *supra* note 21, § 772c4; Hylton, *supra* note 21, at 1252–54. R

[122] Under the Department of Justice's amnesty and leniency program, a corporation will be immune from prosecution if the following six conditions are met:

> 1. At the time the corporation comes forward to report the illegal activity, the Division has not received information about the illegal activity being reported from any other source;
>
> 2. The corporation, upon its discovery of the illegal activity being reported, took prompt and effective action to terminate its part in the activity;

the kind of conditions frequently employed in lawful joint ventures where the parties have similar opportunities for interaction and similar access to information about each other's operations.[123]

In sum, a narrowly tailored essential facilities doctrine focused on infrastructure should not create any significant negative incentives, free-riding problems, or increases in the likelihood of collusion between incumbents and new challengers. Properly applied, it should maintain sufficient incentives for innovation and increase the likelihood of innovations both by new entrants and downstream users.

C. Courts as Decision Makers

Professor Hovenkamp, Judge Posner, and other critics rely heavily on questions of administrability as grounds for jettisoning the essential facilities doctrine.[124] According to them, either Type I errors (false positives) will overwhelm Type II errors (false negatives) and procompetitive behavior will be unduly deterred, or else the courts will be forced to act as a long-term regulator, setting price and other terms of access that

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3. The corporation reports the wrongdoing with candor and completeness and provides full, continuing, and complete cooperation to the Division throughout the investigation;

4. The confession of wrongdoing is truly a corporate act, as opposed to isolated confessions of individual executives or officials;

5. Where possible, the corporation makes restitution to injured parties; and

6. The corporation did not coerce another party to participate in the illegal activity and clearly was not the leader in, or originator of, the activity.

U.S. Dep't of Justice, Corporate Leniency Policy (1993), *available at* http://www.usdoj.gov/atr/public/guidelines/0091.pdf. In addition the corporation's employees will receive similar immunity from prosecution if they truthfully cooperate with the government as well. However, the firm receiving amnesty is *not* immune from civil antitrust litigation, but is subject only to single, rather than treble, damages. *See id.*

[123] *See* Gen. Motors Corp., 103 F.T.C. 374 (1984) (consent decree). The one scenario most likely to generate potential collusive incentives seems to be of the least interest to those who raise this concern. Oddly enough, critics of mandatory access frequently find the essential facilities doctrine, or its equivalents, less troubling in the context of joint control of the facility. Under these circumstances, the prospect for collusion already exists for the joint operators of the essential facilities and is only enhanced by admitting a new challenger otherwise predisposed to compete upstream or downstream with the operators of the bottleneck facility. Most critics of the essential facilities doctrine do not seem bothered by this scenario. An infrastructure theory of essential facilities would not focus on whether the facility was individually or jointly operated but how it is used downstream and the benefits society derives from a regime of open access.

[124] *See* HOVENKAMP, THE ANTITRUST ENTERPRISE, *supra* note 21, at 237; RICHARD A. POSNER, ANTITRUST LAW 242 (2d ed. 2001); Gilbert & Shapiro, *supra* note 4, at 12754–55. R R

they are ill-equipped to do.[125] Better then to do nothing, and let the market correct what it can, or defer to more expert regulators.[126]

While this is a superficially appealing set of arguments, they ultimately are not persuasive. Where are the Type I errors haunting the system? Where are the courts acting as regulators beyond their institutional capacities under this doctrine? The task of a court deciding an essential facilities case pales in comparison to courts administering complex consent decrees in other aspects of antitrust law, including the government antitrust litigation against AT&T, which resulted in the modification of final judgment (MFJ) administered by Judge Harold Greene over a twelve-year period in which he functioned as a "one man Federal Telephony Commission."[127]

There is no reason to think that deciding or administering the average essential facilities antitrust case is beyond the capacity of the average federal judge. For example, in *Trinko*, the basic question of whether Verizon was, or was not, providing access to its competitors on terms less favorable than it did to its own local customers is a straightforward question of discrimination amounting to roughly: Is X being treated less favorably than Y?[128]

This is a basic binary type of determination that federal and state courts decide on a daily basis in both statutory and common law cases involving civil rights, employment discrimination, common carrier duties, licensing decisions, school segregation, prison conditions, access to health care, and numerous other areas of the law beyond antitrust. These are dime-a-dozen types of decisions that are a far cry from the

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[125] Ratner, *supra* note 21, at 376–82. R

[126] HOVENKAMP, THE ANTITRUST ENTERPRISE, *supra* note 21, at 237. *See generally* Ronald A. Cass & Keith N. Hylton, *Preserving Competition: Economic Analysis, Legal Standards and* Microsoft, 8 GEO. MASON L. REV. 1, 30–33 (1999) (arguing that, in general, Type II errors promote market competition in long run while Type I errors create incentives to avoid competition and seek court relief). R

[127] STUART MINOR BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 681 (1st ed. 2001); Jim Chen, *Titanic Telecommunications*, 25 SW. U. L. REV. 535, 536 (1996) (MFJ defined the terms by which the telecommunications industry operated over the next twelve years). *See generally* PETER W. HUBER ET AL., FEDERAL TELECOMMUNICATIONS LAW §§ 4.4.3.2 to 4.4.4 (2d. ed. 1999) (summarizing Judge Greene's administration of the MFJ).

[128] Nearly at the same time as the Supreme Court, with the support of the antitrust enforcement agencies, was restricting the essential facilities doctrine in the telecommunications field, the U.S. government successfully brought an essential facilities doctrine-type claim in the World Trade Organization. In that matter, a dispute resolution panel of the WTO held that the Mexico wrongfully denied U.S. telecommunications firms access to the Mexican long-distance telephony market and charged unlawfully high access fees. Panel Report, *Mexico—Measures Affecting Telecommunications Services*, WT/DS152/R (Apr. 2, 2004), 2004 WL 742530.

polycentric multivariate balancing-type of cases that courts are comparatively poorer at deciding.[129] If one concludes the courts cannot handle this kind of dispute, then most of the federal court docket should be discarded in favor of some other institutional dispute resolution mechanism.

Critics of the essential facilities doctrine typically focus only on the alleged shortcomings of the judiciary and rarely, if ever, on whether the available alternatives in the real world will perform any better. Professor Neil Komesar's theory of comparative institutional analysis examines the effect of large numbers of affected persons and complexity on the ability of courts, markets, political processes, and informal communities to decide issues free from either majoritarian or minoritarian biases.[130] His central insight is that all of these institutions degrade as decision makers as numbers and complexity grows, requiring difficult choices among less than perfect alternatives.[131]

The courts have, in fact, proved themselves quite adept at making these sorts of decisions in right-to-access antitrust cases, whether called essential facilities cases or not. Even the *Trinko* Court acknowledged that the courts have adequately handled such disputes under the rubric of Section 1 of the Sherman Act.[132] When the essential facilities doctrine has been explicitly used by the lower courts, they have been equally adept at sorting out the meritorious cases from the frivolous cases where a competitor could reasonably duplicate the facility in question but simply preferred not to go to the trouble and expense.

For example, *MCI* distinguished between access to intra-city networks and inter-city networks in which MCI was free to build its own facilities and was not given access to AT&T's existing competitive facilities.[133] The quick rejection of most essential facilities claims at the pleading or sum-

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[129] Lon L. Fuller, *The Forms and Limits of Adjudication*, 92 HARV. L. REV. 353, 394–404 (1978). Professor Fuller's article was published posthumously. An unpublished version was in circulation as early as the 1950s and was included in the tentative 1958 edition of Hart and Sack's *The Legal Process*, itself not officially published until 1994. *See generally* HENRY M. HART & ALBERT M. SACKS, THE LEGAL PROCESS: BASIC PROBLEMS IN THE MAKING AND APPLICATION OF LAW (1994).

[130] NEIL K. KOMESAR, LAW'S LIMITS: THE RULE OF LAW AND THE SUPPLY AND DEMAND OF RIGHTS (2001) [hereinafter LAW'S LIMITS]; NEIL K. KOMESAR, IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY (1994) [hereinafter IMPERFECT ALTERNATIVES]. *See also* Owen, *supra* note 61, at 890–94 (comparing strengths and weaknesses of courts and agencies in addressing essential facilities issues). R

[131] KOMESAR, LAW'S LIMITS, *supra* note 130, at 174–76; KOMESAR, IMPERFECT ALTERNATIVES, *supra* note 130, at 271–76. R R

[132] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko LLP, 540 U.S. 398, 410 n.3 (2004).

[133] MCI Commc'ns Corp. v. AT&T Co., 708 F.2d 1081, 1147–50 (7th Cir. 1983).

mary judgment stage suggests, if anything, that the courts are doing just fine at separating the wheat from the chaff in this area. Unfortunately, *Trinko* suggests that, in most circumstances, federal courts will never even get the chance to do what they have been doing quite well for decades because of a theoretical concern for false positives in a case that did not even raise a credible fear of such an outcome.

Trinko further instructs us to be wary of adjudicating liability where no adequate remedy can be implemented by the courts. This is a fair concern, but again one for which the courts have proved up to the challenge. It is also not clear whether *Trinko* or any other essential facilities case raised any serious concern in this regard, certainly not with respect to a request for damages. *MCI* and *Aspen* were also routine damage cases, albeit treble damage ones because of the antitrust claims involved.

The mere fact that an injunction may be involved does not change the picture. Most essential facilities cases involve a defendant that either favors one competitor over another or provides more favorable access to its upstream or downstream affiliate than it does to its competitor. The injunctive remedy is a straightforward injunction to provide nondiscriminatory access.[134]

In most cases, the court does not even have to formulate the terms of access. They often already exist, either by reason of some regulatory decree by the appropriate government agency or the existing market prices, or from the internal standards of the incumbent firms or firms. As a thoughtful student commentator observed, the following five scenarios represent the vast majority of the situations faced in this regard:

(1) A single-firm monopolist that grants access to some customers and not others;

(2) A monopoly controlled by concerted activity that grants access to some customers and not others;

(3) A monopoly controlled by concerted action that allows use only by co-owners of the facility;

(4) A single-firm monopolist that terminates all its existing customers and takes over the market for itself; and

(5) A single-firm monopolist that is vertically integrated and that historically has been the only user of the essential facility.[135]

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[134] *Trinko*, 540 U.S. at 410 n.3.

[135] Troy, *supra* note 21, at 485–87. R

In all but possibly the final scenario, the commentator concludes that there are actual market prices or manageably easy ways to calculate a market price that a court can comfortably ascertain and administer.[136] As another commentator has noted, the parties themselves should be able to reach agreement on price through market mechanisms as long as governance costs are relatively low.[137]

Even in the fifth example, where the most concern exists over the role of the court as price setter, there has been a way out in the actual cases raising this issue. For example in the *Otter Tail* case, the Court had the benefit of the Federal Power Commission to set price and regulate access.[138] Similarly, in *Terminal Railroad*, the Court had the benefit of the Interstate Commerce Commission to act as a rate-setter.[139]

The question for the courts is not whether the access standards are correct in some cosmic sense. It is rather whether the competitor is being treated less favorably or unlawfully denied access at all. Depending on the setting of the case, the court may require proof that the incumbent acted deliberately and/or that the difference in treatment was significant. These may or may not be complicated fact questions, but they are by no means beyond the skills of the average jury—or beyond a federal court's capacity to formulate jury instructions and ensure that the verdict is supported by the record.[140]

One can imagine where problems at the remedy stage in antitrust or other kinds of cases are so overwhelming that a court might be reluctant to adjudicate liability. For example, a court might refuse to grant an injunction that poses such problems by balancing the equities and public interest standards inherent in equitable relief. The court also could

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[136] *Id.* at 485–86.

[137] See Candeub, *supra* note 65, at 865–68. R

[138] Otter Tail Power Co. v. United States, 410 U.S. 366, 375–76 (1973).

[139] United States v. Terminal R.R Ass'n of St. Louis, 224 U.S. 383, 412 (1912).

[140] What appears to really underlie much of the critique here is a discomfort with juries deciding complex economic questions. *See* HOVENKAMP, THE ANTITRUST ENTERPRISE, *supra* note 21, at 61–63, 77–91, 307–08; Areeda, *supra* note 21, at 851. While the desirability of R juries deciding such questions is debatable, such criticism is really a separate argument and foreclosed for the time being by precedent. Berkey Photo, Inc. v. Eastman Kodak Co., 444 U.S. 1093, 1095 (1980) (Justice Blackmun dissenting from the denial of certiorari) ("Kodak is entitled as a matter of constitutional right under the Seventh Amendment to demand a jury trial in a case such as this . . ."); *In re* U.S. Fin. Secs. Litig., 609 F.2d 411, 432 (9th Cir. 1979) (rejecting complexity exception to Seventh Amendment). If the real objection is one of jury, rather than judicial, competence, then one intermediate solution would be to characterize the question of the existence of an essential facility as a question of law or a mixed question of law and fact and assigning it to the judge. *See generally* Ronald J. Allen & Michael S. Pardo, Essay, *The Myth of the Law-Fact Distinction*, 97 NW. U. L. REV. 1769 (2003).

issue a declaratory judgment and leave the decision as to remedy for another day.[141] In the alternative, the court could proceed to a verdict, and, if the plaintiff prevailed, appoint a special master or require a series of alternative dispute resolution proceedings for the parties to craft acceptable private solutions.

For example, the European Union includes arbitration clauses in its remedies in merger investigations that require open access requirements to essential facilities under the control of the merging firms.[142] In addition, the private monitoring structure in the *Microsoft* consent decree and numerous consent decrees in U.S. merger practice often impose relief far more regulatory in nature than the relief sought in the typical essential facilities case.[143]

The final judicial remedy would, of course, be a contempt proceeding, as is the case with any defendant that has willfully violated the terms of an injunction. The history of contempt proceedings in general and in antitrust, including the *Microsoft* litigation, suggests that this is a high hurdle, rarely attempted by the parties and even less frequently imposed by the court.[144] Here, the high standard of proof inherently protects a defendant and society at large from Type I errors and would be limited to only the most drastic, and provable, situations that fall within the historic powers of the judicial system.

If traditional regulation is needed in a particular case, then let the regulators regulate. However, in many cases, the judiciary will be handling essential facilities disputes in industries that are too small to have an established regulatory structure, or where the regulatory scheme has

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[141] *See e.g.*, Byars v. Bluff City News Co., 609 F.2d 843, 864 (6th Cir. 1979) (remanding to district court but cautioning about imposing liability without workable remedy); General Motors Corp. (Crash Parts) (FTC 1982), 1977 FTC LEXIS 293 (expressing concern over manageability of remedy).

The Second Circuit followed this type of cautious approach as to remedy in the *Alcoa* case—a Section 2 Sherman Act case unrelated to the essential facilities doctrine. United States v. Aluminum Co. of Am., 148 F.2d 416, 445–48 (2d Cir. 1945). *See generally* Spencer Weber Waller, *The Story of* Alco*a: The Enduring Questions of Market Power, Conduct, and Remedy in Monopolization Cases*, *in* ANTITRUST STORIES (Eleanor M. Fox & Daniel A. Crane eds., 2007) (discussing the court's imposition of liability for monopolization but deferral of a remedy until after the completion of World War II).

[142] GORDON BLANKE, THE USE AND UTILITY OF INTERNATIONAL ARBITRATION IN EC COMMISSION MERGER REMEDIES: A NOVEL SUPRANATIONAL PARADIGM IN THE MAKING? (2006).

[143] *See* Harry First & Andrew I. Gavil, *Re-Framing Windows: The Durable Meaning of the* Microsoft *Antitrust Litigation*, 2006 UTAH L. REV. 641, 679 733–34 (2006) (describing technical compliance process under the *Microsoft* consent decree.

[144] United States v. Microsoft Corp., 147 F.3d 935 (D.C. Cir. 1998) (granting writ of mandamus dissolving injunction and appointment of special master arising out of alternative remedy following denial of contempt citation for alleged violation of antitrust consent decree).

failed to address a particular situation.[145] Here there is simply no alternative to a thoughtful judicial solution when a proper case or controversy is presented for resolution.

When traditional regulatory mechanisms exist, creative solutions still remain that do not disable a judicial remedy in the context of an antitrust dispute. Even the late Professor Phillip Areeda, generally a critic of the essential facilities doctrine, conceded that "remedies may be practical . . . when . . . a regulatory agency already exists to control the terms of dealing."[146] Similarly, Professor Phillip Weiser has suggested that if a federal court needs resources and expertise beyond its capabilities, it should enlist state and federal regulators as special masters to implement judicial decrees.[147]

The branches of government are separate but not hermetically sealed. Critics and the *Trinko* Court may prefer to defer to the market, but they fail to make the case that their normative preferences reflect the general case rather than the special case. They fail to establish that their solution in fact minimizes Type I rather than Type II errors, or that other solutions cannot bridge the gap when there is a meritorious antitrust case.

VI. INFRASTRUCTURE THEORY IN ACTION

We have presented our model thus far at a theoretical level. To make our proposals concrete, we offer a series of examples of the application of our infrastructure theory of the essential facilities doctrine to past, present, and potential future controversies in the United States and the European Union. We do so to argue that our model provides a coherent and limited basis for determining whether an antitrust regime of open access is needed, meaningfully limits both Type I and II errors, and can be administered by courts in the vast majority of circumstances that are likely to arise in the real world. In all our examples, both real and hypothetical, we assume that the defendant has true monopoly power and focus on the question of whether the defendant's assets are infrastructural in nature, requiring a regime of open access.[148]

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[145] Gerber, *supra* note 21, at 1102–03, 1108. R

[146] Areeda, *supra* note 21, at 853. R

[147] *See generally* Weiser, *The Relationship of Antitrust and Regulation*, *supra* note 71; Philip J. Weiser, Goldwasser, *The Telecom Act, and Reflections on Antitrust Remedies*, 55 ADMIN. L. REV. 1 (2003). R

[148] This assumption eliminates the critical step of proving that the defendant is a true monopolist but also eliminates the escape hatch in those essential facilities cases where the plaintiff has access to other alternatives or could simply duplicate the facility on its own. *See supra* notes 16–18 and accompanying text.

A. SORTING OUT FALSE POSITIVES (MOUNTAINS AND HOOPS)

Critics of the essential facilities doctrine have been concerned that courts or juries will inexorably commit what is referred to as "Type I" errors by condemning a variety of conduct that is not anticompetitive. These criticisms are usually expressed at a high level of generality. It is not even always clear which cases critics believe were wrongly decided, especially since some of the cases discussed do not use the essential facilities doctrine by name.[149]

We do not believe that this fear of false positives is a particularly telling one, since the lower courts have been quite restrictive in imposing liability on this or related theories. As Professor Glenn Robinson has noted, the lower courts have been far more parsimonious under the essential facilities doctrine than the Supreme Court has in related contexts.[150]

Nonetheless, we also believe that infrastructure theory does a better job than the prior tests for sorting out both the potential false positives and false negatives. There are only a small number of cases imposing liability that both appear to be false positives and that infrastructure theory would decide differently. These would include the Tenth Circuit decision in *Aspen Skiing*[151] and the handful of cases involving sports stadiums.[152]

1. *The* Aspen *Litigation*

Unlike the Supreme Court, which upheld the jury verdict in *Aspen Skiing* on a more general monopolization theory, the Tenth Circuit squarely grounded its decision on the essential facilities doctrine.[153] In *Aspen Skiing*, four originally independently owned ski resorts in the Aspen valley created a joint lift ticket that allowed consumers to purchase one ticket for the week and ski any of the mountains in Aspen. It was both profitable and highly valued by consumers. Eventually, the

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[149] *See* HOVENKAMP, THE ANTITRUST ENTERPRISE, *supra* note 21, at 237; Fred S. McChesney, *Talking 'Bout My Antitrust Generation: Competition for and in the Field of Competition Law*, 52 EMORY L.J. 1401, 1415 (2003). R

[150] Robinson, *supra* note 21, at 1231–32. R

[151] Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 738 F.2d 1509 (10th Cir. 1984).

[152] Ferguson v. Greater Pocatello Chamber of Commerce, Inc., 848 F.2d 976 (9th Cir. 1988); Flip Side Productions, Inc. v. Jam Productions, Ltd., 843 F.2d 1024 (7th Cir. 1988); Fishman v. Estate of Wirtz, 807 F. 2d 520 (7th Cir. 1986); Hecht v. Pro-Football, Inc., 570 F.2d 982 (D.C. Cir. 1977); Elliott v. United Center, No. 95-C5440, 1996 U.S. Dist. LEXIS 1177 (N.D. Ill., Feb 2, 1996); Hart Prods., Inc. v. Greater Cincinnati Convention & Visitors Bureau, 1990-2 Trade Cas. (CCH) ¶ 69,233 (S.D. Ohio 1990).; U.S. Football League v. Nat'l Football League, 634 F. Supp. 1155 (S.D.N.Y. 1986).

[153] 738 F.2d at 1519–22.

defendant acquired control of three of the four mountains. The defendant shortly thereafter then imposed increasingly Draconian conditions on its joint venture partner and later discontinued the arrangement altogether. The defendant refused to allow the plaintiff any access to lift tickets to its mountains, even turning down cash for lift tickets at full retail prices, in order to prevent the plaintiff from cobbling together its own version of the former joint lift ticket.[154]

Applying the *MCI* test, the Tenth Circuit held that the evidence presented on all four prongs of the test was sufficient to uphold the denial of the defendant's motion for a directed verdict and judgment notwithstanding the verdict. The court relied on the fact that the defendant owned three of the four mountains to establish the control of the essential facility by a monopolist; it relied on the environmental restrictions on developing new ski areas to establish the inability to duplicate the facility; the denial itself was uncontested; and it relied on the prior course of dealing to establish the feasibility of access. The court concluded that "the substance of an essential facilities case was made," and that there was sufficient evidence to sustain the jury verdict on these grounds.[155]

The lower court version of *Aspen* may represent one of the few straightforward examples of a case where the *MCI* test imposes liability (or at least permits liability, given the defendant's concession on the question of market power) and infrastructure theory would not. Infrastructure theory does not rely on the inconvenience suffered by the plaintiff or the essentialness of the input to the plaintiff, but rather focuses on the societal need for open access to an input that enables the production of potentially large, but often unmeasurable, spillovers or downstream externalities benefiting society as a whole. Whether access to a joint lift arrangement is "essential" to either competing ski operators or desirable to skiers simply is not the question. The question is whether skiers or some other segment of the public use the input in a fashion that produces benefits to society at large that the market inadequately values.

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[154] *Id.* at 1512–13. For reasons that are unknown, the defendant failed to appeal the jury's finding that downhill skiing in Aspen was the relevant market at trial. The plaintiff won a monopolization verdict totaling $7.5 million plus attorney's fees and costs after trebling. On appeal, the defendant challenged various aspects of the jury instructions and the sufficiency of the evidence supporting the jury's verdicts. The Tenth Circuit rejected most of the defendant's points on appeal on the basis of waiver or the failure to demonstrate plain error.

[155] *Id.* at 1521.

In *Aspen*, the answer is clear: Skiing is an end good by itself and produces no further downstream benefits or production other than perhaps the increased health and well-being of the skiers themselves. Although pleasant for the vacationer, these benefits implicate none of the broader societal concerns that underlie our interest in preserving a properly cabined essential facilities doctrine. Thus, while there are other reasons to uphold the *Aspen Skiing* verdict, as the Supreme Court and others have identified, the essential facilities doctrine should not be one of them.

2. *Sports Stadiums*

Of the handful of essential facilities cases involving sports stadiums, *Estate of Fishman v. Wirtz* is representative of the main line of arguable false positives under the essential facilities doctrine.[156] In *Fishman*, a losing bidder for the Chicago Bulls professional basketball team sued the eventual winning group. A member of the winning group included the owner of the Chicago Stadium, where the Bulls played. The owner of the Chicago Stadium refused to lease the stadium to the plaintiff's group, in turn causing the NBA Board of Governors to reject the plaintiff's contract to buy the team from the prior owners.

The Seventh Circuit, including two of the members of the *MCI* panel,[157] held that the Chicago Stadium was an essential facility given the more limited seating, age, and condition of the principal alternative arena available for professional basketball.[158] Judge Easterbrook, however, wrote a strongly worded dissent arguing that the plaintiffs suffered no antitrust injury; that the essential facilities doctrine had no application when one set of owners of a natural monopoly displaced a rival group; and that the Chicago Stadium did not qualify as an essential facility in any event given other existing and eventual development of alternative stadiums in the Chicago metropolitan area.[159]

While *Fishman* is a hard case under the traditional *MCI* test because of the presence of at least one actual, but markedly less appealing, alternative stadium, and the possibility of future entry of new arenas, it is a rather easy case using infrastructure theory. The question of whether the Chicago Stadium is sufficiently unique to constitute an essential facility for antitrust purposes becomes irrelevant. It is clear that the old Chicago Stadium did not constitute infrastructure within the meaning

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[156] Fishman v. Estate of Wirtz, 807 F.2d 520 (7th Cir. 1986).

[157] Judges Cudahy and Fairchild were in the majority in both *Fishman* and *MCI*.

[158] *Fishman*, 807 F.2d at 539–40.

[159] *Id.* at 563–75.

of our test. Consumption or use of the stadium cannot be considered even potentially non-rivalrous over the intended real-world range of uses. The circus and the Chicago Bulls cannot use the stadium at the same time.[160] Once all tickets are sold for any particular event, there are no more to be had. Moreover, the Chicago Stadium is not a general purpose input for a wide variety of productive activities by its users. It is merely an input for its tenants to present basketball games, hockey games, concerts, the circus, and the like, and the venue for consumers to enjoy such events. While such venues may be "essential" in some sense because of the lack of readily available alternatives and the heavy degree of necessary public approvals, subsidies, or outright public ownership, they are not "infrastructure" in the sense we identify as crucial to the question of open access. The customers enjoy or "consume" the event and do not engage in productive activities that yield substantial positive externalities.[161]

B. *TRINKO* AND FALSE NEGATIVES

While *Aspen* in the lower courts and the line of stadium cases are troubling under both our theory and most of the traditional critiques of the essential facilities doctrine, they hardly justify jettisoning the doctrine. In fact, these cases suggest that an infrastructure theory can do a better job in limiting Type I error than the linguistic formulations of the past. One consequence may well be the shrinking of the application of the essential facilities doctrine involving purely commercial infrastructure, at least where downstream demand considerations do not argue for open access. But at same time, the doctrine necessarily expands liability in key cases involving other noncommercial types of infrastructure where the likelihood of Type II error (false negative) is far more prevalent.

Trinko appears to be a prototypical false negative case where infrastructure theory helps illustrate why open access is desirable. Telecommunications networks are partially non-rivalrous inputs into a wide variety of market, non-market, and social activities. Downstream externalities should be clear. Voice and data communications are the principal platform for the exchange of ideas and other forms of human creativity. While the centrality of wired local telephony is being chal-

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[160] As a result of this fact, the Chicago Bulls and Chicago Blackhawks are forced to schedule lengthy road trips each November while the successor to the Chicago Stadium is rented to the circus, usually with disastrous consequences for their win-loss records.

[161] While we can imagine a world where such venues become the site for the creative interchange of ideas that would transform sports stadiums into the infrastructure of the future, this simply is not the world in which we currently live or can reasonably foresee.

lenged by other technologies, including wireless phone networks and the Internet itself, the phone system remains a critical infrastructural platform for the foreseeable future.[162] To hold otherwise would be to overturn the outcomes in both the *MCI* and *AT&T* litigation and to cast doubt on a wide swath of antitrust law that has nothing to do with the essential facilities debate.

Of all the essential facilities cases discussed in this Part, *Trinko* posed the least risk of forcing the court to act as a price-setting regulator. The FCC had in fact already set the price for access. The pricing methodology, a form of long-run incremental cost, may have been controversial and unremunerative to the incumbent local exchange carrier,[163] but no court decision was required to set the price. While the *regulatory* setting of the price below the needs or desires of the incumbent may have been the real reason behind its alleged foot dragging in the first place, it does not cut against the ability of the court to render and supervise the injunctive remedy sought by the plaintiff. The other non-price terms of access were also already established by federal and state law and the private agreements between the parties negotiated pursuant to those laws.

Nothing in the request for damages would turn the court into a regulator. It would have perhaps involved a complex damage calculation, depending on the final composition of the class of plaintiffs. However, such a calculation would have been subject to the normal rules for the use of expert witnesses,[164] and the general rules that allow estimates of antitrust damages but not speculation.[165] More than likely, any permissible damage calculation would have been a before/after calculation depending on the period of violation or a comparison between the market with the illegal conduct and a comparable market where no such illegal behavior was found.[166] These are complicated calculations, to be sure. However, they present nothing inherently regulatory or beyond the in-

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[162] The essential nature of wired local telephony within the meaning of the *MCI* test may not continue indefinitely. We can envision a future where wired telephony no longer constitutes infrastructure within the meaning of our proposal and the defendant in *Trinko* would have no accompanying obligation to provide open access. This, however, suggests that infrastructure theory is a sufficiently flexible instrument to determine whether certain platforms and networks have evolved into and out of infrastructure in the sense we use the term.

[163] *See* Verizon Commc'ns Inc. v. FCC, 535 U.S. 467, 496 (2002); AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366, 375 n.3, 393 (1999).

[164] *See generally* Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999); Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993).

[165] *See* Story Parchment Co. v. Paterson Parchment Paper Co., 282 U.S. 555 (1931).

[166] 2 ABA SECTION OF ANTITRUST LAW, ANTITRUST LAW DEVELOPMENTS 838–44 (6th ed. 2007); ABA SECTION OF ANTITRUST LAW, PROVING ANTITRUST DAMAGES: LEGAL AND ECONOMIC ISSUES (1996).

stitutional capability of a district court to adjudicate or an appellate court to review.

The injunctive remedy would have required the court to monitor whether the defendant was granting access going forward on a nondiscriminatory basis. This would have required determining whether AT&T was being treated less favorably in comparison to Verizon's own customers in terms of new orders and the like. But it is not clear why this is beyond the powers of a diligent federal judge or why it would require her to act like a regulator. It would not even necessarily require the kind of elaborate reporting mechanism that the FCC and the New York State regulator imposed on Verizon in their proceedings. The court may well never have seen the litigants again, absent a suspected pattern of less favorable treatment severe enough for the plaintiffs or the competing providers to seek further court relief.

C. *Associated Press*

The 1945 *Associated Press* decision has always been one of the more controversial antitrust decisions.[167] Most commentators generally cite it rather grudgingly as a forebearer of the modern version of the essential facilities doctrine,[168] and most critics also seek to distinguish it on the grounds that it involves a collective refusal to deal more analogous to a group boycott.[169] We believe that the decision can best be understood in terms of infrastructure theory, and that the Supreme Court acted properly and was indeed the only available institution to require a socially beneficial regime of open access.

The Associated Press was a network of approximately 1200 newspapers that shared their reporters' local news stories with other AP newspapers, which would run all or portions of such distant stories as "wire" stories in their own papers. In turn, those papers would share their own local stories with any and all members of the far-flung network. The Associated Press exhibited strong network effects, making membership more and more valuable as more newspapers joined the arrangement.

The Department of Justice Antitrust Division eventually challenged the bylaws of the Associated Press, which forbade the selling of AP news items to non-members and which, as a practical matter, permitted an existing member of the network to veto the membership of a competing

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[167] United States v. Associated Press, 326 U.S. 1 (1945) (*Associated Press II*).

[168] *See, e.g.*, Lipsky & Sidak, *supra* note 21, at 1198. R

[169] *Id.* at 1199–1200. The question of whether the essential facility is jointly or singly controlled is irrelevant for infrastructure theory purposes. *See supra* Part II.

newspaper.[170] The trial court granted the government's motion for summary judgment that the arrangement violated Section 1 of the Sherman Act,[171] and the Supreme Court, on direct appeal, affirmed.

Infrastructure theory suggests that the Supreme Court may have gotten it right where no other institution or regulator could have done so.[172] The AP network satisfies each of the criteria for our economic theory of infrastructure.[173] The AP network is a sharable input. Unlike some types of clubs (e.g., a gym or pool), AP membership provided access to pooled resources (news stories) that grew in value as membership grew and were not subject to congestion. The public and non-market value of the AP network arises downstream through the productive use and dissemination of the news stories, which can be consumed non-rivalrously or at least partially non-rivalrously, over a broad spectrum of demand. One newspaper running an AP story does not affect the ability technically, practically, or commercially of another newspaper to use the same or a different AP story.

The AP newswire is an input into two different downstream markets. The first is that of the newspapers which used the AP service to fill out their daily newspaper with stories about locations where they themselves did not have reporters available. The newspaper items (both AP and locally produced) also were an input into the full range of productive, artistic, and cultural activities of the readers of the paper. While the demand for the newspaper themselves can be fairly easily estimated and produces relatively few spillovers, the same cannot be said for the newspaper *readers*. The contents of the AP stories may be consumed for pleasure and promptly forgotten or may be the basis for further research, fiction, poetry, editorial comment, letters to the editor, community ac-

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[170] Alternative versions of the Justice Department's motivations in bringing the AP litigation can be found in SPENCER WEBER WALLER, THURMAN ARNOLD: A BIOGRAPHY 102–05 (2005), and ALICE ALBRIGHT HOGE, CISSY PATTERSON: THE LIFE OF ELEANOR MEDILL PATTERSON (1966).

[171] United States v. Associated Press, 52 F. Supp. 362 (S.D.N.Y. 1943) (*Associated Press I*).

[172] *See* Miami Herald Pub. Co. v. Tornillo, 418 U.S. 241, 254 (1974) (distinguishing AP case and discussing First Amendment prohibitions on requiring newspapers to carry editorial content).

[173] Factual questions exist whether the Associated Press had true monopoly power, and the government ultimately prevailed on a Section 1 restraint of trade theory. While clearly the AP had no monopoly on news gathering itself and other news gathering networks existed during the relevant time frame, the Court did find that 1179 out of the 1803 daily English language newspapers with 35 million of the available 42 million circulation were subject to the bylaws in question. *Associated Press II*, 326 U.S. at 9 n.4. Moreover, the other existing news association also had restrictive membership conditions. These are all important and difficult factual issues, but not relevant to our consideration of whether the AP constitutes infrastructure within the meaning of our theory.

tion, making collages, and the whole range of commercial, social, artistic, and aesthetic production. Here the downstream spillovers are likely significant yet quite difficult to measure.

The AP network thus constitutes infrastructure, and may justify a regime of open access to allow for the unleashing of the downstream spillovers that would otherwise be lost. Understood in these terms, the Supreme Court's decision makes sense. A regime of open access grants readers of all similarly situated newspapers access to the full range of informational inputs. Granting access to competing newspapers to the AP network is just a conduit for granting access to their readers to use the informational inputs for the benefit of society as a whole. Perhaps the district court in the AP case came closest to embodying our notion of infrastructure when it opined: "[N]obody will maintain that, if AP were the only news service in existence, the members could keep it wholly to themselves and reduce all other papers to such news as they could gather by their own efforts."[174]

The courts were a perfectly appropriate institution to resolve this dispute and may well be the only institution capable of resolving it. The size and nature of the AP network strongly suggests that no regulatory regime could be created to administer this industry in a remotely efficient manner. It is not clear that such a regulatory regime would be constitutional even if it could be created.

Furthermore, striking an overly restrictive bylaw is a traditional judicial function in a wide variety of areas of the law beyond antitrust, including corporate law and employment law (for example, by striking restrictive covenants in employment contracts). Terms of access and pricing were already established in the AP bylaws. Questions of free riding and incentives could be addressed through bylaw provisions restricting access to news stories generated locally and through requirements of adding content to the network and not merely running stories produced by others. Whether the new applicant was otherwise eligible for AP membership, living up to membership requirements, and was being granted reasonable nondiscriminatory access, become routine questions of contract interpretation subject to any alternative dispute resolution provision in the AP bylaws and/or judicial determination.

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[174] *Associated Press I*, 52 F. Supp. at 371. Similarly, Justice Frankfurter in his concurrence raised, but did not pursue, the analogy between the AP and the notion of a public utility. *Associated Press II*, 326 U.S. at 29.

D. MICROSOFT WINDOWS

Perhaps the most important, and the most complicated, example is how our theory would apply to Windows, the ubiquitous Microsoft computer operating system. Although none of the major antitrust litigation against Microsoft focused explicitly on this issue, we believe Windows qualifies as the type of infrastructure that requires open access.[175] A computer operating system is a vital input for all the commercial, creative, and public uses that computer users produce. The operating system is the key to running any applications software, whether word processing, spreadsheet, Web browsing, music and video production and editing, computer-aided design, math and statistical packages, etc. The downstream externalities for both software developers and individual computer users are both immense and incalculable.

At a minimum, a regime of open access requires access to sufficient information about Application Programming Interfaces (APIs) to allow competing software application developers to interface with Windows.[176] However, if this is the limit of its obligation, then Microsoft has arguably permitted open access to its infrastructure since it has always allowed access to software application developers so outside companies could write programs that run on Windows.[177] Microsoft is further subject to additional disclosure and nondiscrimination provisions as a result of its obligations under the antitrust consent decree it signed with the U.S.

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[175] Whether the Microsoft Windows operating system is an essential facility within the meaning of the traditional doctrine has been vigorously debated in the literature. *Compare* Norman W. Hawker, *Open Windows: The Essential Facilities Doctrine and Microsoft*, 25 OHIO N.U. L. REV. 115 (1999), *and* Teague I. Donahey, Terminal Railroad *Revisited: Using the Essential Facilities Doctrine to Ensure Accessibility to Internet Software Standards*, 25 AIPLA Q.J. 277 (1997), *and* Mercer H. Harz, *Dominance and Duty in the European Union: A Look Through Microsoft Windows at the Essential Facilities Doctrine*, 11 EMORY INT'L L. REV. 189 (1997), *with* Lipsky & Sidak, *supra* note 21, *and* Thomas F. Cotter, *Intellectual Property and the Essential Facilities Doctrine*, 44 ANTITRUST BULL. 211 (1999). R

[176] *See* United States v. Microsoft Corp., 253 F.3d 34, 53 (D.C. Cir. 2001)

> Operating systems also function as platforms for software applications. They do this by "exposing"—*i.e.*, making available to software developers—routines or protocols that perform certain widely-used functions. These are known as Application Programming Interfaces, or "APIs." For example, Windows contains an API that enables users to draw a box on the screen. Software developers wishing to include that function in an application need not duplicate it in their own code. Instead, they can "call"—*i.e.*, use—the Windows API. Windows contains thousands of APIs, controlling everything from data storage to font display.

Id. (internal citations omitted).

[177] First & Gavil, *supra* note 143, at 693–94 (stating there was "virtually no proof at trial that Microsoft had denied interoperability information to competitors"). R

government and the competition decision of the European Commission now affirmed by the European Court of First Instance.[178]

Regardless of which specific remedy one favors, few would dispute the infrastructural nature of Windows and similar software platforms. Thinking about Windows in these terms better explains why both the United States and the European Union reached similar conclusions on the merits of their cases but also why the European Union went further in the structure of its case and the open access remedies it sought.[179]

E. iPOD-iTUNES

The antitrust issues with the popular iTunes music download service and iPod MP3 music player are easy to state. The iPod is the dominant portable MP3 music player, with an estimated market share of approximately 75 percent or more.[180] Apple's iTunes music store, which licenses individual songs, albums, music videos, television shows, audio books, podcasts, and movies for downloading to the user's home computer and transfer onto their iPod MP3 players, does so in a way that only works on iPods and not other manufacturers' music players. This limitation has resulted in antitrust litigation in the United States[181] and legislative ini-

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[178] Commission Decision (EC) 53/2007 of 24 March 2004, Case COMP/C-3.37.792, Microsoft, 2007 O.J. (L 32) 23, *aff'd by* Case T-201/04 R, Microsoft Corp. v. Comm'n, 2007 O.J. (C 269) 80. However, a regime of open access could also require the licensing of the source code for Windows, a far more invasive licensing requirement that goes to the heart of the different approaches that antitrust law and intellectual property bring to bear on the questions of innovation and competition. So far no competition authority has required the licensing of source code and none is likely to do so. *But see* Hawker, *supra* note 175, at 140–41 (arguing for disclosure of source code to allow for actual integration of competing software applications with Windows rather than mere disclosure of interface information). R

[179] *Compare* United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001), and Final Judgment, United States v. Microsoft Corp., Civil Action No. 98-1232 (CKK) (D.D.C. Nov. 12, 2002) (consent decree), *available at* http://www.usdoj.gov/atr/cases/f200400/200457.htm, *with* Commission Decision (EC) 53/2007 of 24 March 2004, Case COMP/C-3.37.792, Microsoft, 2007 O.J. (L 32) 23, *aff'd by* Case T-201/04 R, Microsoft Corp. v. Comm'n, 2007 O.J. (C 269) 80.

[180] Amanda Cantrell, *Apple's Remarkable Comeback Story,* CNNMONEY.COM, Mar. 29, 2006, http://money.cnn.com/2006/03/29/technology/apple_anniversary/?cnn'yes (estimating iPod market share at 73 percent); David Becker, *It's All About the iPod*, CNET NEWS.COM, Apr. 18, 2005, http://news.com.com/Its-all-about-the-iPod/2100-1041_3-5406519.html (estimating market share of hard drive music players at 92 percent); Ina Fried, *Apple Earnings Continue to Hum Along*, CNET NEWS.COM, Apr. 14, 2005, http://www.news.com/2102-1045_3-5669710.html?tag=ST.util.print (stating that February 2006 figures give the company a greater than 70 percent market share of all types of MP3 players, including more than 90 percent of the hard-drive market and 43 percent of the flash market).

[181] *See, e.g.*, Slattery v. Apple Computer, Inc., No C 05-00037 JW, 2005 WL 2204981 (N.D. Cal. Sept. 9, 2005).

tiatives in France and other countries to require interoperability.[182] Applying our simplifying assumptions that Apple is a true monopolist for MP3 players, and that a provider of downloadable content cannot feasibly obtain access to the iPod or equivalent players,[183] the question is whether our theory of infrastructure would require a regime of open access.

Our conclusion is no, or at least not yet. Even if iTunes is assumed to be the bottleneck through which digital content flows for most portable MP3 users, neither iTunes nor the iPod is yet an infrastructural asset for the downstream commercial or creative activities of its owners. Rather, iTunes is a content supplier, and the iPod is used primarily by consumers to enjoy music and increasingly other forms of content. iTunes and/or the iPod could well develop into a ubiquitous portal through which content is funneled to both personal computers and big-screen entertainment systems[184] used by consumers for commercial, public, social, and other kinds of activities. However, this has not yet occurred and does not appear to be the case for the foreseeable future. As a result, neither iTunes nor the iPod device itself has yet become the kind of platform monopoly that generates the massive, but difficult to measure, downstream externalities that are the key to our vision of infrastructure and the resulting requirement of open access.

F. EUROPEAN UNION CASES

The European Union has also explored the issues of open access in competition law in a variety of frameworks within the European Commission and in the courts. We believe it has handled the issues of infrastructure, essential facilities, open access, and competition law liability in a more consistent and explicit way than the U.S. courts in recognizing the importance of infrastructure when deciding questions of open access in its regulatory and competition policy. The essential facilities doctrine has been adopted by both the European Commission by name and the European Court of First Instance and Court of Justice in practice. It is one form of an abuse of a dominant position that is barred by Article 82 of the Treaty of European Union.[185] There are certain doctrinal rea-

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[182] Associated Press, *French Law Seeks Interoperability*, WIRED, Mar. 17, 2006, http://www.wired.com/print/politics/law/news/2006/03/70436. *But see* Thomas Crampton, *Apple Gets French Support in Music Compatibility Case*, N.Y. TIMES, July 29, 2006, at C9, *available at* www.nytimes.com/2006/07/28/business/28cnd-music.html?ei'5088&en'a4590cf789.

[183] This is not actually the case in the real world where MP3 players have access to competing music download services and vice versa.

[184] *See iPod and iPhone: TV Out Support*, APPLE.COM, Nov. 14, 2007, http://docs.info.apple.com/article.html?artnum=300233.

[185] Article 82 states:

sons unique to EU competition law why the essential facilities doctrine is more expansive in the European Union than in the United States.[186] But for purposes of this article, we focus only on the EU use of the doctrine as it illustrates the utility of the infrastructure theory we are advocating.

1. *Traditional Infrastructure*

The essential facilities doctrine has been applied to a variety of infrastructure-type settings in the European Union, and has proved particularly useful in conjunction with Article 86 of the EU Treaty, a provision applying the EU competition rules to public sector restraints.[187]

In the easy cases where the supply-side criteria reflected in the *MCI* test were readily satisfied and the facility in question was infrastructural, the European Commission imposed liability, using the essential facilities doctrine by name, when the operator of a port or harbor used its control of that facility to discriminate against a competitor for ferry service or shipping services by denying access to needed berths to competi-

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Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market in so far as it may affect trade between Member States.

Such abuse may, in particular, consist in:

(a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;

(b) limiting production, markets or technical development to the prejudice of consumers;

(c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

(d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

Article 82, EU Treaty on European Union, Feb. 7, 1992, 1992 O.J. (C 191) 1, *available at* http://europa.eu.int/eur-lex/lex/en/treaties/dat/11992M/htm/11992M.html.

[186] Although beyond the scope of this article, the full scope of EU competition law in this area and the doctrinal differences with the United States are discussed more fully in LENNART RITTER & W. DAVID BRAUN, EUROPEAN COMPETITION LAW: A PRACTITIONER'S GUIDE 477–81 (3d ed. 2004); RICHARD WHISH, COMPETITION LAW 653–732 (5th ed. 2003); 2 JAMES R. ATWOOD ET AL., ANTITRUST AND AMERICAN BUSINESS ABROAD § 16 (3d ed. 1997); Gitter, *A Call for Legislative Clarification*, *supra* note 75, at 227–40; Harz, *supra* note 175, at 225–26; John Temple Lang, *Defining Legitimate Competition: Companies' Duties to Supply Competitors and Access to Essential Facilities*, 18 FORDHAM INT'L L.J. 437, 475–83 (1994). R

[187] In contrast, U.S. antitrust principles generally do not apply to restraints on competition imposed by federal, state, or local governments. For arguments that the EU approach is superior in this regard, see Spencer Weber Waller, *Bringing Globalism Home: Lessons from Antitrust and Beyond*, 32 LOY. U. CHI. L.J. 113, 118–24 (2000); Diane P. Wood, *United States Antitrust Law in the Global Market*, 1 IND. J. GLOBAL LEGAL STUD. 409 (1994).

tors.[188] For example, the European Commission imposed antitrust liability on a port operator that also operated a ferry service in such a manner to prevent either existing or new entrants from competing with its ferry service. In so doing, the Commission stated:

> A dominant undertaking which both owns or controls and itself uses an essential facility, i.e., a facility or infrastructure, without access to which competitors cannot provide services to their customers, and which refuses its competitors access to that facility or grants access to competitors only on terms less favorable than those which it gives its own services, thereby placing the competitors at a competitive disadvantage, infringes Article 86 [now Article 82], if the other conditions of that Article are met.[189]

Similarly, the Commission has applied the essential facilities to telecommunications systems, electrical grids, tunnels, airport ground handling services, oil and gas pipelines, certain payment systems, interactive cable television boxes, airline interlining agreements, and computerized airline reservation systems.[190]

2. *Easy Networks Cases*

The European Union has also had a series of relatively easy cases where challengers sought access to networks where it would be difficult to justify access on either traditional essential facilities or infrastructure grounds. The European Court of Justice (ECJ) quite properly refused to require the leading newspaper in Austria to make its delivery network available to a smaller competitor that was, legally and practically speaking, free to create its own network.[191] In *Oscar Bronner*, the ECJ rejected the essential facilities claim on the grounds that the plaintiff could use

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[188] *See* Case IV/34.174, B&I Line PLC v. Sealink Harbours Ltd. & Sealink Stena Ltd., 5 C.M.L.R. 255 (1992); Commission Decision (EC) No. 94/19, Sea Containers v. Stena Sealink, 1994 O.J. (L 15) 8; Commission Decision (EC) No. 94/119, Port of Rødby, 1994 O.J. (L 55) 52; Commission Decision (EC) No. 354/66, Eurotunnel, 1994 O.J (L 354) 66. *See generally* ATWOOD ET AL., *supra* note 186, at § 16.4. R

[189] *B&I Line PLC*, 5 C.M.L.R. at 265; *Sea Containers*, 1994 O.J. (L 15) at 16.

[190] Commission Decision (EEC) No. 88/589, London European Airways PLC v. Sabena, Belgian World Airlines, 1988 O.J. (L 317) 47, 1989 4 C.M.L.R. 662. *But see* Joined Cases T-374, T-375, T-384 & T-388/94, European Night Servs. Ltd. v. Comm'n, 1998 E.C.R. II-3141 (annulling Commission's access requirement on grounds of no showing of indispensable nature of access). *See also* Commission Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector, 1998 O.J. (C 265) 2; Council Directive (EEC) No. 90/547 of 29 Oct. 1990, On the Transit of Electricity through Transmission Grids, 1990 O.J. (L 313) 30. *See generally* WHISH, *supra* note 186, at 675–76; Lang, *supra* note 186; *DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses* 9 (Dec. 2005), *available at* http://ec.europa.eu/comm/competition/antitrust/art82/discpaper2005.pdf. R R

[191] Case C-7/97, Oscar Bronner GmbH & Co. v. Mediaprint Zeitungs, 1998 E.C.R. I-7791, 4 C.M.L.R. 112 (1999).

or create any number of alternative distribution systems for its newspaper, ranging from mail delivery to the use of kiosks, vending machines, and retail stores. The ECJ also relied on the fact that were no technical, legal, or economic obstacles to creating an additional national delivery system either on its own or in concert with other publishers.[192]

The European Commission and the European Court of First Instance (CFI) also rejected extending the essential facilities doctrine in *Tiercé Ladbroke SA v. Commission*.[193] In *Ladbroke*, a leading Belgian betting parlor that took bets on horse races throughout Europe sought access to televised pictures and audio commentary of French horse races. The firms that held the exclusive rights to such broadcasts refused to license Ladbroke, which then complained to the European Commission alleging a breach of Article 82 of the EU Treaty. The Commission rejected the complaint without even issuing a formal opinion and Ladbroke appealed to the CFI.[194] The CFI readily disposed of the essential facilities aspects of the case in holding that the broadcast rights were in no sense essential for the conduct of the petitioner's wagering business.[195]

Both *Bronner* and *Ladbroke* are easy cases under traditional and infrastructure versions of the essential facilities doctrine. Neither facility was "essential" in any normal sense of the word. Moreover, *Bronner* raised serious free-riding concerns. Both facilities also fail as infrastructure. There is no indication that demand for the distribution network in *Bronner*, and the racing broadcasts in *Ladbroke*, were driven by the downstream productive activities of the users. In the case of *Ladbroke*, there further appeared to be no downstream productive activities at all, only the consumption of the broadcasts by betting patrons.

3. *Application in Extraordinary Circumstances to IP*

In the harder cases involving overly broad intellectual property rights—where the supply side issues become complicated and the infrastructural nature of the facilities in question is more difficult to establish—[196] the European Court of Justice has left open the possibility of

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[192] 4 C.M.L.R. at 145. *See also* Case C-552/03P, Unilever Bestfoods (Ireland) Ltd. v. Comm'n, 2006 E.C.R. I-9091, ¶137, 5 C.M.L.R. 27 (2006) (affirming liability for exclusive supply arrangement that foreclosed competitors, but rejecting essential facility claims, citing *Bronner*).

[193] Case T-504/93, 1997 E.C.R. II-923, 5 C.M.L.R. 309 (1997).

[194] *See* Valentine Korah, Comment, *The Ladbroke Saga*, 19 EUR. COMP. L. REV. 169 (1998).

[195] *Tiercé Ladbroke*, 1997 E.C.R. ¶ 10, 5 C.M.L.R. at 343.

[196] *See* Frischmann & Lemley, *Spillovers*, *supra* note 3, at 282–84. R

liability in extraordinary circumstances.[197] An important consideration in the European cases involving intellectual property rights was the fact that in both cases the intellectual property rights were quite broad in scope and somewhat controversial as to whether they should have existed at all.[198]

a. *Magill*

In the case known as *Magill*, an Irish publisher of television guides had sought to license copyrighted program information listings from the three stations that broadcast the programming and published their own individual program guides.[199] The European Court of Justice upheld the determination of both the European Commission and the Court of First Instance that the stations had abused their dominant position in the copyrighted program listings, albeit without referring to the essential facilities doctrine.[200] The ECJ held that the refusal to license was unlawful where the respondents had prevented the appearance of a new product (a combined weekly program guide) for which there was a "specific, constant and regular potential demand" and where the respondents had reserved for themselves the secondary market.[201]

We think *Magill* is debatable under infrastructure theory. Consumption of the programming listings and the television programs themselves is non-rivalrous. One reader's or viewer's enjoyment does not limit another's access. The programming listings are an intermediate good or service to the viewing of the programs themselves. It is the facilitation of the viewing of the programs and their content of the programs that arguably is the basis for a wide range of commercial, public, and social uses by the viewers in the same manner as reading a newspaper or accessing the Internet. The ECJ's requirement that the defendant denied access in a manner that prevented the appearance of a new product for which there was measurable demand is an inelegant surrogate for the

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[197] Joined Cases C-241 & C-242/91, Radio Telefis Eireann (RTE) v. Comm'n, 1995 E.C.R. I-743, 4 C.M.L.R. 718 (1995) (*Magill*); Case C 418/01, IMS Health GmbH & Co. v. NDC Health GmbH & Co., 2004 E.C.R. I-5039, 4 C.M.L.R. 28 (2004).

[198] For example, in *Magill*, the listings of televised program information (the essential facility in question) were protected by an unusual national copyright system not followed in most countries. In the *IMS* case, the data structures were also protected by German intellectual property rights not found in most other countries.

[199] *Magill*, 1995 E.C.R. I-743, 4 C.M.L.R. 718 (1995).

[200] This omission coupled with the ECJ's discussion of the respondents' lack of business justification, *id.* at I-824, 4 C.M.L.R. at 791, appears to draw heavily on the U.S. Supreme Court's approach in *Aspen Skiing* decision.

[201] *Magill*, 1995 E.C.R. at I-824, 4 C.M.L.R. at 791.

presence of downstream spillovers that justifies a regime of open access in the first place.

b. *IMS*

The hardest case to justify in terms of our theory is the *IMS* case.[202] In *IMS*, the ECJ confronted a refusal to license situation, in which the challenger wanted access to the incumbent's intellectual property in order to compete with the incumbent in the primary market itself. Not surprisingly, this is the most controversial of the EU cases on the subject.[203] In *IMS*, the respondent provided sales data that pharmaceutical companies used in marketing their products in such a way that did not violate German privacy law. In essence, IMS aggregated sales data covering four or five different pharmacies, which was the narrowest geographic grouping possible, while still lawfully protecting patient anonymity. Two new entrants entered the market in the early 1990s and found they could not sell to customers with any different data structures. When they began to use the so-called "brick structure" of the respondent, IMS sued them for copyright infringement and obtained an injunction. Following a convoluted procedural history,[204] the case reached the European Court of Justice for a preliminary ruling[205] on whether IMS's refusal to license the data brick structure could in principle violate EU competition law.

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[202] Case C 418/01, IMS Health GmbH & Co. v. NDC Health GmbH & Co., 2004 E.C.R. I-5039, 4 C.M.L.R. 28 (2004). *See also* IMS Health GmbH & Co. v. NDC Health GmbH & Co., 2004 E.C.R. I-5039, 2004 WL 586494 (opinion of Mr. Advocate General Tizzano) [hereinafter *Tizzano Opinion*].

[203] *See* Kenneth Glazer, *The* IMS Health *Case: A U.S. Perspective*, 13 GEO. MASON L. REV. 1197 (2006); Melanie J. Reichenberger, *The Role of Compulsory Licensing in Unilateral Refusals to Deal: Have the United States and European Approaches Grown Further Apart After* IMS*?*, 31 J. CORP. L. 549 (2006); Ritter, *supra* note 93; Thomas Eilmansberger, *The Essential Facilities Doctrine Under Article 82: What is the State of Affairs After* IMS Health *and* Microsoft*?*, 16 KING'S COLL. L.J. 329 (2005); Christian Ahlborn et al., *The Logic and Limits of the "Exceptional Circumstances Test" in* Magill *and* IMS Health, 28 FORDHAM INT'L L.J. 1109 (2005); Turney, *supra* note 73; Donna M. Gitter, *Strong Medicine for Competition Ills: The Judgment of the European Court of Justice in the* IMS Health *Action and its Implications for Microsoft Corporation*, 15 DUKE J. COMP. & INT'L L. 153 (2004); Sébastien J. Evrard, *Essential Facilities in the European Union:* Bronner *and Beyond*, 10 COLUM. J. EUR. L. 491 (2004); Pitofsky, Patterson & Hooks, *supra* note 6; Marquardt & Leddy, *supra* note 21; Gitter, *A Call for Legislative Clarification*, *supra* note 75; Frank Fine, *NDC/IMS: A Logical Application of Essential Facilities Doctrine*, 23 EUR. COMP. L. REV. 457 (2002). R R R R

[204] For a procedural history of the case see *Tizzano Opinion*, *supra* note 202, ¶¶ 1–27. R

[205] Under Article 234 of the Treaty on European Union, courts in EU Member States have the option, and in some cases the duty, to refer questions of EU law to the European Court of Justice for a preliminary ruling. The preliminary ruling is a definitive interpretation of EU law but does not apply the ruling of law to the facts of the case, or otherwise decide the case, which is resolved on remand to the national court. *See* Consolidated Versions of the Treaty on European Union and of the Treaty Establishing the European Community, art. 234, *consolidated on* Dec. 29, 2006, 2006 O.J. (C 321 E) 1, *available at* http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2007:306:SOM:EN:HTML.

The ECJ reiterated its previous holdings that in "exceptional circumstances" a refusal to license intellectual property rights could violate EU competition law.[206] The court built on its reasoning in the *Magill* and *Oscar Bronner* cases. It held that the issue for the national court on remand was whether the copyrighted data structure was essential in the sense that a new entrant of comparable size as the respondent could not produce a similar facility in an economically viable manner and that the denial of access prevented the creation of a new product or service for which there was consumer demand.[207] The ECJ further held that the national court should consider in making this determination the fact that the data structure had been created as an industry standard with the help of the customers (that provided the data).[208]

The *IMS* decision may be defensible because of the overly broad scope of the intellectual property at issue, violations of the customary rights of access to industry standards, or under other doctrines of EU competition law, but it is a poor fit from the perspective of infrastructure theory. The brick structure—aggregated and anonymous group pharmacy sales data—does not seem to meet the criteria for even commercial infrastructure,[209] and in particular seems unlikely to involve any of the demand side problems or produce any of the downstream spillovers that would produce the economic justification for open access.[210]

4. *Synthesizing the EU Cases*

While the EU cases are often dry and undertheorized,[211] they seem (with the possible exception of *IMS*) to instinctively understand the

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[206] *IMS Health GmbH & Co.*, 4 C.M.L.R. at 35.

[207] *Id.* at 31–52.

[208] *Id.* at R1.

[209] *See supra* Part II.A.

[210] The case for treatment as infrastructure would be strengthened if the pharmaceutical companies used the data as an input in their research and development efforts, but this does not appear to be the case.

[211] The typical opinion in all areas of the law consists of a long recitation of the facts, the proceedings below, the questions presented, and the positions of the parties followed by a short statement of the outcome of the case without significant analysis. This aspect of EU jurisprudence is probably a compromise result of the mixture of common law and civil law traditions of the judge represented on the European Court of First Instance and the European Court of Justice, as well as the fact that the opinions of these courts are both anonymous and unanimous.

The opinion of the Advocate General typically is the one part of an EU court opinion with any significant analysis. The Advocate General is a position with no direct analogue in U.S. law. The Advocate General is a member of the European Court of Justice and the Court of First Instance who does not vote or participate in the decision itself but renders an opinion prior to the decision to assist the members of the court deciding the matter. The closest, but still highly imperfect, analogy would be if the Solicitor General of the

value of the essential facilities doctrine when applied to infrastructural assets, both physical and incorporeal. Overall, the European Commission and courts have both applied the doctrine and refrained from doing so in a sensible administrable way that has not embroiled these institutions in remedies beyond their competence. They began with classic infrastructural assets and further required that the facility be an input in some downstream market. As with the jurisprudence of the U.S. courts in this area, infrastructure theory can help describe and organize what the European Union has done in this area and suggest where they have succeeded and could have done better. The limited, but principled, approach of the European Union in dealing with the essential facility doctrine in its own terms also points the way for the United States to reclaim a theory of liability that it pioneered, yet disdained more recently.

VII. CONCLUSION: RELYING ON ANTITRUST TO GET IT RIGHT

The debate over the merits of private control over various types of resources is ongoing in many different areas of the law, from intellectual property to communications law. Many of these areas depend heavily upon antitrust law to regulate and sustain competition in the relevant industries. Competitive markets are a foundational component or input into the systems that these other areas of the law regulate.[212]

A common refrain in these debates is that government regulation is unnecessary to ensure desirable public access to infrastructural resources because antitrust law will provide a sufficient means for regulating the exclusionary conduct of infrastructure providers.[213] This argument was present in virtually every historical and modern day battle over deregulation.[214] The frequent reliance on this justification makes it even more important that antitrust law get it right.

United States participated as an amicus curiae in every case. *See generally* LINCOLN CAPLAN, THE TENTH JUSTICE: THE SOLICITOR GENERAL AND THE RULE OF LAW (1987) (explaining historical and contemporary role of Solicitor General's office).

[212] For example, intellectual property laws strike a balance between access and exclusion with significant reliance on the premise that competitive markets are the baseline from which some deviation is needed.

[213] In some cases, private parties will provide such access voluntarily because it will be in their interest to do so (on a theory that infrastructure providers will recognize when open access increases the social value of their infrastructure and will attempt to internalize complementary efficiencies). *See* Farrell & Weiser, *supra* note 39, at Part III. R

[214] *See supra* notes 73–74 and accompanying text. *Cf.* Yoo, *supra* note 76; Atkinson & Weiser, *supra* note 76; Weiser, *Toward A Next Generation Regulatory Strategy*, *supra* note 76 (making similar arguments in current controversy over network neutrality and Internet regulation). R R

Revitalizing the essential facilities doctrine is more than just preventing well-meaning critics from throwing out the baby with the bath water, or preventing more self-interested parties from jettisoning another legal barrier to anticompetitive rent seeking.[215] We offer instead an economically based model that suggests that for certain carefully defined types of infrastructure, society as a whole benefits from a regime of open access. Our theory would both expand and contract the traditional essential facilities doctrine in antitrust law. Our test would create an infrastructure screen before applying the traditional *MCI* test for most commercial infrastructure cases. At the same time, an infrastructure theory of essential facilities would cover a broader spectrum of public, social, and mixed infrastructure under a regime of open access. Antitrust liability would ensue if, and only if, a defendant used the denial of access to infrastructure to maintain or acquire (or attempt to acquire) monopoly power in a relevant market.

Defining the essential facilities doctrine in this manner would create a limited but powerful tool for courts and other institutions to determine rights of access and the legal liabilities for the denial of that access. It also would reconnect the more narrow debates in antitrust to a broader set of debates about the nature of property and open access, and provide for a regime that better mediates the tension between two very different visions for law and society.

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[215] *See e.g.*, John Thorne, *A Categorical Rule Limiting Section 2 of the Sherman Act*, Verizon v. Trinko, 72 U. CHI. L. REV. 289 (2005) (Deputy General Counsel of Verizon applauding result in *Trinko* litigation).