

deregulate the telephone companies, because they (unlike the cable companies) had long been subject to the *Computer Inquiry* obligation to strip out the transmission component of any information service and sell it separately as a common carrier service. But the FCC went one critical step further and announced that it would rescind that (and similar) regulatory obligations after a brief transition period.

More broadly, the Supreme Court's endorsement of the FCC's framework for determining whether a service is an unregulated information service will facilitate federal efforts to remove Internet-based services generally from the scope of common carrier regulation. One set of follow-on issues is currently pending in the FCC's rulemaking on IP-enabled services. As new Internet-based services such as voice-over Internet Protocol telephony (or "VoIP") emerge and replace traditional offerings, services falling outside the scope of Title II will increasingly eclipse services falling within that scope.

## BEYOND BRAND-X: THE WAY FORWARD FOR FACILITY SHARING IN TELECOMMUNICATIONS

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The grand experiment with local exchange competition conducted over the past decade reminds one of the Star Wars saga. Local network unbundling and sharing of incumbent facilities prescribed by the 1996 Telecom Act was a "new hope" for realizing the benefits of competition, while preserving the efficiencies of large, integrated networks. Mandatory sharing, however, had its "dark side" in the form of excessive incentives for service-based entry and diminished returns on investments by network owners. A "duel of the fates" arose as entry enabled by facility sharing, in turn, undermined incentive to invest and innovate.

This battle has been waged as much in the courts as in the marketplace. The *BrandX* decision<sup>1</sup> is the latest installment in a series of judicial opinions interpreting the Act's unbundling provisions. That decision was preoccupied with legal hairsplitting over service definitions,<sup>2</sup> but will nevertheless have a profound impact on investment in the cable networks and on the performance of the telecommunications sector more broadly.

While sharing of incumbent facilities with competitors is an infrequent remedy for monopoly power,<sup>3</sup> it has superficial appeal. How the contending forces of competition and investment balance out, however, is ultimately an empirical question. To answer that question, we developed a model of the local exchange industry that simulated the impact of mandatory sharing on competition and investment.<sup>4</sup> In this

That result will require the FCC to rely more heavily on its "ancillary" jurisdiction, under Title I of the Communications Act, to effectuate whatever public interest goals the Commission might still see fit to pursue despite increasing competition in the market. Indeed, the Supreme Court in *Brand X* appeared to endorse the FCC's use of its Title I authority to deal with any regulatory issues that might arise from a service's classification as an information service. At the same time, however, the D.C. Circuit's "broadcast flag" decision recently reminded the FCC that its Title I authority has limits. *American Library Ass'n v. FCC*, 406 F.3d 689 (D.C. Cir. 2005).

In short, while *Brand X* brings long-awaited closure to a set of regulatory disputes about broadband Internet access, it ushers in a set of new debates concerning the scope of the FCC's Title I jurisdiction and how the FCC should exercise that jurisdiction.

model, voice and data services are supplied by three kinds of carriers who own their network facilities—an incumbent local exchange carrier (ILEC), a cable television company (CATV), and a facilities-based competitive local exchange carrier (CLEC-F). All of these carriers compete in mass-market voice and data services, along with a fourth service provider (CLEC-L) who supplies services only by leasing facilities from the ILEC at regulated rates.

Assuming that each carrier optimizes when choosing prices and investments, we calibrated the free demand and cost parameters using historical market data provided by the FCC and other sources for the 2000-2003 period. Using these fitted values, we simulated pricing and investment decisions when unbundled network element (UNE) prices were uniformly higher (and lower) than they actually were over these years. Comparing predicted and actual investment levels, we find that higher UNE prices result in a greater investment by each of the three facilities-based carriers and a reduction in the number of leased lines by the CLEC-L. Cable companies grow the most in response to higher UNE prices, and ILECs less so. The investment response tended to be greater for data lines than for voice lines, and while all facilities-based carriers expanded their data services, the ILECs lost line share to competitors when unbundled prices were higher.

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Our simulation results confirm that mandatory sharing at historical UNE prices favored service-based supply, and that higher UNE prices would have promoted platform competition, especially that between the public switched network and cable networks.

In its *BrandX* opinion, the Supreme Court skirted the consequences of cable open access for entry and infrastructure investment. Indeed, the opinion was nearly devoid of economic analysis of these issues. Nevertheless, by maintaining closed access to cable networks, *BrandX* came down in favor of platform competition. Thankfully, other legal decisions from this same judicial lineage were more explicit in their economic reasoning in favor of this approach. In his opinion in the *USTA v. FCC* case,<sup>5</sup> Judge Steven Williams focused squarely on the damaging effect of unbundling on investment incentives. In the *Trinko* case,<sup>6</sup> Justice Scalia seemed to enshrine “competition for the market”—a chief rationale for platform competition—as a goal that the antitrust laws, and Section 2 of the Sherman Act in particular, should seek to promote.<sup>7</sup>

Cable open access certainly will not be the last battleground for facility sharing. We should fully expect calls for sharing as each new generation of network is completed, beginning with the municipal WiFi, wireless mesh, broadband over powerline and IP telephony networks that are under construction today. In response to each such proposal, and as the nation grapples with a re-write of the Telecom Act, a few lessons should be gleaned from the U.S. experiences with local competition and facility sharing.

First, lawmakers need to face squarely the tradeoffs when legislative goals are opposed to one another. The ‘96 Act pursued both competition and innovation, two objectives that inherently conflict. The patent system resolves this same sort of conflict when it confers a monopoly on a patent holder while compelling public disclosure of inventions. Policy makers would be remiss if they ignored the case studies of facility sharing in telecoms and other industries that confirm the conflicts and the implementation costs that arise when competitors share essential infrastructure.<sup>8</sup>

This leads to a second recommendation: lawmakers need to do their homework. Besides relevant case studies, they should consult available evidence generated by sharing in other settings. Two new research methodologies—economic laboratory experiments and simulation modeling—are especially promising in this regard. These methods are distinguished by their ability to investigate the outcomes of many variants of a policy innovation, and to do so quickly and at low cost. In fact, laboratory experiments were used by the

FCC prior to the launch of the PCS spectrum auctions as a means to predict bidding behavior and fine tune auction structure. This same type of experiment could shed light on the impacts of facility sharing for entry and investment.<sup>9</sup>

Our simulations of facility sharing demonstrate that this methodology could be a powerful tool for policy evaluation. These models achieve realism by being calibrated using market data and make assumptions of long-run optimizing behavior. Perhaps best of all, they can simulate many variants of a policy prescription, not just the current favorite of lawmakers or regulators, without the enormous private and social cost of running a real-world experiment, such as the one that has dragged on for nearly ten years since the passage of the Telecom Act.

- 1 National Cable & Telecommunications Association v. BrandX Internet Services, No. 04-277, 545 US \_\_, 125 S. Ct. 2688 (2005).
- 2 This was true as well for the earlier appellate decision by the Ninth Circuit, *Brand X Internet Services v. FCC*, 345 F.3d 1130 (9 Cir. 2003).
- 3 Facility sharing is most often used as a remedy in traditional network industries as when authorities mandate sharing of harbors and railway facilities. On occasion it has been adopted as a remedy in non-network industries as well. The EU recently settled its antitrust case against Coca-Cola in Europe by requiring the company to make available up to 20% of its retail cooler space to rivals such as Pepsi. See European Union Press Release, “Commission Close to Settle Antitrust Probe into Coca-Cola Practices in Europe,” <http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/04/1247&format=HTML&aged=0&language=EN&guiLanguage=en> (October 19, 2004). Effectively the EU created a version of U.S. wire center collocation for the soft drink industry, a kind of “cola-cation.”
- 4 William Zarakas, Glenn Woroch, Lisa Wood, Daniel McFadden, Paul Liu, Nauman Ilias, “Structural Simulation Of Facility Sharing: Unbundling Policies and Investment Strategy in Local Exchange Markets Access Pricing and Investment In Local Exchange Infrastructure,” white paper, The Brattle Group, Cambridge, MA, May 2005. See: [http://www.brattle.com/\\_documents/News/News254.pdf](http://www.brattle.com/_documents/News/News254.pdf)
- 5 *Verizon Communications, Inc. v. FCC*, No. 00-511, 2002 WL 970643 ( May 13, 2002 ).
- 6 *Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 124 S. Ct. 872 (2004)
- 7 In that opinion, Justice Scalia also expressed the typical concern that mandatory sharing facilitated collusion among competitors. Yet, in an earlier opinion in *Business Electronics v. Sharp Electronics* (485 US 717 (1988)), he found pro-competitive forces embodied in cartels that operate to impede the creation and stability of collusive arrangements.
- 8 The history of the Alcan/Arco joint venture in the U.S. and the privatization of railroads and sharing of trackage in the U.K. would have been instructive if not dispositive.
- 9 An experimental literature has emerged that tests impact of market conditions on investment behavior and the aberrations that can arise. We are unaware of experiments that directly test the investment incentives when there is facilities sharing.