

EX ANTE REGULATION OF DIGITAL PLATFORMS?: CAUTIONARY TALES FROM TELECOMMUNICATIONS



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I. INTRODUCTION

A major issue in the economics literature, legal literature, public policy debates, and the popular press is whether there should be increased antitrust enforcement, and even perhaps *ex ante* regulation of heretofore lightly-regulated major high-tech companies, such as Google, Facebook, Amazon, and Apple.² This issue has been deliberated upon in Congressional hearings in the United States,³ and in major studies in the rest of the world. For example, in July 2020, the UK regulator released a voluminous report calling for more vigorous antitrust enforcement and the establishment of regulatory codes of conduct for the major high-tech companies,⁴ and in July 2020, the Australian competition authority proposed a regulatory mechanism for resolving pricing disputes involving traditional media companies that deliver content to Google and Facebook.⁵

While the debate over whether stronger antitrust enforcement and regulation of major high-tech companies are necessary is relatively recent, the economic issues that inform sound competition policy are not new. In particular, many of the proposals for more vigorous intervention — by new *ex ante* regulation and/or stronger *ex post* antitrust enforcement — resemble measures implemented to accommodate the transition of U.S. telecommunications from predominantly a regulated landline monopoly providing traditional voice telephone services to one in which such services are also offered as wireless and internet-based offerings. The regulatory and legal battles that accompanied this major technological shift provide important lessons on the efficacy of applying similar mechanisms in an attempt to promote competition among major high-tech firms and their existing and emerging rivals. Those lessons provide insight for evaluating suggestions such as a 2019 University of Chicago Report's recommendation that the U.S. Congress seriously consider establishing a Digital Au-

2 Recent articles in this journal have addressed some of the recent proposals for stronger antitrust enforcement and *ex ante* regulation. See, for example, Gilman, Alexis J., Sheth, Akhil, Prado, Angel, and Fanchiang, Eric. 2019. "Digital Competition Reports and Merger Enforcement," *Antitrust Chronicle*, December; Regibeau, Pierre. 2020. "Antitrust Regulation in the Digital Economy," *Antitrust Chronicle*, October; Wilson, Christine S. and Guniganti, Pallavi. 2020. "FTC Fit to its Purpose: Responding to Kovacic's Market Investigation Proposal," *Antitrust Chronicle*, October; Fox, Eleanor M. and First, Harry. 2020. "We Need to Rein in Big Tech," *Antitrust Chronicle*, October.

3 U.S. House of Representatives, Subcommittee on Antitrust, Commercial and Administrative Law of the Committee of the Judiciary. 2020. "Investigation of Competition in Digital Markets" Majority Staff Report and Recommendations, available at https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf.

4 Competition and Market Authority. 2020. "Online Platforms and Digital Advertising," July 1, available at <https://www.gov.uk/cma-cases/online-platforms-and-digital-advertising-market-study>.

5 Australian Competition and Consumer Commission. 2020. "Draft News Media Bargaining Code," July 31, available at <https://www.accc.gov.au/focus-areas/digital-platforms/draft-news-media-bargaining-code>.

thority along the lines of the Federal Communications Commission (“FCC”).⁶ In its discussion of the possible scope of such a regulatory regime, the Stigler Report observed that “the focus of this regulator will be on both carrying out remedies for the antitrust authority that require ongoing oversight, and on developing regulations going forward that are a combination of structural safeguards, such as unbundling or separation, with limited behavioral interventions in areas where traditional antitrust tools are insufficient.”⁷

II. DO WE NEED AN *EX ANTE* REGULATOR? MAJOR ISSUES

Evaluating the merits of *ex ante* regulatory intervention poses several questions. Among the most prominent in the case of telecommunications were (1) what products or services should potentially be subject to regulation; (2) whether the strength of competition for such services is insufficient to the degree that the benefits of *ex ante* regulation likely outweigh the costs imposed on competitors and regulators; (3) in the case where competitors need to interconnect, how are prices and other terms and conditions of interconnection established; and (4) if competition depends on wholesale inputs provided by a monopoly (or near monopoly) competitor, how should the prices and quality of the required inputs be determined.

A. *Services to be Regulated*

Proper determination of services subject to regulation is similar to the market definition in an antitrust analysis — what products or services face insufficient competition so that regulatory intervention is required. For services for which market conditions and technology are subject to rapid change, a major issue is whether regulatory measures intended to facilitate competition can be timely established and updated as needed to accommodate changing conditions. For example, the earlier periods of the telecommunications industry’s transition from vertically integrated regulated monopoly to competition were characterized by court actions and regulatory policies consistent with a particular view of the industry structure that would emerge from the transition, which turned out to be incorrect. Services previously provided by the regulated monopolies would be open to competition that relied on new entrants obtaining wholesale inputs from the incumbent providers that allowed the entrants to provide services similar to those of the incumbent. Incumbent providers were deemed to have a high degree of market power over the mandated wholesale services they provided to entrants. Potential entrants needed to interconnect with the incumbents’ networks and in some cases lease network components so they would not have to build entire networks, either because incumbents were the only source for these inputs or other sources (including self-supply) were insufficient to mitigate the incumbents’ ability to charge supracompetitive prices or other engage in other forms of anticompetitive behavior.

Among the earliest inroads into the formerly monopoly-provided services were competitive long-distance services offered by companies such as MCI. The U.S. Department of Justice’s antitrust suit that resulted in the 1984 divestiture of AT&T into new regional providers of local service, AT&T long-distance, and a separate network equipment manufacturer included the claim that AT&T had made interconnection arrangements between its local companies and the new entrants difficult.⁸ Subsequently, the 1996 Telecommunication Act provided for opening Bell Operating Company (BOC) networks to facilitate local services competition. Subsequently, the development of the internet (at best a secondary or tertiary issue in the 1996 Telecommunications Act) raised similar issues regarding whether providers of broadband access connecting end-use customers and content providers possessed market power sufficient to justify *ex ante* regulation.

6 Stigler Committee on Digital Platforms. 2019. *Final Report*, University of Chicago Booth School of Business, Stigler Center for the Study of the Economy and the State, 2019, pp. 100 -104 (“Stigler Report”), available at <https://research.chicagobooth.edu/stigler/media/news/committee-on-digital-platforms-final-report>.

7 *Id.* at. 104-105.

8 See, for example, Crandall, Robert W. 2019. “The Dubious Antitrust Argument for Breaking Up the Internet Giants,” *Review of Industrial Organization* 54(4) 633 and Brennan, Timothy J. 1987. “Why Regulated Firms Should Be Kept Out Of Unregulated Markets: Understanding the Divestiture in U.S. v. AT&T,” *Antitrust Bulletin*, 32(3) 741-793.

B. Evaluating Market Power

While the determination of whether market power is a competitive concern can be similar to antitrust analyses, e.g. approaches used to analyze mergers,⁹ the frequency and manner in which such approaches would be applied would ideally recognize industry characteristics and emerging technological and competitive trends. For example, in its most recent order that rescinded *ex ante* regulation of broadband internet connections that link end users with content providers, the FCC observed that these services are moderately unconcentrated by Horizontal Merger Guidelines standards¹⁰ and that “even two competing wireline ISPs [internet service providers] place competitive constraints on each other. ISPs’ substantial sunk costs imply that competition between even two ISPs is likely to be relatively strong.”¹¹

As discussed in greater detail below, experience has shown that such competitive assessments supporting major regulatory measures are revisited, sometimes several times, in response to changing market, technological, and even political conditions.

C. Establishing Interconnection

Informative telecommunications examples of the need for competitors to interconnect with each other include the early period of long-distance competition and the interconnection arrangements among broadband internet service providers, providers of “backbone” transmission, and content providers. In the former case, interconnection rates have been determined by regulators and subject to frequent adjustment, primarily to prevent uneconomic arbitrage opportunities. For example, local telecommunications carriers in rural areas charged higher rates to terminate long-distance traffic than in non-rural areas, because the network costs in such areas are generally higher in denser areas. A number of companies offering “free” conference calling services located in these rural areas, generating massive increases in long-distance traffic and interconnection revenue, which the local company and the conference call company shared. These arrangements, which persisted for several years, were greatly restricted by the FCC’s imposition of rate caps and other restrictions designed to hinder such uneconomic revenue sharing.¹²

In the case of internet interconnection, prices and other terms have been the result of commercial negotiations, with no *ex ante* regulation.¹³ In 2015, the FCC established a regulatory mechanism for resolving interconnection disputes on a case-by-case basis,¹⁴ which the FCC abandoned in 2018 and deferred to the antitrust authorities to settle any such disputes.¹⁵

9 Indeed, the FCC has often analyzed market power with approaches that closely resemble the Horizontal Merger Guidelines (U.S. Department of Justice and Federal Trade Commission. 2010. *Horizontal Merger Guidelines*, August 19, available at <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>). See, for example, Tardiff, Timothy J. 2015. “Reregulation or Better Deregulation?: Economic Evaluation of Recent FCC Competition Actions,” *Journal of Competition Law & Economics*, 11(1) 145-163, available at <https://www.aacg.com/aacg-principal-dr-timothy-tardiffs-article-published/>.

10 Federal Communications Commission. 2018. *Restoring Internet Freedom*, WC Docket No. 17-108, Declaratory Ruling, Report and Order, and Order, January 4, 33 FCC Rcd 311, ¶ 132, available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-166A1.pdf.

11 *Id.* at ¶ 126. See, also, Tardiff, *supra* note 9, at 154 and Tardiff, Timothy J. 2007. “Changes in Industry Structure and Technological Convergence: Implications for Competition Policy and Telecommunications Regulation,” *International Economics and Economic Policy*, 4 128-130.

12 Federal Communications Commission. 2011. *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Inter-carrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-455, *Lifeline and Link-up*, WC Docket No. 03-109, *Universal Service Reform – Mobility Fund*, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, November 18, 26 FCC Rcd 17663, ¶¶ 656-701, available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-11-161A1.pdf. A similar example of uneconomic arbitrage that resulted from above-cost rates was the location of dial-up internet service provider in areas served by a new local telecommunications entrants, which also generated interconnection revenues far in excess of what regulators had expected. See, for example, Tardiff, Timothy J. 2006. “The Economics of Access and Interconnection Charges in Telecommunications,” in Crew, Michael and Parker, David eds. 2006 *The International Handbook of Economic Regulation*, Cheltenham: Edward Elgar, 279.

13 Federal Communications Commission. 2015. *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Report and Order on Remand, Declaratory Ruling, and Order, March 12, 30 FCC Rcd 5601, ¶ 196, available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A1.pdf.

14 *Id.* at ¶ 203.

15 Federal Communications Commission, *supra* note 10, at ¶¶ 143-146.

D. Mandatory Wholesale Inputs?

The local competition provisions in the FCC's 1996 order¹⁶ implementing the 1996 Telecommunications Act were among the most heavily-litigated issues in the industry's transition to competition. These provisions were designed to replace the prevailing regulatory structure that generally prevented vertical integration of local voice services and long-distance services by ensuring that new entrants had competitively neutral access to incumbent networks.

Wholesale inputs (unbundled network elements and resale of incumbents' retail services) mandated by the FCC's order were intended to facilitate competition among new vertically-integrated entrants and the incumbent providers, who in turn were allowed to provide long-distance once they had been deemed to have met their interconnection and unbundling obligations. Like the rules for the structurally separated arrangement, the new rules were consistent with a presumed industry structure in which entrants were unable to self-supply the wholesale inputs (or at least needed a jump-start towards eventually building more complete networks). This belief about the inability of entrants to compete without access to parts of incumbents' networks is similar to the rationale behind proposals to treat digital platforms essentially as utilities and prevent platform owners from offering services on the platform.¹⁷

III. INSIGHTS FROM TELECOMMUNICATIONS

A. Previous Commentary

Previous reviews of the transition towards more competitive long-distance and local service markets have noted the antitrust and regulatory challenges. For example, while Carlton and Picker¹⁸ observed that "Deregulation can be seen as the result of a consensus that regulation imposed high costs on the economy and that courts are sensibly applying the antitrust laws,"¹⁹ they also noted the challenges in establishing competition policies: "We should not ask antitrust and federal judges to perform tasks for which they are ill suited — namely price setting — and crafting affirmative duties because those tasks require specialized industry knowledge that judges lack."²⁰ The authors also explained that:

The regulators' concern with entry is especially acute in network industries in which firms may interconnect with each other, such as airlines, trucking, electricity, railroads, and telecommunications. In such industries, the regulator needs to administer the price and quality of the interconnection. If two firms compete in the end market and one competitor supplies the other a key input, the regulator must worry that the supplier will misuse its control over the input to harm his rival.²¹

Crandall's review of the regulation and antitrust enforcement of emerging telecommunications competition in the face of rapidly-changing technological and market conditions suggests that the challenges identified by Carlton and Picker proved to be quite daunting:²²

16 Federal Communications Commission. 1996. *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98; *Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket No. 95-185, First Report and Order, and Order, August 8, 11 FCC Rcd 15499, available at <https://docs.fcc.gov/public/attachments/FCC-96-325A1.pdf>.

17 Herndon, Astead W. 2019. "Elizabeth Warren Proposes Breaking Up High Tech Companies like Amazon and Facebook," *New York Times*, March 8, available at <https://www.nytimes.com/2019/03/08/us/politics/elizabeth-warren-amazon.html>. Brennan's economic analysis of the AT&T divestiture assumed that local service provision was a regulated monopoly. Brennan, *supra* note 8 at 770-771.

18 Carlton, Dennis W. and Picker, Randall C. 2014. "Antitrust and Regulation," in Nancy L. Rose, ed., *Economic Regulation and its Reform: What Have We Learned?* Chicago: University of Chicago Press, pp. 25-61.

19 *Id.* at 45.

20 *Id.* at 43-44.

21 *Id.* at 44-45.

22 Crandall, *supra* note 8 at 634. In a forthcoming article, Herbert Hovenkamp deemed the AT&T divestiture to be successful, observing that "[t]he AT&T breakup carries some important advice for anyone considering structural relief against monopoly: identify those markets and assets where competition can be made to work well and devise the remedy accordingly." Hovenkamp, Herbert J. 2021. "Antitrust and Platform Monopoly," *Yale Law Journal*, Vol. 130 (forthcoming), available at https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=3194&context=faculty_scholarship.

The AT&T divestiture thus “succeeded” in establishing long-distance competition, but neither the decree nor the 1996 Act could pry open local fixed-wire telecom markets. After more than 30 years of contentious regulatory proceedings, court hearings, and even new legislation, local entry occurred due to technical change, not regulation. Cable television companies, wireless carriers, and even fixed satellite companies began to compete with the local telephone companies in offering Internet connections.

In short, technological change created competitive opportunities that regulators could not deliver. As a result, it is difficult to invoke the *AT&T* case as a successful application of antitrust to high-technology industries.

B. Additional Insights

In its order that rescinded its previously-established *ex ante* regulation of broadband internet access services, the FCC observed the following:²³

Among the benefits of the antitrust laws over public utility regulation are (1) the rule of reason allows a balancing of pro-competitive benefits and anti-competitive harms; (2) the case-by-case nature of antitrust allows for the regulatory humility needed when dealing with the dynamic Internet; (3) the antitrust laws focus on protecting competition; and (4) the same long-practiced and well-understood laws apply to all Internet actors.

Among the reasons for caution in dealing in an environment of changing technology and converging markets such as the internet is whether regulation can adapt to such change. In particular, can regulation act quickly enough to modify *ex ante* rules when they are no longer needed and/or undermine efficient competition? The FCC’s experience in (1) modifying rules when the structure underlying a current regime has substantially changed, (2) determining whether market power is high enough so that the benefits of regulation outweigh the associated costs, and (3) updating specific rules suggests otherwise.

1. Industry structure change

As Crandall observed above, the regulatory intervention produced by the 1996 Telecommunications Act coincided with a period of profound changes in the telecommunications industry. Mobile wireless services were rapidly increasing, traditional wireline services had begun their steady decline, and traditional long-distance had disappeared as a separate business with acquisition of the legacy long-distance companies (AT&T and MCI) by incumbent local providers (SBC, taking on AT&T’s name and Verizon acquiring MCI).²⁴ At the same time, from 1996 through 2005, the FCC and state regulators were determining the prices and quality standards for the mandated wholesale inputs, and the DC. Circuit Court and Supreme Court were ruling on challenges to these regulatory actions.²⁵ Table 1 depicts some of these changes.

²³ Federal Communications Commission, *supra* note 10, at ¶ 146.

²⁴ See, for example, Tardiff, *supra* note 11, at 110.

²⁵ *Id.*

Table 1: Telecommunications Transition in the New Millennium

A. Wireline and Wireless Volumes (million)					
	2000		2005		2018
Total Wireline	194		175		113
Incumbent Wireline	181		144		50
Competitive Wireline	13		31		63
Competitors' Share	6%		18%		56%
Mobile	91		194		343
B. Wireline Competitors' Use of Mandatory Inputs (million)					
	June 2006		June 2018		
	Volume	Percent of Total	Volume	Percent of Total	
Facilities-Based	11	36%	58	92%	
Full Resale	15	50%	3	5%	
Unbundled Loops	4	14%	2	3%	
Total Competitor	30		63		
Sources: Tardiff, <i>supra</i> note 11, at 114 (Figure 3) and 118 (Table 1); Federal Communications Commission 2020. <i>Voice Telephone Services: Status as of June 30, 2018</i> , Industry Analysis Division, Office of Economics and Analytics, March, Table 1, available at https://www.fcc.gov/voice-telephone-services-report .					

The top part of the table presents wireline and wireless volumes for 2000, 2005, and 2018. At the outset of local wireline competition around 2000, total wireline volume — predominately provided by incumbent carriers — was about twice mobile wireless volume. In five years, wireless volume had overtaken declining traditional wireline service, with competitors' share of that volume approaching 20 percent. By 2018, wireless volume was triple that of the continuously declining wireline volume for which incumbent providers had a minority share.

The bottom part of Table 1 shows that as of 2006 — when the litigation over the pricing and provision of mandatory wholesale elements had been largely resolved and the traditional long-distance companies no longer existed as stand-alone businesses, the incumbents' competitors served roughly half their volumes by reselling services provided by incumbents' networks,²⁶ another 14 percent obtained the connection between customers and their networks (unbundled loops) from incumbents, but provided the rest of the required service (e.g. switching) with their own facilities, while a little over one-third of competitors volume was delivered without wholesale inputs obtained from incumbents (facilities-based).²⁷ By 2018, although competitors' volumes had doubled, less than 10 percent of that volume depended on wholesale inputs provided by the incumbents. In short, contrary to the viewpoint underlying regulatory policy at the onset of local competition, by the end of the period incumbent

²⁶ The "full resale" volume for 2006 in Table 1 included resale of incumbents' tariffed retail offerings and the unbundled network elements platform—a generally low-priced version of resale, which a 2005 FCC order began phasing out.

²⁷ Apart from interconnection facilities so that their customers could communicate with the incumbents' customers.

local providers were dominant in neither the wholesale nor retail arenas, because competition and technology had evolved to a point when the wholesale regime imposed by the 1996 Telecommunications Act and implemented by the FCC plays a very minor role in telecommunications competition.

2. Does Market Power Justify *Ex Ante* Regulation?

In addition to its dual role (with the antitrust agencies) of evaluating telecommunications mergers, the FCC has engaged in ongoing proceedings in which it evaluated market power in determining the extent of *ex ante* regulation (if any) for certain services. Among the most prominent of these efforts were the regulatory treatment of high-capacity dedicated facilities used by large businesses and other carriers (recently relabeled “business data services”²⁸) and the broadband services smaller users use to access internet content. Market power assessment in these arenas proceeded for long periods during which broadband technology was rapidly advancing, with a number of twists and turns along the way.²⁹

a. Business Data Services

The FCC began relaxing price regulation of business data services in 1999 by establishing a trigger mechanism that allowed the incumbent providers to operate under reduced or no price regulation in *Metropolitan Statistical Areas* (“MSA”) where competitive entry had exceeded specific triggers. The incumbent providers eventually satisfied the triggers for (1) price deregulation in MSAs accounting for 28 percent of the U.S. population and (2) downward price flexibility and contract authority in MSAs accounting for 43 percent of U.S. population. The remaining areas, accounting for 29 percent of U.S. population remained subject to regulation in the form of price caps for larger incumbents and rate-of-return for some of the more rural smaller incumbents.

The FCC’s regime was almost immediately challenged (primarily by purchasers of business data services), with a major complaint that the trigger mechanism was too coarse and to detect pockets of market power within parts of MSAs satisfying the triggers. In response, the FCC opened a review of the regime in 2005, suspended the expansion to new areas in 2012 (on the basis that the existing triggers were a poor proxy for whether there was enough competition to justify relaxed regulation). Also, in 2012, the FCC instituted an intensive data collection investigation with the objective of determining whether determining whether competition is sufficient should be undertaken on a more granular level than MSAs. In 2016, the FCC relied on the results of the data collection effort to seek comments on a new regime that would assess market power within *census blocks*, but by the end of the year had announced a plan that would (1) re-impose price regulation on legacy (generally lower capacity/old technology) services, including an initial across-the-board price reduction, but (2) not impose *ex ante* price regulation on higher capacity business data services, which typically rely on internet protocol (IP) technology. However, because of the 2016 presidential election, the FCC never voted to approve the plan. Finally, in 2017, the FCC with its new Republican majority, concluded that competition for business data services was very robust and on that basis limited *ex ante* price regulation to *counties* that failed to meet new trigger criteria, which account for less than 10 percent of U.S. population.

In addition to the duration of the FCC’s deliberations on how to regulate business data services, the difficulties of determining whether there was sufficient market power to justify extensive regulation (with politically closely-divided commissions arriving at fundamentally different answers) and if so, the proper geographic scope of that market power illustrate the burdens associated with an effective *ex ante* regulatory regime.

²⁸ These services were previously labeled “special access.”

²⁹ The discussion below of business data services is based on Tardiff, *supra* note 9, at 152 -154; Glass, Victor and Tardiff, Timothy. 2017. “Reregulating Business Data Services,” *Rutgers Business Journal* 2(1) 73-75, available at <https://rbr.business.rutgers.edu/sites/default/files/documents/rbr-020107.pdf>; and Glass, Victor and Tardiff, Timothy. 2017. “What Kind of Regulatory and Competitive Strategies Work When Customers are Likely to become Competitors?” *Rutgers Business Journal* 2(3), 297 and 311 (endnote 8), available at <https://rbr.business.rutgers.edu/sites/default/files/documents/rbr-020302.pdf>. The discussion of broadband internet access services is based on Tardiff, Timothy J. 2015, “Net Neutrality: Economic Evaluation of Market Developments,” *Journal of Competition Law and Economics* 11(3) 701-725, available at <https://www.aacg.com/empirical-evidence-on-justification-for-net-neutrality/>; Tardiff, Timothy J. 2016. “Economic Evaluation of the Factual Basis for ,” *Criterion Journal of Economics and Innovation* 1 479-495, available at <https://www.criterioninnovation.com/articles/fcc-open-internet-order/>; and Glass, Victor and Tardiff, Timothy. 2019. “A New Direction of the Net Neutrality Debate,” *Telecommunications Policy* 43(3) 199-212, available at <https://www.sciencedirect.com/science/article/abs/pii/S0308596118300673>.

b. Broadband Internet Access

The FCC's attempts to regulate broadband ISPs encountered difficulties similar to its experience with business data services — namely strong differences in opinion as to whether market power sufficient to justify regulation prevailed and how that determination should be made. Unlike business data services, where the FCC generally confined *ex ante* regulation to legacy services, the FCC's regulations were imposed on broadband services, which because of technological advances that have continuously improved the capacities and capabilities of the services, have remained at the leading edge of technology. In particular, on several occasions the FCC concluded that there was insufficient competition at particular performance levels (e.g. upload and download speeds), but when competition subsequently developed at those levels, redefined adequate broadband performance to require higher capabilities.

Consistent with federal policy, which includes the policy objective “to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation,”³⁰ the FCC opted not to impose *ex ante* regulation on cable modem service (generally the leading alternative) in 2002 and extended this deregulatory treatment to incumbent telephone companies' broadband services in 2005.³¹ However, starting in 2010, the FCC relied on its mandate to “determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion”³² and take “immediate action” if not to conclude that competition was not sufficient. Based on that determination, the FCC imposed a number of new regulations on ISPs, including a non-discrimination rule that it expected would prevent content providers from paying ISPs for priority in transporting their content. The D.C. Circuit upheld the FCC's authority to impose regulation based on its predictive judgment on the state of competition, but overturned specific rules on the grounds that the FCC had not classified ISPs as telecommunications carriers. In 2015, the FCC reclassified ISPs from information services providers to telecommunications carriers, and based on this classification, imposed several rules, including a ban on paid prioritization. The commission explained that this action was needed because “[w]ithout rules in place to protect the open Internet, the overwhelming incentives broadband providers have to act in ways that are harmful to investment and innovation threaten both broadband networks and edge content.”³³ Similar to the change in direction in the regulation of business data services described in the previous subsection, rather than finding overwhelming incentives for anticompetitive ISP behavior, the new FCC majority concluded that competition was sufficient to rely on the antitrust agencies.³⁴

3. Can Regulation Adapt to Changing Conditions?

Interconnection pricing provides interesting examples of the responsiveness of *ex ante* regulation to changing conditions. At the time of the 1984 divestiture of AT&T and its vertical separation of long-distance from local services, long-distance prices (and the access service input long-distance companies needed to obtain from local service providers in order to reach their customers) were priced well above cost in order to subsidize telephone subscription in high-cost areas. While there was some concern that business customers with large volumes could find ways to bypass these access arrangements (e.g. with dedicated connections to long-distance providers) and erode the subsidies for high-cost built into interconnection prices, extensive local competition did not arise until after the 1996 Telecommunications Act. Accordingly, the FCC was able to design and implement a relatively smooth glide-path that lowered interconnection prices a factor of six (from \$0.18 per minute in 1984 to \$0.03 per minute in 2000), with offsetting changes to end-use customers.³⁵

In contrast, establishing local interconnection prices — payments between competing carriers to exchange traffic — proved to be trickier. As noted earlier, arrangements such as between dial-up internet service providers and competitive local carriers and between conference call companies and rural local carriers emerged to generate large amounts of revenue from rates that were well above cost. The FCC began

30 47 U.S.C. § 230(b)(2).

31 The FCC's 2018 decision to refrain from *ex ante* regulation relied on a study that found that the greater regulatory burden placed on incumbent telephone companies broadband services had depressed their growth. Federal Communications Commission, *supra* note 10, at ¶ 94.

32 47 U.S.C. § 1302(b).

33 Federal Communications Commission, *supra* note 13, at ¶ 103.

34 Nuechterlein and Shelanski similarly concluded that U.S. broadband markets are sufficiently competitive so that aggressive economic regulation is not warranted. Nuechterlein, Jonathan E. and Shelanski, Howard. 2020. “Building on What Works: An Analysis of U.S. Broadband Policy,” September, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3698055.

35 See, for example, Tardiff, *supra* note 12, at 293 (Table 13.1). Over the same period, the offsetting charges for residential customers increased from zero in 1984 to \$3.50 per line per month in 2000.

addressing this issue in 2001 by initially capping some of the problematically higher rates, while at the same time, seriously considering whether to mandate bill-and-keep arrangements, where carriers exchange traffic with no payments in either direction.³⁶ Major changes were not implemented until 2011, when the FCC further capped prevailing interconnection charges, followed by a glide-path to bill-and-keep over a six-year period (2012-2018) for larger carriers and an eight-year period (2012-2020) for smaller carriers.³⁷ To summarize, interconnection charge reform required a decade to adopt bill-and-keep, which “address[es] arbitrage and marketplace distortions arising from the current intercarrier compensation regimes, and therefore . . . promote[s] competition in the telecommunications marketplace”³⁸ and almost another decade to complete the glide-paths.

IV. CONCLUSION

The Federal Communications Commission’s 2018 decision to rely on antitrust to deal with potential competition issues regarding broadband internet access services acknowledged the important of “regulatory humility needed when dealing with the dynamic Internet.”³⁹

When market conditions and technology are rapidly changing, the factual basis and theories justifying *ex ante* regulation can become out-of-date before the necessary actions to update the regulatory regime and/or defer to antitrust to deal with competition problems can be implemented.

36. See, for example, Federal Communications Commission. 2001. *Access Charge Reform; Reform of Access Charges Imposed by Competitive Local Exchange Carriers*, CC Docket No. 96-262, Seventh Report and Order, and Further Notice of Proposed Rulemaking, April 27, 16 FCC Rcd 9923, ¶ 53, available at <https://www.fcc.gov/edocs/search-results?t=quick&fccdaNo=01-146>. Bill-and-keep arrangements have resulted from commercial negotiations to exchange internet traffic. See, for example, Federal Communications Commission, *supra* note 13, at ¶ 196.

37 Federal Communications Commission, *supra* note 12, at ¶ 801 (Figure 9).

38 *Id.* at ¶ 752.

39 Federal Communications Commission 2018, *supra* note 10, at ¶ 146. The FCC’s cautionary note is similar to the Department of Justice’s (under a Democratic administration) advice to the FCC eight years earlier:

The Department recommends that the Commission monitor carefully those areas in which only a single provider offers—or even two providers offer—broadband service. Although enacting some form of regulation to prevent certain providers from exercising market power may be tempting with regard to such areas, care must be taken to avoid stifling the infrastructure investments needed to expand broadband access. In particular, price regulation would be appropriate only where necessary to protect consumers from the exercise of monopoly power and where such regulation would not stifle incentives to invest in infrastructure deployment.

Ex Parte Submission of the United States Department of Justice to the FCC. 2010. *Economic Issues in Broadband Competition: A National Broadband Plan for Our Future*, GN Docket No. 09-51, January 4, p. 28, available at <https://ecfsapi.fcc.gov/file/7020355122.pdf>.

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