

Antitrust and Economic Regulation: Essential and Complementary Tools to Maximize Consumer Welfare and Freedom of Expression in the Digital Age

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I. PURPOSE AND OUTLINE

A. *Approach*

Digital communications platforms,¹ whether offered by a cable, telecommunications, or Internet services company, deliver some of the most important video and Internet content and communications that fuel our democracy, power our economy, and educate our citizenry. However, the economics of these platforms and natural incentives of platform owners create enormous opportunities for competitive abuse and consumer harm unless vigorous public oversight corrects these market imperfections. Dominant broadband service providers like Comcast, Verizon, and AT&T have both the incentive and the ability to cut sweetheart deals with affiliated or favored content providers to maximize profit at the expense of consumers. Service providers' behavior needs to be constrained by antitrust enforcement and regulation that protects affordable consumer access and the free flow of information.

Under U.S. law, antitrust enforcement is one critical element necessary to protect consumers and the competitive process. Yet antitrust, by itself, is not enough to harness the marketplace benefits, like competition and efficiency, and potential progressive societal advancements, like universal service and freedom of expression, that digital communications platforms offer. Only with appropriately tempered regulatory oversight and strict antitrust enforcement can cable, telecom, and wireless broadband service providers be driven to offer competitive, nondiscriminatory, innovative, and socially

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¹ These are communications networks made up of a transmission medium (e.g., fiber optic or wireless radio and servers and switches connected to end user devices like routers, computers, televisions, or game consoles).

beneficial video and broadband services that maximize consumer welfare in both the economic market and marketplace of ideas.²

The challenges that policymakers face in stewarding the digital communications sector along a path that promotes and protects its dynamic innovation, while ensuring it delivers socially beneficial progress, is symbolized by two huge policy issues that government agencies had to confront in 2015. Would the Department of Justice (DOJ) and the Federal Communications Commission (FCC) raise substantial concerns about the proposed merger of Comcast and Time Warner?³ With or without the merger, how would the FCC's Open Internet Order ensure the neutrality and openness of the Internet, assuming it survives an inevitable court challenge?⁴

Antitrust enforcement and economic regulation are both vitally and equally necessary to protect consumer welfare in the digital age. This article examines the historic and contemporary role of antitrust and economic regulation in the American communications sector. In fact, given the special role of communications in society and its growing importance in both economics and politics, we argue that a well-performing communications sector is possibly the single most important pillar on which a progressive, democratic capitalist society must stand in the twenty-first century. Communications platforms that support diverse viewpoints, do not discriminate based on content, and promote innovation and competition are critical to increasing social, economic, and political opportunities for the American people.

This article is an analysis of the political economy of antitrust and regulation in the communications sector in the traditional sense of the term, which entails the direct relationship of political action to influence the economy through policy.⁵ To put the matter bluntly, we believe it is naïve at best, immoral at worst, to think that politics and policy do not define the structure and outcomes of the economy. Policymakers must not forgo the opportunity to address market failures and imperfections that harm consumers, like an-

² The “marketplace of ideas” belief holds that the truth will emerge from the competition of ideas in free, transparent public discourse. This concept is often applied to discussions of patent law as well as freedom of the press and the responsibilities of the media in a liberal democracy.

³ Comcast-Time Warner Cable, FCC MB Docket No. 14-57, FCC, <http://perma.cc/MC9Q-HZEF>.

⁴ Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738 (Apr. 13, 2015) (to be codified at 47 C.F.R. pts. 1, 8, & 20).

⁵ DAVID W. PEARCE, *THE DICTIONARY OF MODERN ECONOMICS* 342 (rev. ed. 1983). Given this orientation, this document reflects analyses submitted in the policymaking process including congressional testimony. See *Examining the Comcast-Time Warner Cable Merger: Hearing Before the S. Comm. on the Judiciary*, 113th Cong. 1–8 (2014) (statement of Gene Kimmelman, President and CEO, Public Knowledge), available at <http://perma.cc/S4XR-WSPB>; see also *Competition in the Evolving Digital Marketplace: Hearing Before the Subcomm. on Courts and Competition Policy of the H. Comm. on the Judiciary*, 111th Cong. 107–39 (2010) (statement of Mark Cooper, Director of Research, Consumer Fed'n of Am.), available at <http://perma.cc/6QLP-24RH> (citing MARK COOPER, CONSUMER FED'N OF AM., BUYER AND BOTTLENECK MARKET POWER MAKE THE COMCAST-TIME WARNER MERGER “UNAPPROVABLE” (2014), available at <http://perma.cc/W4ZM-C7Z9> [hereinafter COOPER, UNAPPROVABLE]).

ticompetitive or discriminatory actions, or promote the public interest, like ensuring universal service and diversity in expression.

B. Outline

The American approach to providing a national communications network embodied in the application of the antitrust laws (like the Sherman Act of 1890) and regulation (like the Mann-Elkins Act of 1910, the Communications Act of 1934, and the Telecommunications Act of 1996) can be described as progressive capitalism.⁶ Rather than use state-owned monopolies, the United States relied on private firms operating under public interest principles. Although this arrangement imposed constraints on property, the incentive to invest was still strong. Moreover, the opportunity to increase the role of competition was always present. As argued throughout this article, the digital revolution was born as a result of pro-competitive actions of both antitrust enforcement and regulatory oversight.

In Part II, we lay out the analytical, normative, and historical grounding of the political economy of progressive democratic capitalism in the American experience. We start with the analytical and normative structure of our approach and then turn to a brief review of the long history of the relationship between antitrust and economic regulation in the communications sector. The purpose of Part II is to refresh the reader's memory about the progressive, democratic roots of capitalism in America and its key role in creating the success of the economy.

In Part III, we examine the recently withdrawn Comcast-Time Warner merger as an example of the challenge for antitrust in the digital age. As a merger between two of the top four providers of video and broadband Internet access service, this proposed merger raised a host of antitrust concerns, highlighting the continuing relevance of antitrust enforcement in the digital age and the need to evolve antitrust practice to cope with new technologies.

In Part IV, we present our empirical analysis of Open Internet and network neutrality issues as a regulatory challenge. Here we show that policies to ensure nondiscriminatory access to the data network played a key role in creating the environment in which the Internet was born and thrived. Preserving that principle is at the heart of the network neutrality debate. The analysis also shows why regulatory policy beyond antitrust is necessary to preserve network neutrality.

⁶ Earlier pieces develop key aspects of the intersection of these two types of public interest oversight. See Mark Cooper, Director of Research, Consumer Fed'n. of Am., Cato Inst. Hill Briefing: Restoring the Balance of Public Values and Private Incentive in American Capitalism (Nov. 1, 2002), available at <https://perma.cc/RF68-VXPB>; Mark Cooper, *Antitrust as Consumer Protection in the New Economy: Lessons from the Microsoft Case*, 52 HASTINGS L.J. 813 (2001).

The article concludes in Part V by identifying the general challenges grounded in the two case studies, as well as other antitrust and regulatory actions that are beginning to meet the challenges.

II. THE PERFORMANCE OF THE COMMUNICATIONS SECTOR AND PROGRESSIVE, DEMOCRATIC CAPITALISM

Given the limitations of space and the focus of this volume, we adapt the frameworks offered by a small number of well-known thinkers and do not spend time debating or defending the reason for choosing the concepts.

A. *The Economic Aspect of Antitrust and Regulation*

In this Part, we specify the fundamental economic goals of antitrust and regulation, which we define as “good market performance,” following the approach by F.M. Scherer and David Ross’s leading text,⁷ which also argues that “good market performance” has immense value to support the proper function of democracy.

Paraphrasing Scherer and Ross, we use a “multidimensional” definition of good performance that embodies an interconnected set of goals, each of which is progressive in a different way. The economy should:

- use resources efficiently and try to increase efficiency, in responding to consumer demands;
- take advantage of the opportunities opened up by science and technology to increase output, and provide consumers with superior new products;
- achieve long-run growth in per capita income by facilitating stable full employment of resources, particularly human resources, and distribute income equitably.

In spite of the difficulties in measuring the outcomes (as suggested in Figure 1 by the effort to develop measures of “workable competition”), from the strictly economic point of view, “[c]ompetition has long been viewed as a force that leads to an ideal solution of the economic performance problem.”⁸ This is because “competitive market systems . . . display generally greater responsiveness to consumer demands and generate more potent incentives for the frugal use of resources than do monopoly market structures.”⁹

The framing of the analysis encapsulated in Figure 1 highlights several issues that are prominent in the following discussion. It underscores the importance of consumer demand and human needs (full employment of human

⁷ F. M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* (3d ed. 1990).

⁸ *Id.* at 15.

⁹ *Id.* at 52.

resources and equity). It identifies the importance of antitrust and regulation in shaping the economy. Many of the key structural aspects of markets that require policy efforts to move markets toward workable competition and address the harms that result when markets fail will be invoked below to explain the role of antitrust and economic regulation in the communications sector.

By juxtaposing competition with monopoly, the framing in Figure 1 highlights some of the central challenges in the communications sector: its origin as a regulated monopoly, the struggle to promote workable competition (e.g., the largest breakup of a corporation in U.S. history), as well as the continuous concern about mergers. The purpose of antitrust is to protect competition in markets. The mechanism by which antitrust is expected to protect competition is to prevent market conditions that weaken or undermine competition. In this regard, it generally operates in an *ex post* manner, after abuses have occurred and harm has been done to competition and consumers, with the hope that corrective action and penalties (treble damages) dissuade future bad behavior. The most important exception to the *ex post* approach is merger review, which allows the DOJ and Federal Trade Commission (FTC) to block mergers before they take place, if they are deemed likely to harmfully reduce competition.

Complementing antitrust policy, economic regulation reinforces the effort to prevent harm to competition and consumers in aspects of market behavior that antitrust cannot reach or is not likely to reach in a timely manner. In contrast to antitrust, which prevents market failure in an *ex post* manner, regulation promotes market success in an *ex ante* fashion, making it more prophylactic.¹⁰ Moreover, economic regulation has another and even more important function—it can implement policies that actively promote market success.

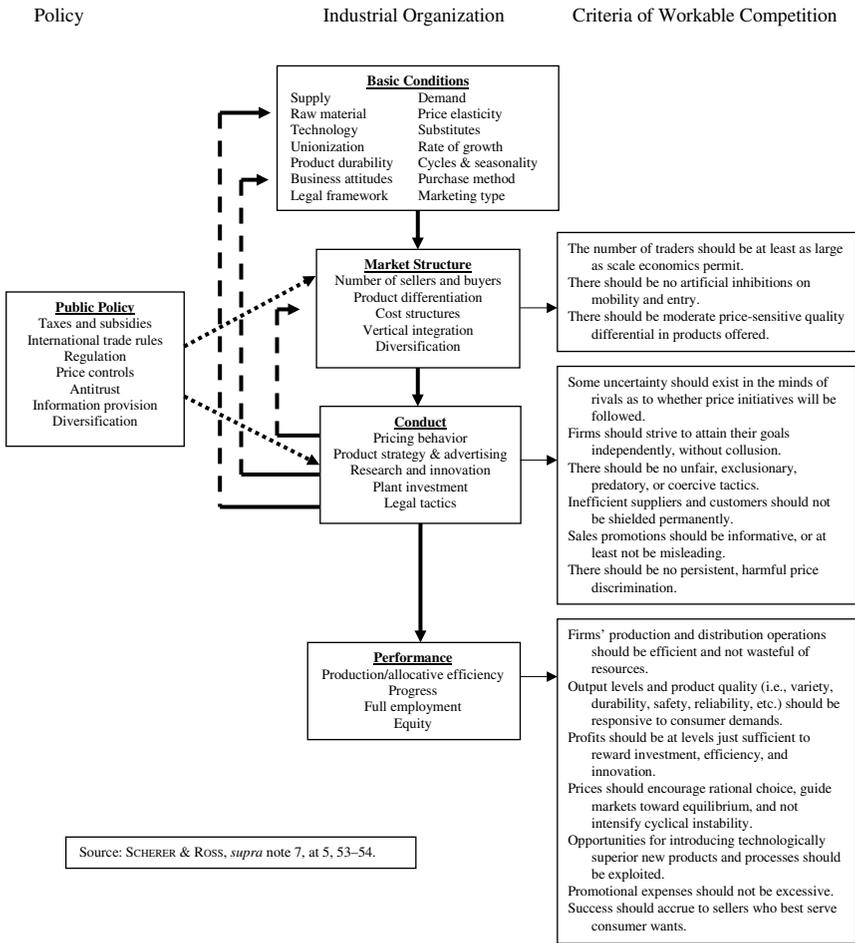
The broad purposes and functions of antitrust and regulation in the economy are magnified when applied to the communications sector. From an economic point of view, the communications sector is one of the most important resource systems in an advanced economy, since market efficiency depends on the ability to gather and process information.¹¹

Communications networks possess two characteristics that make them ideal candidates for economic regulation—their infrastructural nature and economies of scale. Kahn identified these characteristics in his seminal work, *Economics of Regulation*. Making the case for economic regulation, Kahn pointed to the fact that because communications networks exhibit economies of scale, the market will support only a small number of large

¹⁰ *Id.* at 12 (noting that antitrust is an “episodic,” “surgical intervention,” and a “North American invention”).

¹¹ See Erick Brynjolfsson, MIT Center for Digital Business, Address at NITRD Symposium: Impact of Networking and Information Technologies on Productivity and Innovation (Feb. 16, 2012), slides available at <http://perma.cc/M3W7-YKKD>; see also STANDARD CHARTERED, TECHNOLOGY: RESHAPING THE GLOBAL ECONOMY (2015), available at <https://perma.cc/Y634-PKR2>.

FIGURE 1: THE STRUCTURE-CONDUCT-PERFORMANCE PARADIGM



firms compared to other sectors of the economy.¹² In addition, because of the essential inputs they provide, they influence the growth of other sectors of the economy.¹³ Kahn added two other characteristics: “natural monopoly” and “for one or another of many possible reasons, competition does not work well.”¹⁴ Although Kahn was skeptical of the monopoly rationale for regulation, he later argued that the nature and extent of competition is an empirical question:

¹² 1 ALFRED KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS 11 (1988).

¹³ *Id.*

¹⁴ *Id.*

The question is not simply one of *how much* competition to allow—how much freedom of entry or independence of decision making with respect to price, investment, output, service, promotional effort, financial, and the like. It is a question also of what, in the particular circumstances of each regulated industry, is the proper *definition*, what are the *prerequisites*, of effective competition.¹⁵

Of course, as noted above, Scherer and Ross also believe that the implementation of policy in pursuit of competition as the desired structure for markets must reflect the fundamentals of economic structure and the reality of markets.

B. *The Political Aspect of Antitrust and Regulation*

From a political perspective, we note that communications involves speech, and that freedom of speech, although a cornerstone of democracy,¹⁶ does not trump simple economics.¹⁷ Indeed, communications is considered a human right.¹⁸ However, there is no conflict between the aspiration for competitive markets and political democracy. On the contrary, when Scherer and Ross make “the case for competition” in the economy, they choose to “begin with the political arguments . . . because when all is said and done, they, and not the economists’ abstruse models, have tipped the balance of social consensus toward competition.”¹⁹ They offer three reasons for the close association between markets and democracy:

One of the most important arguments is that the atomistic structure of buyers and sellers required for competition decentralizes . . . power. . . . Limiting the power of both government bodies and private individuals to make decisions that shape people’s lives and fortunes was a fundamental goal of the men who wrote the U.S. Constitution. . . . A closely related benefit is the fact that competitive market processes solve the economic problem *impersonally*, and not through the personal control of entrepreneurs and bureaucrats. . . . A third political merit of a competitive market is its freedom of opportunity.²⁰

There is an extensive school of political philosophy that embraces a strong link between property ownership in market economies and democracy, which has been significantly influenced by John Rawls and his stu-

¹⁵ *Id.* at 114.

¹⁶ See *Abrams v. United States*, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting).

¹⁷ See *Associated Press v. United States*, 326 U.S. 1, 20–21 (1945).

¹⁸ See United Nations Universal Declaration of Human Rights, G.A. Res. 217 (III) A, U.N. Doc. A/RES/217(III) (Dec. 10, 1948).

¹⁹ SCHERER & ROSS, *supra* note 7, at 18.

²⁰ *Id.* at 18–19.

dents.²¹ One of them, Elizabeth Anderson, provides a comprehensive theory of distributive justice, which she calls “democratic equality,” that presents a broad basis for understanding the relationship between progressive capitalism and democracy.²² It weds capitalism to democracy through the observation that property is not natural, but always socially defined. She charts the historical development of placing constraints on property during the capitalist era as progress toward democracy, identifying five features of advanced democratic capitalism: the provision of public goods (broadly defined to include roads, public health and schools), economic and environmental regulation, social insurance, and the right of labor to organize. She concludes that: “[T]hese five should be seen as developments internal to the dynamics of democratic capitalism itself, rather than borrowings from fundamentally alien economic systems. . . . They are integral parts of advanced capitalist democracies.”²³

While the analysis of range-constraints on markets tends to focus on income distribution, we see these principles more broadly. From our point of view, antitrust and regulation are two of the most important constraints that American policy places on markets to ensure that they remain on a dynamic, progressive path.

C. *The Interplay Between Antitrust and Economic Regulation in the American Communications Sector*

The five features of advanced democratic capitalism identified by Anderson above are arranged in the rough historical order in which they were adopted, with the provision of public goods and economic regulation found in the early days of the Republic.²⁴ At the time, roads were the network over which communications flowed and the dedication to the post office was a very strong commitment to a democratic means of communications.²⁵ Economic regulation and antitrust were focal points of policy activity in the late nineteenth century as large corporate entities—above all, the railroads—became more important and ultimately dominant in the economy.

Antitrust and regulation have been intertwined in the telecommunications industry from the earliest days of the communications industry and progressive legislation (see Table 1). In 1890, the Sherman Act²⁶ provided the DOJ with a “comprehensive charter of economic liberty aimed at pre-

²¹ See Leif Wenar, *John Rawls*, STANFORD ENCYCLOPEDIA OF PHILOSOPHY (Sept. 24, 2012), <http://plato.stanford.edu/entries/rawls/>, <http://perma.cc/8K2R-YYV4>.

²² Elizabeth S. Anderson, *What is the Point of Equality?*, 109 ETHICS 287, 289 (1999).

²³ Elizabeth Anderson, *Toward a Post Cold-War Political Economy*, LEFT2RIGHT (Jan. 9, 2005), <http://perma.cc/HP6H-4ZPE>.

²⁴ See PAUL STARR, *THE CREATION OF THE MEDIA* 16 (2004) (discussing early economic regulation and the postal service).

²⁵ The post office is mentioned in the U.S. Constitution, U.S. CONST. art. I, § 8, cl. 7, while the press is only mentioned in the First Amendment, U.S. CONST. amend. I.

²⁶ Sherman Act, ch. 647, 26 Stat. 209 (1890) (codified as amended at 15 U.S.C. §§ 1–7 (2012)).

serving free and unfettered competition as the rule of trade.”²⁷ The Sherman Act outlaws “[e]very contract, combination . . . or conspiracy, in restraint of trade,”²⁸ and any monopolization, attempted monopolization, or conspiracy or combination to monopolize.²⁹ The telephone industry became the target of one of the first antitrust consent decrees under the Sherman Act.³⁰ In addition, the telephone industry was the focus of a continuing series of complaints and consent decrees that culminated in the largest divestiture of private property ever required in an antitrust case—the breakup of AT&T³¹—some seven decades after the initial consent decree. Ongoing antitrust oversight of the industry was one factor behind the Telecommunications Act of 1996.

TABLE 1: THE LONG HISTORY OF DUAL OVERSIGHT IN THE COMMUNICATIONS SECTOR

Year	Regulation	Antitrust
1887	Interstate Commerce Act	
1890		Sherman Act
1910	Mann-Elkins Act	
1913		AT&T/DOJ Consent Decree
1914		FTC Act
1927	Radio Act	
1934	FCC Act	
1945		Associated Press
1949		Final Judgment
1956		Modification of Final Judgment
1968	Carterfone and Computer Inquiries	
1969	Red Lion	
1984	Spread spectrum decision leading to cable deregulation	Break-up of AT&T
1987		Triennial reviews begin in the antitrust court
1992	Cable Reregulation (Consumer Protection Act)	
1996	Telecom Act of 1996	

²⁷ *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 4 (1958).

²⁸ 15 U.S.C. § 1 (2012). The scope of this language was limited from the very first cases brought under the statute. “Undue” restraints on trade were actionable if they resulted in identifiable harms, e.g., higher prices, reduced output, or reduced quality. *See Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1, 54–55 (1911).

²⁹ 15 U.S.C. § 2 (2012).

³⁰ *See* William J. Donovan and Breck P. McAllister, *Consent Decrees in the Enforcement of Federal Antitrust Laws*, 46 HARV. L. REV. 885, 927 (1933) (discussing a 1914 consent decree approved by the United States District Court for the District of Oregon in *United States v. American Telephone & Telegraph Co.*, 1 Decrees & Judgments in Civil Federal Antitrust Cases 554 (D. Or. 1914)). The first consent decree was entered in *United States v. Otis Elevator* in 1906. *See* Charles F. Phillips, Jr., *The Consent Decree in Antitrust Enforcement*, 18 WASH. & LEE L. REV. 39, 42 (1961).

³¹ *See United States v. Am. Tel. & Tel. Co.*, 552 F. Supp. 131, 160–70 (D.D.C. 1982).

2003	Cable Modem Order	
2005	Madison River	
2005	Wireline Broadband Order	
2010	Open Internet Neutrality Order	Comcast-NBCU Consent Decree
	Comcast/NBCU Merger Conditions	
2011	AT&T-Mobile Challenged/ Withdrawn	
2013	Data Roaming Order	
2014	Open Internet Order Remanded Universal Service Reform Upheld	
2015	Comcast-Time Warner Merger Review	Comcast-Time Warner Merger Review

In 1887, the first federal regulatory agency created in the Progressive Era—the Interstate Commerce Commission³²—was given the authority to prevent railroad corporations from charging rates that were “unjust,” “unreasonable,” “unjustly prejudicial,” or “discriminatory.” The Mann-Elkins Act of 1910 quickly extended the Interstate Commerce Act to the telephone network.³³ The Communications Act, which shifted communications regulation to a new agency at the height of the New Deal era, was quite progressive and pragmatic in its goals, making the first task of the agency:

[T]o make available, so far as possible, to all people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purposes of national defense, for the purpose of promoting safety of life and property through the use of wire and radio communications, and for the purpose of securing a more effective execution of this policy by centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication.³⁴

For fifty years under the regulated monopoly status of the telecommunications industry, this goal had been pursued largely with internal implicit subsidies to provide resources within the franchise monopoly telecommunications companies under the oversight of federal and state regulators. With the breakup of the monopoly, attention shifted to the local phone companies. A significant part of the motivation for the Telecommunications Act of

³² See Interstate Commerce Act of 1887, ch. 104, 24 Stat. 379.

³³ Mann-Elkins Act, ch. 309, 36 Stat. 539, 545 (1910).

³⁴ Communications Act of 1934, Pub. L. No. 73-416, 68 Stat. 1064 (codified as amended at 47 U.S.C. § 151 (2012)). The New Deal involved legislation in all five areas identified by Anderson, *supra* note 22, as representative of the progressive commitment of advanced capitalism. The Communications Act’s broad language is similar to the language in other laws of the period. For example, the purpose of the Social Security Act of 1935 is “[t]o provide for the general welfare by establishing a system of Federal old-age benefits, and by enabling the several States to make more adequate provision for aged persons, blind persons, dependent and crippled children, maternal and child welfare, public health, and the administration of their unemployment compensation laws.” Social Security Act, Pub. L. 74-271, 49 Stat. 620 (1935).

1996³⁵ was to codify the regulatory concepts that the FCC had developed over the previous thirty years and adapt them to the new economic structure where competition was expected to play a larger role. The development of economic regulation after the 1996 Act is discussed in Part IV below.

It is not an exaggeration to say that the success of the modern communications sector rested on this dual oversight of the industry, which strove to keep it as competitive as possible and pressed it toward progressive goals, given the available technologies. While the nature and extent of regulatory and antitrust oversight of these industries has evolved over the course of almost a century and a half,³⁶ space does not allow us to review these developments in detail.

Antitrust cases continuously protected competition on the platforms that make up the digital communications sector, with the most notable example being the AT&T breakup. Here, we merely note that dual jurisdiction has been an enduring and extremely successful feature of the legal landscape.³⁷ This dual jurisdiction frequently interacts with antitrust-driven development later incorporated into economic regulation. Importantly, this balanced, shared oversight has continued into the digital era. FCC policy decisions over the course of a decade (Carterfone,³⁸ Computer Inquiries,³⁹ and spread

³⁵ Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified as amended at 47 U.S.C. § 151 et seq. (2012)).

³⁶ As is frequently the case in the U.S. federal system, state activity in these areas preceded and laid the groundwork for federal action.

³⁷ There are, of course, many instances in which regulation gets in the way of competition and many of these were addressed in the 1996 Act, the purpose of which, as described in the conference report, was “to provide for a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced . . . information technologies and services to all Americans by opening all telecommunications markets to competition.” H.R. REP. No.104-458, at 1 (1996) (Conf. Rep.). Among the most prominent examples were removal of barriers to entry into local telephone service, *id.* at 16–17, and telephone company entry into video services, *id.* at 66.

³⁸ See Thomas F. Carter, 13 F.C.C.2d 420 (1968).

³⁹ See, e.g., Regulatory and Policy Problems Presented by the Interdependence of Computer and Commc’ns Servs. and Facilities, 28 F.C.C.2d 291 (1970) (tentative decision of the Commission); Regulatory and Policy Problems Presented by the Interdependence of Computer and Commc’ns Servs. and Facilities, 28 F.C.C.2d 267 (1971) (final decision and order of the Commission); GTE Serv. Corp. v. FCC, 474 F.2d 724 (2d Cir. 1973) (reviewing the FCC’s promulgated rules after the *First Computer Inquiry* distinguishing between communications subject to regulation and data processing not subject to FCC regulation, requiring telephone carriers to maintain separate corporate structure to provide enhanced services, and affirming the FCC’s authority “to promulgate rules regulating the entrance of communications common carriers into the nonregulated field of data processing services,” but finding that rules aimed at regulating the affiliate corporations directly were outside the scope of the FCC’s jurisdiction); Regulatory and Policy Problems Presented by the Interdependence of Computer and Commc’ns Servs. and Facilities, 40 F.C.C.2d 293 (1973) (order after remand by the Second Circuit); Computer & Commc’ns Indus. Ass’n v. FCC, 693 F.2d 198 (D.C. Cir. 1982) (reviewing FCC’s rules overhauling the regulatory scheme following the *Second Computer Inquiry*, holding that the FCC’s redrawing of the regulatory line to classify any transmission service as a communication subject to FCC regulation was a reasonable exercise of its statutory authority); California v. FCC, 905 F.2d 1217 (9th Cir. 1990) (finding the FCC’s attempt following the *Third Computer Inquiry* to remove structural separation barriers to be arbitrary and capricious because its calculation of the costs against the benefits of open Internet was insupportable).

spectrum⁴⁰) that ensured open access to and nondiscriminatory treatment of traffic on the communications network were critical to create an environment in which the Internet grew to dominate communications. The explosion of innovation that followed, discussed in more detail below, was made possible in part by the FCC's decision to order AT&T to allow user-chosen equipment to be attached to its network (through a standard jack), which resulted in the development and, ultimately, the ubiquitous deployment of consumer-owned modems. The nearly simultaneous decision to require AT&T to pass data transmitted over the network in a nondiscriminatory manner invited innovation in services to use the modems.

III. ANTITRUST CONCERNS ABOUT THE STATE OF COMPETITION IN THE CABLE/BROADBAND MARKET

A. *A Goliath that Threatens Competition and Consumers*

In February 2014, the nation's largest cable company, Comcast, announced its planned \$45.2 billion acquisition of the nation's second-largest cable company, Time Warner Cable, which triggered the dual review noted above. The antitrust division of the DOJ began its review process of the merger in March,⁴¹ and in April, Comcast submitted its public interest statement to the FCC to obtain permission for the merger.⁴² *The Economist* magazine's evaluation of the merger encapsulated the problem with the recently withdrawn transaction:

The deal would create a Goliath For consumers the deal would mean the union of two companies that are already reviled for their poor customer service and high prices. Greater size will fix neither problem The biggest worry is Comcast's grip on the Internet Comcast will have extraordinary power over what content is delivered to consumers, and at what speed.⁴³

Ultimately, these qualities were rightly deemed so fundamental to the merger that no conditions could sufficiently ameliorate them. After a long and bitter struggle, Comcast very reluctantly abandoned its effort to acquire Time Warner when the staffs of the DOJ and the FCC both recommended that the agencies oppose the merge.⁴⁴ The leadership of both agencies appear to have accepted those recommendations (indicating that the DOJ would

⁴⁰ See Authorization of Spread Spectrum and Other Wideband Emissions Not Presently Provided For in the FCC Rules and Regulations, 101 F.C.C.2d 419 (1985).

⁴¹ See Melissa Lipman, *DOJ Puts A-Team On Comcast-TWC Deal, But Baer Bows Out*, LAW360 (Mar. 6, 2014), <http://perma.cc/3PTH-MEEZ>.

⁴² Applications and Public Interest Statement of Comcast Corp. and Time Warner Cable Inc., FCC MB Docket No. 14-57 (Apr. 8, 2014), available at <http://perma.cc/RXP4-U9YA>.

⁴³ *Turn It Off: American Regulators Should Block Comcast's Proposed Deal with Time Warner Cable*, ECONOMIST (Mar. 15, 2014), available at <http://perma.cc/A9GG-22K9>.

⁴⁴ Jennifer Saba and Malathi Nayak, *Justice Dept. staff may oppose Comcast-Time Warner Cable deal-Bloomberg*, REUTERS (April 17, 2015), <http://perma.cc/Y6G5-W4TE>; Alex Sher-

pursue a court case and/or the FCC would order a hearing before an administrative law judge).

Exactly one year before the deal came undone, the Consumer Federation of America filed a report and Public Knowledge testified at the Senate Judiciary Committee to the effect that the merger was “unapprovable.”⁴⁵ The following analysis, based on those early documents, explains why Comcast, which had closed \$26 billion in mergers over the previous two decades, had badly overreached.

After years of suffering from enormous rate increases and poor service from Comcast and other providers,⁴⁶ a vibrant broadband economy is just beginning to bring exciting new alternatives to subscription television.⁴⁷ New devices (such as Roku, Xbox, Amazon’s Fire, and AppleTV) and new video services (such as Amazon Prime, YouTube, and Netflix) demonstrate that online video can compete with some elements of traditional cable TV.⁴⁸ These new competitors may begin to help consumers avoid overpriced large “tiers” or bundles of channels, many of which force customers to purchase access to channels they do not want simply to access the channels they do want.

We believe that Comcast’s proposed acquisition of Time Warner Cable would have threatened the continued viability of nascent competitors and endangered the continued emergence of innovative new video and other types of services delivered over the Internet. The now-withdrawn transaction was inconsistent with antitrust policy, the goals of the Communications Act, and the broader public interest in regards to diversity of viewpoints and freedom of expression.

If the merger had been approved, Comcast would have controlled nearly fifty percent of high speed Internet access in this country, over thirty percent of subscribers of Multi-Channel Video Programming Distributors

man, et al., *Comcast Deal in Limbo as FCC Said to Join DOJ Against Merger*, BLOOMBERG (April 22, 2015), <http://perma.cc/PF6S-RD7T>.

⁴⁵ COOPER, UNAPPROVABLE, *supra* note 5; *Examining the Comcast-Time Warner Cable Merger: Hearing Before the S. Comm. on the Judiciary*, 113th Cong. 1–8 (2014) (statement of Gene Kimmelman, President and CEO, Public Knowledge), available at <http://perma.cc/S4XR-WSPB>.

⁴⁶ *See Comcast Gets Bigger, You Get Poorer*, FREEPRESS.NET, <http://perma.cc/RKE9-38TZ>.

⁴⁷ While some consumers have the option to choose between cable and satellite providers, very few have viable options if they wish to bundle both television and broadband services. At one time, Verizon appeared to be a potential competitor in the combined subscription TV and broadband space, but its FiOS service is offered in only fifteen percent of Comcast’s markets and Verizon has no plans to expand that service. Satellite continues to lack a meaningful broadband option to make it a competitor to cable broadband. It appears that AT&T has no plans to devote significant additional resources to expanding U-Verse in the residential broadband space. Google has only committed to a limited number of small experiments. Finally, mobile broadband is a complement, not a substitute.

⁴⁸ *See Shalini Ramachandran, TV Viewing Slips as Streaming Booms, Nielsen Report Shows: Gains for Online-Video Services Come as Pay TV Shows Early Signs of Decline*, WALL ST. J. (Dec. 3, 2014), <http://www.wsj.com/articles/tv-viewing-slips-as-streaming-booms-nielsen-report-shows-1417604401>, <http://perma.cc/4ZFC-V4GK>.

(MVPD) (traditionally defined as cable or satellite companies),⁴⁹ and almost sixty percent of cable subscribers.⁵⁰ Comcast would also have had a significant presence in nineteen out of twenty of the largest Designated Market Areas (DMAs) in the country.⁵¹ This would have not only added Time Warner holdings in New York City, Los Angeles, and Dallas, but also regional clusters of holdings centered on those cities, as well as major clusters in the Midwest (Ohio/Kentucky) and the Carolinas.⁵² It would have dwarfed the closest-in-size cable system (Cox) by a factor of nearly eight times.⁵³ It would have been over three times as large as the next broadband Internet access service provider (AT&T).⁵⁴

Comcast's increased size would have magnified its status as gatekeeper for both new and emerging Internet services and conventional distribution of content to consumers. This unprecedented accumulation of market power, combined with Comcast's vertical integration into content, would have created the incentive and enormous leverage for Comcast to:

- stifle slowly emerging competition from rivals such as Netflix and Amazon that require high speed Internet access to deliver quality service to their customers, thwarting not only competition from existing rivals but discouraging investment in new innovative services delivered over the Internet;
- slow the pace and dictate the direction of equipment, device, and service innovation to lock in maximum revenue for Comcast's own infrastructure and business model;
- pay content suppliers less than the market value of their products and services, driving up the cost of programming to other distributors and increasing prices to consumers;
- artificially raise the prices of Comcast-owned programming to Comcast rivals, thus hampering their ability to compete and raising prices for consumers; and
- position itself as the dominant gatekeeper for all new services (both video and non-video) that rely on fast, reliable broadband connections to reach customers.

The intense scrutiny that Comcast brought upon itself and other large communications firms with its proposed mergers (as discussed in this Part) and its actions as the dominant broadband Internet access provider (as dis-

⁴⁹ See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Fifteenth Report, 28 FCC Rcd. 10,496, 10,560–61, ¶ 137, Table 9 (2013).

⁵⁰ See COOPER, UNAPPROVABLE, *supra* note 5, at 6.

⁵¹ Comcast Co., Time Warner Cable Inc., Comcast Filing (Form 425) 5 (Feb. 13, 2014), available at <http://perma.cc/RLQ9-KS8T>.

⁵² *Id.* at 6.

⁵³ Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Fifteenth Report, 28 FCC Rcd. 10496, 10560–61, ¶ 137, Table 9 (2013).

⁵⁴ See Joint Petition to Deny of Consumer Fed'n of Am., Consumers Union, Free Press and Media Access Project, FCC MB Docket No. 10-56 (June 21, 2010), available at <http://perma.cc/XD7W-33T9>.

cussed in the next Part) revealed that these are not idle, theoretical concerns; they are very real in the current communications market. To appreciate the implications of the merger and the broader issues it raises, it is important to examine the consent decree Comcast entered into in its previous acquisition of NBC Universal just four years prior to proposing the merger with Time Warner.

*B. The Legal and Policy Implications of the Comcast-NBC
Universal Merger*

In the 2010 public interest filing and expert testimony accompanying the request for the transfer of broadcast licenses from NBC Universal (NBCU) to Comcast, Comcast took the position that because it was largely a vertical merger and all of the market segments involved were vigorously competitive, the merger posed no actual or potential threat to competition, consumers, or the public interest.⁵⁵ In 2011, the DOJ⁵⁶ and FCC⁵⁷ rejected Comcast's arguments and analyses, finding that the merger posed significant threats and could not be approved without substantial remedial actions and ongoing conditions.

The FCC noted that the "record here is replete" with e-mails and documents from Comcast and other cable industry executive showing that Online Video Distribution (OVD) poses a potential threat to their business, "and that NBCU feels pressure to avoid upsetting those companies with respect to any actions it might take regarding the online distribution of its content."⁵⁸ Similarly, the DOJ recognized the competitive dangers inherent in Comcast's vertical integration into content with its merger with NBCU:

Comcast has an incentive to encumber . . . the development of nascent distribution technologies . . . by denying OVDs access to NBCU content or substantially increasing the cost of obtaining such content. As a result, Comcast will face less competitive pressure to innovate, and the future evolution of OVDs will likely be muted [and] will lessen competition in video programming distribution.⁵⁹

Comcast could have challenged the conclusions reached by the DOJ and FCC and gone to court to prove that the agencies were wrong. It chose not to do so. The core concern in the Comcast-NBCU merger was Comcast's significant market share at key points in the supply chain of video and com-

⁵⁵ Applications and Public Interest Statement of General Electric Company, Transferor, to Comcast Corporation, Transferee, FCC MB Docket No. 10-56 (Jan. 28, 2010), as amended on May 4, and November 3, 9, 17, 18 and 29, 2010, *available at* <http://perma.cc/J6SB-GUBE>.

⁵⁶ Complaint at 2, *United States v. Comcast Corp.*, 808 F. Supp. 2d 145 (D.D.C. 2011) (No. 1:11-cv-00106).

⁵⁷ *Comcast Corp., Gen. Elec. Co. and NBC Universal*, 26 FCC Rcd. 4238 (2011).

⁵⁸ *Id.* at 4272.

⁵⁹ Complaint at ¶ 54, *United States v. Comcast Corp.*, 808 F. Supp. 2d 145 (D.D.C. 2011) (No. 1:11-cv-00106).

munications service (see Table 2). Table 2 identifies a large number of competitive and public interest concerns with both the NBCU and the withdrawn Time Warner mergers, which, as shown by the citations to the NBCU merger consent decrees, were the foundation for the conditions that were imposed. Here we offer a few examples that highlight the threats to competition that would have been magnified by the proposed Time Warner merger.

Table 2 shows the market structure after the Comcast-NBCU merger. It shows the market share of Comcast in the key consumer access markets compared to the total market. These are national market shares; local market shares would be about twice as high. The national market shares are important in assessing the impact that the merger could have (i.e., the leverage that Comcast would possess) over vertically connected and complementary markets where, for example, reducing the available market for set top boxes could be a major barrier to competition.

As shown in Table 2, the Comcast-Time Warner merger would have dramatically increased the market power of the post-merger entity at the key points where competitors gain access to consumers (choke points). As the nation's largest MVPD and the nation's largest provider of broadband Internet access service, Comcast's large market share occurs at strategic choke-points where competition is feeble at best. For example, as shown in the top line of the MVPD/Cable Market Structure and Harms section, Comcast's market share in the MVPD market was 23% after the NBC acquisition and 33% of the cable market. This would have increased to 35% and 50% respectively if the Time Warner merger had been allowed to go forward. As shown in the top line of the broadband market analysis, Comcast's market share would have gone from 33% to over 50%.

The increases in market power would have become tools that Comcast could have used to further undermine competition. For each of the two major product markets, the concerns that drove the regulatory agencies to impose conditions on the Comcast-NBCU merger were magnified significantly by the proposed Comcast-Time Warner merger (the entries below the market structure numbers). For example, the DOJ/FCC concluded that allowing Comcast to gain control over additional content that is deemed essential to the success of a distribution platform (known as "marquee" content), like access to sports programming, would give it the incentive and ability to exercise market power.⁶⁰ This would occur at the expense of competition, consumers, and the public interest in all the video content and distribution markets in which Comcast participates.

⁶⁰ Comcast Corp., Gen. Elec. Co. and NBC Universal, 26 FCC Rcd. 4238, 4254, at ¶ 36 (2011). The record shows that the loss of access to Comcast-NBCU programming, including the programming contributed by NBCU, would harm rival video distributors, reducing their ability or incentive to compete with Comcast for subscribers. This is particularly true for marquee programming, which includes a broad portfolio of national cable programming in addition to regional sports networks (RSN) and local broadcast programming; such programming is important to Comcast's competitors and without good substitutes from other sources.

TABLE 2: COMPETITIVE CONCERNS AND INCREASED MARKET STRUCTURE IDENTIFIED IN THE COMCAST-NBCU MERGER THAT WERE SIMILAR CONCERNS IN THE COMCAST-TIME WARNER MERGER.

MVPD/Cable Market Structure and Harms

<p><i>Identified Harms in Comcast/NBCU</i></p> <ul style="list-style-type: none"> • MVPD share 23%, cable share 34% • Create vertical leverage, denial of access to consumers can hobble competition, increase market power (CI: 26, 28, 34) • Discriminatory access & dial placement (CI: 26, 28, 34) • Exclusion (FCC:13) • MPN cost problems (FCC: 24) • Perverse retransmission incentives (CI: 20) • Set top box abuse (FCC: 40) • Pay walls for OTA (FCC: 44) 		<p><i>Similar Issues Raised in Comcast/TWC</i></p> <ul style="list-style-type: none"> • MVPD share 35%, cable share 50% • Increase in regional clustering & Comcast national reach with control of key media markets • Increase 33% in control of regional sports • Bloomberg delayed neighborhood • Tennis, Wealth Channels denied access • Rising prices, retransmission fees challenge pro-competitive claims • Increased scale places middle mile, set top box markets at greater risk of abuse of leverage
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Broadband Market Structure and Harms

<p><i>Identified Harms in Comcast/NBCU</i></p> <ul style="list-style-type: none"> • Market share: 33% • OVDs are the best hope for competition (CI: 28) (CO: 5) • Nascent competition is vulnerable (CI: 21) • Harm to innovation is severe (CI: 36) (CO: 19) • OVD dependent on ISP for access to consumers (CI: 28) (CO: 17-18) • Incentive to harm OVD (FCC: 16, 31) 		<p><i>Similar Issues Raised in Comcast/TWC</i></p> <ul style="list-style-type: none"> • Market share: over 50% • OVD discrimination: Netflix is the victim of discrimination, degradation (raising rivals' cost); Project Concord denied content • No increase in capital expenditure from merger • Rates, terms, and conditions fell short of conditions placed on merger • Paltry low-income program participation • Major increase in concentration: 50% increase in leverage challenges theory of conditions • Benchmarking becoming more difficult, losing the best "independent" entity • Reduced ability to measure and enforce behavioral remedies
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General Competitive Concerns

<p><i>Identified Harms in Comcast/NBCU</i></p> <ul style="list-style-type: none"> • Enduring Domination (CO: 15) • Insufficient Competition (CI: 5; CO: 3-5) • Limited Entry (CI: 28) (CO: 5, 22) • Large local market shares (CO: 18) • Weak Competition (CI: 37) (CO: 3) 		<p><i>Similar Issues Raised in Comcast/TWC</i></p> <ul style="list-style-type: none"> • Increasing dominance of cable over broadband: Verizon-Comcast joint venture, • Comcast sale of spectrum to telecommunication companies • Increasing concentration: Two failed attempts have not shaken industry hopes for a T-Mobile merger of some kind; ATT/Dish merger pending • Dominant firm/small fringe weakens competition • Coordination is facilitated by larger dominant firm • Larger footprint > greater ability/less risk to market power abuse
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Sources: Dep't of Justice, Compl. [CO], Competitive Impact Statement [CI], United States v. Comcast Corp., 808 F. Supp. 2d 145 (D.D.C. 2011) (No. 1:11-cv-00106); Federal Communications Commission, Mem. Opinion and Order, Applications of Comcast Corp., General Electric Co. and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licenses, 26 FCC Red. 4238, 4241 (2011) [FCC]; *Examining the Comcast-Time Warner Cable Merger: Hearing Before the S. Comm. on the Judiciary*, 113th Cong. 1-8 (2014) (statement of Gene Kimmelman, President and CEO, Public Knowledge), available at <http://perma.cc/S4XR-WSPB>; MARK COOPER, CONSUMER FED'N OF AM., BUYER AND BOTTLENECK MARKET POWER MAKE THE COMCAST-TIME WARNER MERGER "UNAPPROVABLE" (2014), available at <http://perma.cc/W4ZM-C7Z9>.

Table 2 also shows the general conditions in the video and broadband markets that reinforce the concerns about the abuse of market power. It shows that many of the underlying market structural conditions, aside from the Comcast-NBCU merger, failed to improve or deteriorated. It identifies Comcast behaviors under the NBCU consent decree that were troubling from the point of view of implementing remedies that seek to blunt Comcast's anticompetitive incentives by controlling the behaviors that would let it act on those incentives (i.e., behavioral remedies).

It is a gross understatement to say that the Comcast-Time Warner merger would have posed a much larger threat to competition and consumers. Comcast's dominance in broadband access, which already positions it as more than just the gatekeeper for online video innovation, would have been magnified dramatically by an acquisition of Time Warner Cable.⁶¹ Any innovative new technology provider that relies on reliable, high-speed Internet access would be wary of doing anything that could expose it to retaliation by Comcast. Control of fifty percent of high-speed Internet subscribers would mean that Comcast's discrimination against any new service, like slowing down or blocking its content, or charging high costs to avoid such harmful treatment, could be the difference between its failure and success. As the FCC has recognized, had such discrimination occurred earlier, "some innovative edge providers that have today become major Internet businesses might not have been able to survive."⁶²

If the merger had occurred, programming suppliers would be faced with Comcast and a fringe of smaller buyers, which would have given Comcast increased programming monopsony power—market power as a purchaser.⁶³ No program supplier would be able to obtain the critical mass of "eyeballs" necessary to successfully launch or sustain a program or channel without placement on the post-merger Comcast systems. This would enable Comcast to demand less than market prices for programming. Programmers would seek to make up lost revenues by increasing prices to other distributors, harming the ability of smaller distributors to compete and raising prices for consumers.

Monopsony power also gives Comcast enormous control over how independent programming is seen by subscribers. In the past, Comcast has exercised its influence to prevent independent programming such as HBO from being accessed on devices Comcast does not control, such as the Roku and Playstation 3.⁶⁴ In fact, no more than a week after the FCC voted on its

⁶¹ Based on long-standing economic theory, the *Merger Guidelines* measure market concentration with the HHI index, which takes the market share of each firm (expressed as a decimal), squares it and sums across all firms, and then multiplies by 10,000 to clear the fraction. W. KIP VISCUSI, JOHN M. VERNON & JOSEPH E. HARRINGTON, JR., *ECONOMICS OF REGULATION AND ANTITRUST* 147–149 (2001). The HHI can be shown to have a direct relationship to the Lerner Index, which measures the ability of firms to set prices above marginal cost. *Id.* at 258–59. The increase of market share from 35% to 50% would more than double the contribution to the HHI: $(.35)^2 = .1225 * 10,000 = 1225$; $(.5)^2 = .25 * 10,000 = 2500$.

⁶² Preserving the Open Internet, 25 FCC Rcd. 17905, 17919, ¶ 23 (2010), available at <http://perma.cc/7PC6-BPKH>.

⁶³ In economics, monopsony is a market form in which only one buyer interfaces with would-be sellers of a particular product or products. A monopsony power assumes the monopsonist can dictate terms to its suppliers, as the only purchaser of a good or service, much in the same manner that a monopolist is said to control the market for many buyers as a sole seller in a given market. See SCHERER & ROSS, *supra* note 7, at 517.

⁶⁴ Karl Bode, *Comcast Still Blocking HBO Go on Roku (And Now Playstation 3), Incapable Of Explaining Why*, TECHDIRT (Mar. 7, 2014), <https://perma.cc/DZH4-4NU3>; Chris Welch, *Comcast Isn't Letting Customers Watch HBO Go on Playstation 3*, THE VERGE (Mar. 5, 2014), <http://www.theverge.com/2014/3/5/5474850/comcast-isnt-letting-customers-watch-hbo-go-on-ps3>, <http://perma.cc/YU89-WDNM>.

final 2015 Open Internet rules, news broke that Comcast was continuing to block HBO Go on the Playstation 4, citing vague technical difficulties, even though the application worked perfectly well on devices through other provider connections.⁶⁵ Post-merger, Comcast's monopsony power would have harmed consumers outside of its geographic footprint as well. After the merger, Comcast's infrastructure would have served almost sixty percent of all cable subscribers along with its large share of high-speed broadband customers. Given that monopsony power gives a company the ability to exercise significant control over demand in a market, Comcast would gain an enormous degree of leverage over equipment manufacturers, content providers, and in-home viewing options. If Comcast could deny or impede access to consumers, shrinking the potential market for suppliers of these goods and services, they would be less likely to successfully enter the market. Comcast would indirectly diminish the threat of competition in its service footprint by weakening competition generally. This would give Comcast an enormous degree of leverage over equipment manufacturers and standard setting organizations that establish the cost-effective business opportunities for offering cable and broadband customers new wireless, cloud storage, and in-home viewing options. No innovation in cable services or infrastructure could be adopted unless it was in Comcast's interest to do so.

In addition to being the nation's largest cable operator, Comcast also provides its rivals with programming by making one of the big three networks (NBC) available through retransmission consents and under the terms of the conditions of the Comcast-NBCU consent decree.⁶⁶ Post-merger, Comcast would have had an even greater incentive to increase the prices its rivals pay for that programming since doing so would give Comcast a competitive advantage in providing MVPD services. For example, recent economic analysis shows that the prices for regional sports channels owned by cable companies are higher than those charged by independent sports channels.⁶⁷ By increasing programming prices for competitors, Comcast can make its own pay-television service more attractive when compared to rivals.⁶⁸

A merged Comcast and Time Warner Cable would have been positioned to act as the dominant gatekeeper for all types of online services. For an Internet service to reach Comcast's customers, at some point either its data network or a third-party network must interconnect with Comcast's net-

⁶⁵ Chris Welch, *Surprise: Comcast Won't Let Anyone Watch HBO Go on Playstation 4*, THE VERGE (Mar. 5 2015), <http://www.theverge.com/2015/3/5/8156025/comcast-blocks-hbo-go-sony-ps4>, <http://perma.cc/Q8YF-GC5R>.

⁶⁶ Comcast Corp., Gen. Elec. Co. and NBC Universal, 26 FCC Rcd. 4238, 4254–55, at ¶ 37 (2011). “[T]he record evidence supports a finding that without Comcast-NBCU's suite of RSN, local and regional broadcast and national cable programming, other MVPDs likely would lose significant numbers of subscribers to Comcast, substantially harming those MVPDs that compete with Comcast in video distribution.” *Id.* at 4254 (footnotes omitted).

⁶⁷ Kevin W. Caves, et al., *Vertical Integration in Multichannel Television Markets: A Study of Regional Sports Networks*, REV. OF NETWORK ECON. 66 (2013).

⁶⁸ COOPER, UNAPPROVABLE, *supra* note 5, at 2–5.

work. However, after the merger, Comcast would have had increased means to use these interconnection relationships in an anticompetitive manner.⁶⁹ No matter how competitive the transit market may be, at some point all transit providers must face the reality that there is no way to reach Comcast's customers except through Comcast. The bigger the customer base, the greater the leverage Comcast has. Because of the size of the combined Comcast and Time Warner Cable's customer base, if Comcast decided to begin charging popular Internet services for access to its customer base, those large Internet services would have had no choice but to acquiesce.⁷⁰

Furthermore, given the leverage Comcast has over Internet content and service companies, many of the same problems that manifest in the video space today could spread to the Internet market. If Internet service companies were forced to pay a toll to access Comcast's customers, they might have had to raise their prices, and the entire industry could suffer reduced investment. Similarly, popular Internet companies and content providers might have decided to offset interconnection fees paid to Comcast by charging smaller Internet service providers (ISPs) for interconnection.

The very strong parallels shown in Table 2 between the competitive concerns raised by the Comcast-NBCU merger and the Comcast-Time Warner merger make it clear that Comcast's claims that the latter would not have posed a problem are wrong. Comcast made exactly the same claims last time, and they were rejected. Comcast did not challenge the consent decree in court, so the findings are "law." Things have not greatly improved in the broadband Internet access service market.

The claim that the market is sufficiently competitive to allow the merger to take place is less true today than it was five years ago, and this merger would have posed a much bigger problem in that regard. The concerns are greater today because the FCC, in assessing the competitiveness of the market, has recognized that in the future true broadband service will require much higher speed⁷¹—twenty-five megabits upload and four megabits download—and there is very little if any competition to deliver that level of service. Only eight percent of consumers are served by two or more competitors with that capacity, and two is not enough to deliver workable competition.⁷² From this forward-looking point of view, which is exactly the point of view the DOJ and FCC are required to take, the merger would

⁶⁹ Indeed, there is some indication that it already has. *See, e.g.*, Reed Hastings, *Internet Trolls and the Case for Strong Net Neutrality*, NETFLIX BLOG (Mar. 20, 2014), <http://perma.cc/AKX7-J43P>; Comments of Level 3, FCC GN Docket No. 14-28 (Mar. 21, 2014), *available at* <http://perma.cc/FBX2-BBM9>. However, a merger would only increase Comcast's ability to demand interconnection fees that bear no relationship to actual network costs by substantially adding to its captive customer base.

⁷⁰ *See* Competitive Impact Statement § III.A.5, *United States v. Comcast Corp.*, 808 F. Supp. 2d 145 (D.D.C. 2011) (No. 1:11-cv-00106).

⁷¹ *See* Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, FCC 15-10, GN Docket No. 14-126 (2015), *available at* <https://perma.cc/LH7Q-M6DF>.

⁷² *See* DAVID N. BEEDE, OFFICE OF THE CHIEF ECONOMIST, DEP'T OF COMMERCE, COMPETITION AMONG U.S. BROADBAND SERVICE PROVIDERS 1 (2014), <http://perma.cc/RET6-9RVQ>.

have constituted a marriage of the number one and number three firms in a market that is already highly concentrated, even by the recently revised Horizontal Merger Guidelines.⁷³

The DOJ and FCC also rejected Comcast's claim that it does not have an incentive to discriminate against over-the-top-video providers. The conditions that Comcast agreed to as part of the consent decree rely on market transactions as benchmarks, but with a merged Comcast-Time Warner constituting such a large part of the market, it would be difficult—if not impossible—to implement those standards. Moreover, as shown in Table 2, Comcast's behavior under the consent decree leaves a great deal to be desired. It justifies the reluctance of antitrust authorities to use behavioral remedies. For example, it took Bloomberg TV roughly three years to enforce a straightforward merger condition,⁷⁴ only succeeding, perhaps not coincidentally, once Comcast decided to pursue its merger with Time Warner.

Happily, it appears that the DOJ and FCC agreed with this analysis. Indications from both agencies signaling they intended to oppose the deal led Comcast to announce on April 24th that it was abandoning the merger.⁷⁵ In a highly unusual move, *following* Comcast's withdrawal announcement, Attorney General Eric Holder went on record that he had authorized the DOJ to file a lawsuit challenging the merger.⁷⁶ Earlier in the same week, prior to Comcast's withdrawal announcement, news broke that FCC staff had recommended that the commission refer the transaction for review by an administrative law judge—usually the death knell in controversial deals like this one. Chairman Wheeler's statement mirrors our concerns: "Today, an online video market is emerging that offers new business models and greater consumer choice. The proposed merger would have posed an unacceptable risk to competition and innovation, especially given the growing importance of high-speed broadband to online video and innovative new services."⁷⁷

IV. NETWORK NEUTRALITY AND THE OPEN INTERNET RULES

The market structure suggested by Table 2 provides a useful backdrop for the analysis of the network neutrality debate. Once a consumer connects to a network, all of the traffic going to that consumer flows over that network. As we have seen, few consumers have much choice in true broadband

⁷³ See DEPT OF JUSTICE AND FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES 18–19 (2010), available at <https://perma.cc/BD6M-A5GJ>.

⁷⁴ Katy Bachman, *FCC Hands Bloomberg TV Big Win in Comcast Lineup Dispute*, AD-WEEK (Sept. 27, 2013), <http://perma.cc/6587-F3T3>.

⁷⁵ Devika Krishna Kumar, *Comcast drops Time Warner Cable bid after antitrust pressure*, REUTERS (April 24, 2015), <http://perma.cc/QZL3-LTQ2>.

⁷⁶ Brett Kendall & Shalini Ramachandran, *Holder Had Authorized DOJ Lawsuit Against Comcast-Time Warner Deal*, WALL STREET JOURNAL (Apr. 24, 2015), <http://www.wsj.com/articles/holder-had-authorized-doj-lawsuit-against-comcast-time-warner-deal-1429888983>, <http://perma.cc/BQ7K-4P6Y>.

⁷⁷ Statement from FCC Chairman Tom Wheeler on the Comcast-Time Warner Cable Merger (Apr. 24, 2015), <http://perma.cc/ZZ9T-WF2R>.

service providers and even fewer choose to connect to two equal service providers at one time. Switching between broadband service providers can impose significant costs. This is sometimes called the terminating access monopoly.

Over the years since the passage of the 1996 Act and the offering of broadband Internet access service, it has become clear that these service providers have the power to completely control the flow of traffic to the customer. The Internet was born and flourished in the pre-broadband era (frequently referred to as the dialup era) under a regulatory regime that did not allow providers to exercise power in a discriminatory or anticompetitive manner. The network neutrality rules represent an effort to ensure that the nondiscriminatory access principle applies to broadband.

Thus, the current debate over Open Internet rules goes to the heart of the digital communications network and the broader digital economy. It captures the never-ending struggle to align law and technology in the communications sector. The FCC has issued its fourth set of rules governing high-speed Internet data transmission (broadband Internet access service) in a dozen years. The FCC has been reversed three times by federal courts of appeals,⁷⁸ and upheld once by the Supreme Court on account of traditional deference given to an agency's interpretation of its governing statute.⁷⁹ While the rules governing broadband have been unsettled since the passage of the 1996 Act (as shown in Table 3), in our view the remarkable success of thirty years of FCC policy in creating an environment in which the Internet could flourish is one of the best contemporary examples of the important role progressive policy should play to promote economic development and innovation.

TABLE 3: THE HISTORY OF A CLOSE CALL: THE REGULATORY AND JUDICIAL TREATMENT OF MASS-MARKET, HIGH-SPEED DATA TRANSMISSION SERVICE UNDER THE TELECOMMUNICATIONS ACT OF 1996

Year	Event	Implications for Current Classification Review
1998	Stevens Report	Ambiguous on classification
1998	Public interest groups petition for Title II classification	Need for nondiscrimination demonstrated

⁷⁸ *Brand X Internet Servs. v. FCC*, 345 F.3d 1120 (9th Cir. 2003) *rev'd and remanded sub nom. Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005); *Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010); *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014); *see also AT&T Corp. v. City of Portland*, 216 F.3d 871, 877–78 (9th Cir. 2000) (agreeing with the FCC view filed in an amicus brief that high speed data is not a cable service, but disagreeing with the FCC on whether it is a telecommunications service subject to Title II, finding that it is).

⁷⁹ *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 983 (2005).

2000	<i>Portland v. AT&T Cable</i> : 9th Circuit Court of Appeals finds cable a telecommunications service	Title II classification asserted: cable modem service involves telecommunications and is therefore subject to Title II
2000	FTC imposes commercial access condition on AOL-Time Warner	Concern about bottleneck provider expressed
2002	FCC issues Cable Modem Declaratory Order classifying cable modem service as an information (not telecommunications) service	Classified Information Service; Title I authority asserted; the need to address Communications Act principles affirmed
2003	<i>Brand X v. FCC</i> – 9th Circuit Court of Appeals affirms its <i>Portland v. AT&T</i> and overturns Cable Modem Order	Information Service rejected; telecommunications affirmed
2004	Chairman Powell declares Four Internet Freedoms	Importance of non-discrimination and consumer protection affirmed
2005	FCC uses Title II authority to investigate undue discrimination by Madison River	Importance of non-discrimination affirmed
2005	Supreme Court reverses 9th Circuit (6-3) on procedural grounds and upholds FCC information service classification	Information service upheld; Justices debate Title I authority
2005	FCC extends the Information service definition to mass market, high-speed data transmission services offered by telephone companies	Title I authority claimed; the need to address Communications Act principles affirmed
2005	FCC turns Four Internet Freedoms into a policy statement	Importance of non-discrimination and consumer protection affirmed
2006	AT&T agrees to network neutrality Bell South merger condition	Ability to distinguish service demonstrated
2007	FCC finds Comcast illegally discriminated against peer-to-peer applications	Need for non-discrimination affirmed; technical ability to offer separate services demonstrated
2010	Open Internet Proceeding initiated	Need for non-discrimination stated; Title I authority asserted
2010	National Broadband Plan	Importance of Communications Act principles affirmed; failure to achieve Communications Act goals documented
2010	D.C. Circuit Court overturns FCC action against Comcast	Title I authority questioned
2010	Broadband Internet Access Notice of Inquiry	Recognizes importance of all Communications Act principles; documents failure to achieve goals of the Act

A. *The Dispute over Nondiscrimination in Communications Policy*

To appreciate the stakes and the challenge, we need to briefly review how the current state of the debate came about. The principle that a nation's communications networks should provide access on a nondiscriminatory basis stretches back almost half a millennium to the principles of British common law.⁸⁰ The modern version of these principles was settled in law and antitrust rulings stretching back more than a century.

After the Telecommunications Act of 1996 was passed, those principles became unsettled by technological and legal developments, as summarized in Table 3. Prior to that time, the FCC's authority to require network operators to treat data flows in a nondiscriminatory manner was grounded in the ancillary authority doctrine, which allowed the Commission to impose common carrier obligations on non-common carriers when necessary to achieve the Act's broad purposes. Cable operators, who had never been subject to Title II, challenged the FCC's application of its ancillary authority to broadband, and the 1996 Act was unclear about how high-speed data should be classified.

In 1968, two landmark decisions laid the basis for the success of the Internet. The Carterfone decision allowed individuals to connect their own devices to the network and the Computer Inquiries ensured that data traffic would be handled in a nondiscriminatory manner.⁸¹ The FCC did not directly assert Title II common carrier authority over data traffic, but it claimed to have ancillary authority under Title I to impose the obligation of nondiscrimination.⁸²

The FCC, local governments, and interested parties have debated the proper regulation of the Internet for decades. In 1998, in the course of the FCC's review of a proposed merger between AT&T and Tele-Communications Inc., public interest groups asked the FCC to treat the Internet access service that cable operators had begun to sell to the public the same way that the Commission treated similar service offered by telephone companies.⁸³ When cable operators, whose video services are not regulated as telecommunications common carriers under Title II, offered the new data service, which clearly involved two-way telecommunications, the question arose as to how

⁸⁰ ALAN STONE, PUBLIC SERVICE LIBERALISM 29 (1991).

⁸¹ See TIM WU, THE MASTER SWITCH 190–91 (2010); François Bar, et al., *Defending the Internet Revolution in the Broadband Era: When Doing Nothing is Doing Harm* 10 (Berkeley Roundtable on the Int'l Econ., Working Paper No. 137, 1999), available at <http://perma.cc/W95T-NUH8>; Mark Cooper, *The Long History and Increasing Importance of Public Service Principles for 21st Century Digital Communications Networks*, 12 J. ON TELECOMM. & HIGH TECH. L. 1, 22–24 (2014).

⁸² See Concerning High-Speed Access to the Internet Over Cable and Other Facilities, 17 FCC Rcd. 4798, 4841 (2002).

⁸³ See Consumers Union, Consumer Federation of America and Media Access Project, Motion to Vacate Stay of Enforcement of Horizontal Ownership Limits, FCC CS Docket No. 98-82 (Aug. 17, 1999), available at <http://perma.cc/SNR2-X6SD>.

the new service they were offering should be regulated.⁸⁴ The FCC did not take action, while local cable companies and local franchising authorities wrestled with the issue. Local cable franchising authorities tried to impose nondiscrimination obligations, but the cable operators resisted. The Ninth Circuit Court of Appeals was the first court to decide the issue—in a dispute between the City of Portland, Oregon and AT&T. The majority argued forcefully that Internet access service was a telecommunications service and should be subject to the nondiscrimination obligation:

[T]he Telecommunications Act of 1996 enacted a competitive principle embodied by the dual duties of nondiscrimination and interconnection. . . . Under the Communications Act, this principle of telecommunication common carriage governs cable broadband as it does other means of Internet transmission such as telephone service and DSL, “regardless of the facilities used.” The Internet’s protocols themselves manifest a related principle called “end-to-end”: control lies at the ends of the network where the users are, leaving a simple network that is neutral with respect to the data it transmits, like any common carrier. On this the role of the Internet, the codes of the legislator and the programmer agree.⁸⁵

While the FTC ordered specific commercial access to Time Warner’s post-merger system,⁸⁶ it did not (and could not) address the broader issue of nondiscriminatory access to the broadband network. The FCC, under Chairman Bill Kennard, took the matter up by issuing a Notice of Inquiry.⁸⁷ But two years later, under new-Chairman Michael Powell, the FCC ruled in the Cable Modem Order that because cable modem service bundled together telecommunications information service, under the 1996 Act it should be considered an information service, not a telecommunications service.⁸⁸ The Commission asserted that it could still exercise its ancillary authority to ensure non-discrimination, but it chose not to do so. Chairman Powell also declared his belief that cable operators should voluntarily adhere to four principles of Internet freedom, although these were not binding: “freedom to access content, freedom to use applications, freedom to attach personal devices, [and] freedom to obtain service plan information.”⁸⁹ These consumer “freedoms” do not explicitly address the issue of discrimination, a core concern of communications policy.

⁸⁴ See *AT&T Corp. v. City of Portland*, 216 F.3d 871, 879 (9th Cir. 2000).

⁸⁵ *Id.* (citations omitted).

⁸⁶ See FTC, *America Online, Inc., and Time Warner, Inc.*, (Nov. 22, 2002), <https://perma.cc/JKG8-QC45>.

⁸⁷ See *High-Speed Access to the Internet Over Cable and Other Facilities*, 15 FCC Rcd. 19,287 (2000).

⁸⁸ See *High-Speed Access to the Internet Over Cable and Other Facilities*, 17 FCC Rcd. 4798, 4802 (2002).

⁸⁹ Michael Powell, *Preserving Internet Freedom: Guiding Principles for the Industry*, 3 J. ON TELECOMM. & HIGH TECH. L. 5, 11–12 (2004).

The Ninth Circuit affirmed its earlier view and again ruled that the service should be classified as a telecommunications service, overturning the FCC order.⁹⁰ The FCC appealed and in the *Brand X* decision, on a split 6-3 vote, the Supreme Court reversed the Ninth Circuit order on procedural grounds. It concluded that the law was ambiguous on the classification and the Court had to give the expert agency deference under the *Chevron* doctrine.⁹¹

Soon thereafter, the FCC argued that since cable high-speed data was classified as an information service, telecommunications companies offering similar high-speed data service should be treated in the same way. Broadband Internet access service was not regulated under Title II, although slow speed, dialup service remained a telecommunications service. The FCC still claimed ancillary authority and raised Powell's four freedoms to the level of a policy statement in the Wireline Order,⁹² which extended the classification of higher speed data transmission as an information service to similar services offered by telephone companies. But the FCC's ability to enforce a mere "policy" statement was still in question.

When Comcast was caught treating unaffiliated content delivered by a peer-to-peer technology offered by BitTorrent in a clearly discriminatory manner (they were inserting error messages in the flow of traffic to slow it down, which rendered it useless) the Commission ordered it to stop.⁹³ Comcast went to court. In the BitTorrent case, *Comcast v. FCC*, the D.C. Circuit sided with Comcast and ruled that the Commission could not prevent Comcast's blocking under the authority of the statute it had attempted to invoke in its action.⁹⁴ In the responding 2010 Open Internet rule, the FCC tried to write an order that would enable it to prevent discrimination under the D.C. Circuit's interpretation of the 1996 Act.⁹⁵ In early 2014, the D.C. Circuit overturned the FCC order, although it concluded that the FCC had authority to deal with discrimination under Section 706 of the Act.⁹⁶ While the most recent 2015 Open Internet Order published in response seeks to implement Section 706, as suggested by the court, its most striking feature is to reclassify broadband as a telecommunications service, in essence going back to the approach taken by the Ninth Circuit in its two rulings.

⁹⁰ *Brand X Internet Servs. v. FCC*, 345 F.3d 1120, 1132 (9th Cir. 2003) *rev'd and remanded sub nom.* *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005).

⁹¹ *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 997 (2005) (finding agency deference applicable under the framework of *Chevron*, *U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984)).

⁹² Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, et al., Policy Statement, 20 FCC Rcd. 14,986, 14,988 (2005).

⁹³ See Complaint of Free Press & Public Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, 23 FCC Rcd. 13,028 (2008) (FCC Order).

⁹⁴ See *Comcast Corp. v. FCC*, 600 F.3d 642, 644 (D.C. Cir. 2010).

⁹⁵ Preserving the Open Internet, 25 FCC Rcd. 17,905 (2010).

⁹⁶ See *Verizon v. FCC*, 740 F.3d 623, 636 (D.C. Cir. 2014).

B. The Broad Framing of the Issue for the Digital Age

The analysis of the rules governing the treatment of traffic on digital communications networks must begin from the remarkable success of the rule the FCC adopted that produced the environment in which the Internet was created and thrived. The important role of regulatory policy in helping to create this success is clear. In the 2010 Open Internet order,⁹⁷ the FCC argued that the success of the digital revolution rests on a unique innovation system that created “virtuous cycles” of innovation and investment. The “virtuous cycle” framework posits that innovation and investment at the edge of the network is inextricably linked to innovation and investment in the communications network itself in a recursive, reinforcing feedback loop. Development of applications, devices, and content stimulates demand for communications that drives innovation and investment in the supply of communications network capacity and functionality. In turn, improving network functionalities and expanding capacity make new applications possible, which stimulate new demand, and the cycle is repeated. The challenge for the Commission is to develop a regulatory framework that protects and advances the “virtuous cycle,” so that broadband deployment and adoption is stimulated. The network operators make a series of arguments against this conclusion that are similar to those made by Comcast in defense of its proposed mergers, i.e., that there is sufficient competition to prevent discrimination and that there is no incentive to engage in discrimination. These arguments have fared no better in the network neutrality context, as attested to in a 400-page order written by the FCC.⁹⁸

The ability of network operators to flex their muscles at key choke points of broadband Internet access to deny access or condition access to the digital network, which was one of the key considerations in the antitrust analysis, has much broader implications in the virtuous cycle context. In fact, the FCC proceeding reminds us that the control of the choke point is a two-sided problem. Standing between the consumer and the content providers, broadband Internet access providers have the ability to impose discriminatory terms and conditions on even the largest content providers, such as Netflix.⁹⁹

This makes Judge Silberman’s dissent in the 2014 Open Internet ruling,¹⁰⁰ where he complained that the FCC had failed to demonstrate the presence of market power as the basis for a rule that seeks to “control” the market power of the network operators, an instructive starting point. Focus

⁹⁷ See *Preserving the Open Internet*, 25 FCC Rcd. 17,905, 17,910–11 (2010).

⁹⁸ See *generally* *Protecting and Promoting the Open Internet*, 80 Fed. Reg. 19,738 (Apr. 13, 2015) (to be codified at 47 C.F.R. pts. 1, 8, & 20).

⁹⁹ See *Comments of Netflix at 12*, FCC GN Docket No. 14-28 (July 15, 2014), available at <http://perma.cc/CSB8-A8KW>.

¹⁰⁰ See *Verizon*, 740 F.3d at 664–65 (Silberman, J., concurring in part and dissenting in part).

on market power is the wrong way to think about the fundamental processes of the digital revolution.

Digital technologies and the dynamic economic process they support need to be viewed positively as providing unique mechanisms to overcome pervasive market barriers and imperfections that afflicted pre-digital industrial technologies and capture positive externalities that have eluded those technologies. The court majority recognized exactly what Judge Silberman missed: market power narrowly defined is not the only—or even the most important—potential threat to the “virtuous cycle.”¹⁰¹

*C. The Success of the Internet: What Makes the Internet
an Engine for Democracy?*

At the micro-level we can identify a number of conditions that created a space that was extremely friendly to entrepreneurial experimentation, which Shane Greenstein puts at the center of the success of the Internet innovation system.¹⁰² Neutrality of the communications protocols and network devices meant that there was no need to engage in costly bilateral negotiation over the cost and quality of access. Openness and interoperability allowed entrepreneurs to experiment, and as such they were two essential features of a communications environment that fostered innovation at the edge.¹⁰³ User needs could not be signaled more readily, but users became active in innovating directly and indirectly.¹⁰⁴ With easy communications around open protocols and interfaces, complementary inputs created platforms in which many providers could specialize and collaborate to increase output and lower cost. The arrangement resulted in a dramatic reduction in transaction costs that created a powerful network effect. “Network neutrality” is a perfect description for a situation in which you do not have to “worry about” the insides of the network or negotiate to make agreements for transport of data through the network.

The Internet protocol itself, developed at the instigation and with the support of DARPA (the Defense Advanced Research Projects Agency), was managed as an open standard by the creators and users of the Internet through a collaborative, multi-stakeholder governance process. This internal organization, along with a major boost from the State, also prevented the incumbent telecommunications companies from hijacking the standard setting process.¹⁰⁵ Requiring the telecommunications companies to simply pass

¹⁰¹ See *id.* at 644–45 (majority opinion).

¹⁰² See Shane Greenstein, *Innovative Conduct in Computing and Internet Markets*, in 1 HANDBOOKS IN ECONOMICS 478, 494–98 (2010).

¹⁰³ See Franco Malerba, *Industrial Dynamics and Innovation: Progress and Challenges*, Presidential Address at the 32nd Conference of the European Ass’n for Research in Indus. Econ., 12 (Sept. 1–4, 2005), <http://perma.cc/SQ24-PAAN>.

¹⁰⁴ See Greenstein, *supra* note 102, at 517; JANET ABBATE, *INVENTING THE INTERNET* 207–08 (2000).

¹⁰⁵ Wesley Cohen, *Fifty Years of Empirical Studies of Innovative Activity and Performance*, in 1 HANDBOOKS IN ECONOMICS 129, 172 (2010) (“[O]f all the sources of ideas for new

the data unimpeded from any device attached to the network by users and service innovators created the freedom to experiment in an environment that had been a tightly closed monopoly for the better part of a century.

The impact of the micro-level intended or directed activities described above was reinforced by undirected processes bringing about unintended consequences that magnified the positive impact. There were strong positive external economies associated with the emerging innovation system.¹⁰⁶ Platforms developed around open standards in which different firms collaborated and specialized in providing complementary inputs and products.¹⁰⁷ The diversity of specialized firms allowed a fine-grained division of labor to develop and also helped to keep the platform open, since there was a strong mutual interest in preventing any single firm from gaining control over a key input, which would give that firm the power to dictate the direction of innovation.

D. The Role of Public Policy

1. Promoting Market Success

Over the course of two decades, federal regulatory decisions created guaranteed open access to a communications space, but did not regulate activity within that space. The unfettered experimentation made possible by these decisions combined with the recognition of the need for an accessible standard to create a powerful network effect. Thus, FCC action embodies an enigma and resolves an inherent contradiction—sharp regulatory action is necessary to create a space for individual entrepreneurship, but regulatory restraint ensured freedom from regulation to conduct entrepreneurial experiments in that space.

Greenstein's analysis discussed above does not examine how the network neutrality that existed on the eve of the explosion of the commercial Internet and that was so vital to its success came into existence. Tim Wu (among many others) has identified a series of regulatory decisions that paved the way. The decision to allow any device to connect to the network with a simple jack meant every person could become an innovator. One such innovation was the modem, which was designed to integrate all data flow over the network. Simultaneously, the FCC ordered the telephone companies to allow that data to flow in a nondiscriminatory manner, a principle that had applied to voice communications for decades. Wu attests to the remarkable impact of these decisions:

R&D projects outside the R&D lab itself, including suppliers, rivals, university and government labs, or even a firm's own manufacturing operations, customers are far and away the most important.”)

¹⁰⁶ *Id.* at 177–81.

¹⁰⁷ See Mark Cooper, *Making the Network Connection*, in OPEN ARCHITECTURE AS COMMUNICATIONS POLICY 95, 101 (Mark Cooper ed., 2004) (defining platforms and discussing several relevant examples).

In short, with strange and unprecedented foresight, the FCC watered, fertilized, and cultivated online computer services as a special, protected industry, and, over the years, ordained a set of rules called the *Computer Inquiries*, a complex regime designed both to prevent AT&T from destroying any budding firms and also to ensure that online computer service flourished unregulated.¹⁰⁸

François Bar notes that the FCC made a number of additional decisions that magnified the importance of the commitment to access to the core communications network and the decision not to regulate behavior in the data transmission area,¹⁰⁹ including access to the full functionality of raw data transmission service, which prevented the telephone companies from dictating the way the new data services would work. And the FCC also chose not to regulate Internet and data services. Bar concludes that: “Thanks to the FCC policy of ‘openness’ and competition, specialized networks and their users could unleash the Internet revolution. This assured the widest possible user choice and the greatest opportunities for users to interact with the myriad of emerging new entrants in all segments of the network.”¹¹⁰

Greenstein acknowledges the role of the FCC in helping to create the conditions for the explosive growth of another communications protocol, Wi-Fi:

More surprising, a wireless fidelity technology now popularly known as Wi-Fi became dominant. Wi-Fi did not arise from a single firm’s innovative experiment. Rather, Wi-Fi began as something different that evolved through economic experiments at many firms. The evolution arose from the interplay of strategic behavior, coordinated action among designers, deliberate investment strategies, learning externalities across firms, and a measure of simple and plain good fortune Federal spectrum policy cooperated with these technical initiatives—indeed, nothing would have succeeded in its absence¹¹¹

There were a host of other widely recognized ways in which the public policy supported the development of the digital techno-economic paradigm. These included:

- large, sustained financial support for basic research, development, and initial deployment of key technologies;
- a commitment to develop decentralized communications networks for strategic defense in the 1960s, with a request and fund-

¹⁰⁸ Wu, *supra* note 81, at 191.

¹⁰⁹ See Bar, *supra* note 81, at 2.

¹¹⁰ *Id.*

¹¹¹ Shane Greenstein, *Economic Experiments and Neutrality in Internet Access* 12–14 (Nat’l Bureau of Econ. Research, Working Paper No. 13158, 2007), <http://perma.cc/4LDM-3MU2>.

ing from the Department of Defense to develop the Internet Protocols and the development of a browser;¹¹²

- the role of a quasi-governmental agency in the early years in the management of the network of networks, while norms were being developed;
- a significant market in the public sector;
- a long-standing New Deal tradition of pricing to promote use (that is, bill-and-keep for interconnecting communications companies and flat rate pricing for end users).

Thus, the “virtuous cycle,” drawing on the positive externalities created by an environment in which information flowed freely, was a powerful unintended consequence of the interaction of progressive policy and entrepreneurial experiments that defined a new market structure that encouraged entry by many new firms, which resulted in greater specialization, more collaboration, and less concentration.

2. *Preventing Market Failures*

While broad government policies promoted the success of the digital revolution, specific FCC policies prevent negative behaviors from undermining its chances for success in the communications sector. To begin the analysis, we describe the nature of the network owners. They are the large, bureaucratically organized incumbents that dominated the twentieth century telecommunications networks in both voice and video, e.g., AT&T, Verizon, Comcast, and Time Warner. Given their location and importance in the digital communications platform, they are likely to do significant harm to the freedom of entrepreneurial experimentation at the edge of the network that is the driving force in the “virtuous cycle” if they are left unregulated to pursue their interests. They could do so by trying to “tax” innovators by raising their cost of access to consumers or by slowing service that might compete with a similar offering of their own.

Their actions can dampen the willingness and ability of the edge to experiment, imposing counterproductive “worry” about the network and its devices, increasing costs substantially by forcing edge entrepreneurs to engage in bilateral negotiation, undermining interoperability, and chilling innovation through the threat of “hold up” of successful edge activities.

As incumbents, they have a conservative, myopic bias to protect their position, and are certain to be far less innovative and dynamic than the edge based on a preference for preserving the old structure, a pursuit of incremental process innovation rather than radical product innovation, and proprietary culture that prefers restrictions on the flow of knowledge. Competition is much weaker in the network segment of the digital platform than in the edge segments because of large economies of scale and barriers to entry, which

¹¹² See Greenstein, *supra* note 102, at 507–08.

means network owners face less pressure to innovate, have the ability to influence industrial structure to favor their interests at the expense of the public interest, can use vertical leverage (where they are integrated) to gain competitive advantage over independent edge entrepreneurs, and have the ability to extract rents, where they possess market power or where switching costs are high.

That many of these concerns are forward-looking should not be surprising, since it is the opportunity to experiment (in the face of the unpredictability of success and failure) that is the most valuable trait of the Internet innovation system. The Communications Act is very much a forward-looking statute, regulating behavior to achieve goals and prevent harms, rather than correcting harms after the fact.

At the same time, the network operators have given strong indication that they have the incentive and ability to engage in antisocial conduct. In less than a decade after Chairman Powell declared the four freedoms and Chairman Martin turned them into an official policy with questionable enforcement, we have more than a dozen examples of services that compete with the franchise offerings of network owners, and voice and video are singled out for discriminatory treatment (see Table 4).¹¹³

The most recent FCC Open Internet Order moves more aggressively to deter these behaviors. Under the Open Internet Order, paid prioritization (an explicit form of raising rivals' costs) is banned.¹¹⁴ While there is a bright line against blocking and throttling subject to a "reasonable network" management test, discrimination would be assessed under the broader reasonable network practices standard.¹¹⁵

Repeated, persistent attacks like this may seem small, but they took place after the cable modem order articulation of principles and policies about network neutrality and Internet freedom, and they can easily impose costs and chill innovation. The earlier rounds of debate in the period before the cable modem order revealed behaviors that would be devastating to innovation and competition because they made it clear to those seeking access that the telephone companies would not allow them to innovate in ways that might threaten their position as gatekeepers.¹¹⁶ While many of these actions could trigger antitrust concerns, neither the Sherman Act nor the Clayton

¹¹³ See Mark Cooper, Dir. of Research, Consumer Fed'n of Am., *The Digital Past as Prologue: How a Combination of Public Policy and Private Investment Produced the Crowning Achievement (to Date) of Progressive (American) Capitalism*, Address at AEI/University of Nebraska Forum (Sept. 10, 2014), <https://perma.cc/4YZ8-X267>.

¹¹⁴ Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738, 19,740 at ¶ 18 (Apr. 13, 2015) (to be codified at 47 C.F.R. pts. 1, 8, & 20).

¹¹⁵ *Id.* at ¶¶ 15–16, 18, 21.

¹¹⁶ See Mark Cooper, *Anticompetitive Problems of Closed Communications Facilities*, in *OPEN ARCHITECTURE AS COMMUNICATIONS POLICY* 155, 168–69 (Mark Cooper ed., 2004) (citing *NORTHNET, INC., AN OPEN ACCESS BUSINESS MODEL FOR CABLE SYSTEMS: PROMOTING COMPETITION AND PRESERVING INTERNET INNOVATION ON A SHARED, BROADBAND COMMUNICATIONS NETWORK* 6–7 (2004)).

Antitrust Act is well-suited to tackle the balancing of social and economic factors that impact the “virtuous cycle.”

TABLE 4: VIOLATION OF NETWORK NEUTRALITY AFTER
THE CABLE MODEM ORDER

Blocking—Preventing consumers from getting what they have paid for:

- Madison River blocking VoIP ports (2005)^a
- Cingular’s blocking of PayPal (2006)^b
- AT&T blocking of Slingbox iPhone application (2010)^c
- Skype blocking on mobile networks (2010)^d
- FaceTime blocking over mobile devices unless using Mobile Share plan (2012)^e
- Verizon blocking access to tethering apps (2012)^f

Throttling—Degrading or impairing the flow of content:

- Comcast degrading BitTorrent Traffic (2007)^g
- Netflix degradation on Comcast (2013–2014)^h
- Comcast refusal to connect Netflix CDN (2013)ⁱ

Discrimination—Giving preferential treatment to selected (owned or affiliated) services:

- Comcast exemption of Xfinity online video app on Xbox and TiVo from data caps (2012)^j
- AT&T-sponsored data plan on wireless network (2014)^k
- T-Mobile “Music Freedom” exemption of popular music streaming sites from data caps (2014)^l

Raising rivals’ costs—Directly favoring some content or specific providers by raising the cost of others:

- Comcast/Verizon interconnection agreements with Netflix (2014)^m
- Continuing problems with wireless data roaming (2010–2014)ⁿ

Sources: Practices defined and regulated in Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738, 19,740 at ¶ 18 (Apr. 13, 2015) (to be codified at 47 C.F.R. pts. 1, 8, & 20). Individual examples described in:

^a Madison River Communications, 20 FCC Rcd. 4295, 4297 (2005).

^b Debi Jones, *Cingular Slams the Door on PayPal Competition*, MOBILE JONES (July 7, 2006), <http://perma.cc/X5V9-25QP>.

^c Press Release, FreePress, Save the Internet, AT&T Finally Opts to Lift Arbitrary Sling-Player Ban on iPhone (Feb. 4, 2010), available at <http://perma.cc/PJ6H-CNHE>.

^d Ryan Singel, *Apply Net Neutrality to Skype on Smartphones, Group Asks Feds*, WIRED (Apr. 3, 2009), <http://perma.cc/EMC6-7S3A>.

^e John Bergmayer, *Holding AT&T to Account for Blocking FaceTime on iPhones and iPads*, PUBLIC KNOWLEDGE (Sept. 18, 2012), <http://perma.cc/C4RQ-TF84>.

^f Jerry Hildenbrand, *Verizon and AT&T Blocking Tethering Apps from the Android Market*, ANDROID CENTRAL (May 2, 2011, 4:57 PM), <http://perma.cc/RVZ5-HGFJ>.

^g Compl. of Free Press & Public Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, 23 FCC Rcd. 13028 (2008) (FCC Order).

^h Jon Brodtkin, *Netflix Performance on Verizon and Comcast Has Been Dropping for Months*, ARS TECHNICA (Feb. 10, 2014, 4:30 PM), <http://perma.cc/CJR2-S47T>.

ⁱ Pet. to Enforce Merger Conditions, Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licenses, MB No. 10-56, Aug. 1, 2012, *available at* <http://perma.cc/33HB-A68G>.

^j Haley Sweetland Edwards, *Verizon, Netflix Spar in Epic Battle Over Who Should Pay for What*, TIME (June 12, 2014), <http://perma.cc/MLQ4-73EL>.

^k David Kravets, *AT&T Thumbs Nose at Net Neutrality With ‘Sponsored’ Bandwidth Scheme*, WIRED (Jan. 6, 2014, 3:42 PM), <http://perma.cc/X3YB-WXMV>.

^l Michael Weinberg, *T-Mobile Uses Data Caps to Manipulate Competition Online, Undermine Net Neutrality*, PUBLIC KNOWLEDGE (June 19, 2014), <http://perma.cc/AQQ4-RCDU>.

^m Zachary M. Seward, *The Inside Story of How Netflix Came to Pay Comcast for Internet Traffic*, QUARTZ (Aug. 27, 2014), <http://perma.cc/7AMR-QF83>; Sam Gustin, *Netflix Pays Verizon in Streaming Deal, Following Comcast Pact*, TIME (Apr. 28, 2014), <http://perma.cc/A88A-XHBT>.

ⁿ Phil Goldstein, *Sprint Takes T-Mobile’s Side in Data Roaming Dispute with AT&T, Verizon*, FIERCE WIRELESS (Aug. 22, 2014), <http://perma.cc/CP9B-9SSP>.

V. PAST PRACTICES AND FUTURE CHALLENGES

These two case studies show that the complex and successful interaction between antitrust and economic regulation has become more important to the success of the digital communications market, not only because of the growing importance of communications, but also because of the increasing complexity in the complementary and vertical relationships that typify digital markets. The concept of platforms, frequently applied in the digital economy, underscores the importance of the interconnected markets.¹¹⁷ A platform is an “arrangement of components and activities, usually defined by a set of technical standards and procedural norms around which users organize their activities . . . and are usually open in some sense.”¹¹⁸

While antitrust enforcement has been and can be effective at addressing some of the concerns raised by Comcast’s recent expansion, it is not enough to prevent the dangers to a socially and economically healthy Internet ecosystem that the FCC is able to tackle. Nor can antitrust intervene directly to promote more diversity of voices or expand market choices the way the FCC can. Even a competitive market may not provide the opportunity for important, but minority, points of view to be represented because they are not profitable. By conditioning the previous Comcast-NBCU transaction, the FCC applied existing oversight tools to prevent discrimination against independent programmers and harm to existing video competitors. The DOJ and FCC also established new obligations for Comcast to treat Online Video Distributors (OVDs) in the same manner as similarly situated video distributors and studios treat such OVDs.¹¹⁹ Both agencies also applied existing net-

¹¹⁷ See Cooper, *supra* note 107, at 97, 100–01.

¹¹⁸ Shane Greenstein, *The Evolving Structure of Commercial Internet Markets*, in UNDERSTANDING THE DIGITAL ECONOMY 151, 154 (Erik Brynjolfsson & Brian Kahin eds., 2002).

¹¹⁹ See Comcast Corp., General Electric Co. and NBC Universal, Inc., 26 FCC Red. 4238, 4241 (2011).

work neutrality rules (since then, such rules were overturned by the D.C. Circuit Court of Appeals) to Comcast's broadband transmission offerings.¹²⁰

A. *The Continuing Commitment to and Expansion of Progressive Goals for Communications Policy*

While antitrust struggles with preserving competition in a market structure that tends toward small numbers of large players and relies on very strong vertical and complementary ties to platforms, the progressive thrust of regulatory policy has continued and strengthened. Building on the universal service language of the 1934 Act, the Telecommunications Act of 1996 reinforced both the progressive and pragmatic thrusts of universal service policy:

Quality services should be available at just, reasonable, and affordable rates Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas (§254) A provider of telecommunications service shall ensure that the service is accessible to and usable by individuals with disabilities, if readily available (§255).¹²¹

This statutory provision is clearly pragmatically progressive. It uses terms like reasonable and affordable. The comparability between rural and urban recognizes that the costs of serving rural areas are high, but declares the goal of comparability of service and rates nonetheless. The level of service is expected to evolve as technology advances. Other important public purposes are specified, including education, health, and safety. The spread of technology through market processes is a touchstone for triggering the obligation to treat services as covered by the universal service goals.

The process for defining those services eligible for support is consultative between the FCC and the Joint Board, which is made up of state regulators.¹²² The role of state regulation has contemporary and historical significance. State regulators have traditionally been responsible for overseeing the recovery of the vast majority of the costs of the telephone network, although the classification of broadband as an interstate service is changing that. Key network inputs, like rights of way to lay fiber or build towers, are

¹²⁰ See *id.* at 4247.

¹²¹ 47 U.S.C. §§ 254, 255 (2012).

¹²² See FCC, *Federal-State Joint Board on Universal Service*, <http://perma.cc/B58R-NXND>.

still state and local issues, which have become contentious,¹²³ and the state and local levels were the origin of the early development of utility regulation and progressive policy.¹²⁴

This thrust toward progressive policy did not stop with the 1996 Act. A little over a decade later, Congress revisited these issues in light of the fact that the 1996 Act and the classification of broadband as an information service did not seem to be working. While a decade may not seem like a long time in communications policy, it is an eternity in the digital age.

The Broadband Data Improvement Act¹²⁵ listed a series of findings about the impact of broadband, which was the motivation to improve the quality and frequency of the FCC's analysis of broadband deployment under Section 706. The following year, Congress authorized funds to develop programs to accelerate the deployment and use of broadband in the American Recovery and Reinvestment Act's Broadband Technology Opportunities Program.¹²⁶ It charged the FCC with developing a National Broadband Plan. The substantive issues to be included reflected the earlier findings of the Broadband Data Improvement Act and directed the FCC to identify effective mechanisms for ensuring access to broadband. It emphasized new aspects of the universal service challenge by charging the FCC with developing a strategy "for achieving affordability of such service and maximum utilization of broadband" and linked this to "a plan for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes."¹²⁷

The issues that were raised by these two Acts are at the heart of the "virtuous cycle" and go well beyond the twentieth century approach to universal service. Availability of service is a small part of universal service in the digital age; adoption and utilization are much more important.¹²⁸ The provisions ordered the FCC to develop a National Broadband Plan with no finding of untimely or unreasonable deployment. The cost of broadband is much higher than plain old telephone service and the service it delivers is much more complex, requiring both an appreciation of its greater value and the skill to utilize it. Getting people to adopt the service involves a lot more than making it available and lowering the price a little.

¹²³ See, e.g., *City of Wilson*, 2015 WL 1120113 (FCC March 12, 2015).

¹²⁴ See STONE, *supra* note 80, at 158–60 (1991).

¹²⁵ See 47 U.S.C. § 1301 (2012).

¹²⁶ See *Broadband USA*, DEP'T OF COMM. NAT'L TELECOMM & INFO. ADMIN., <http://perma.cc/SUL7-58QF>.

¹²⁷ 47 U.S.C. § 1305 (2012)

¹²⁸ See Mark Cooper, *Inequality in the Digital Society: Why the Digital Divide Deserves All the Attention It Gets*, 20 CARDOZO ARTS & ENT. L.J. 73, 111 (2002).

Society cannot sit idle and wait for people to adopt broadband because of the massive benefits associated with broadband adoption.¹²⁹ Indeed, one can argue that more than a decade after the Cable Modem Order, the fact that almost one-third of U.S. households do not have broadband service indicates that the *laissez-faire* approach adopted by the Bush administration in the Cable Modem and Wireline Broadband Orders failed to further the first goal of the Communications Act.¹³⁰

The fact that in one of his first speeches in 2015, President Obama declared that high-speed broadband service has become essential to American society, illustrates the importance of policy to the digital age. Without even considering policies to promote education, training, improved health care, or other public investments beyond the scope of this article, the idea that high-speed broadband is essential highlights a number of antitrust and FCC policy issues.

Since about sixteen percent of U.S. households either cannot afford or cannot understand how to use the Internet,¹³¹ we need to expand the current subsidy system that makes telephones affordable to low-income, marginalized families and rural households to cover high-speed broadband. In the same way that consumers have been protected against privacy incursions and abusive marketing practices for essential telephone services, we need the FCC to provide similar protections for essential broadband services.

While time will tell whether the Comcast-NBCU restrictions achieved their purpose, what the DOJ could not do and FCC did not do in that case was seek to expand the OVD market and increase competitive options for consumers. Now that the Comcast-Time Warner merger is withdrawn following DOJ and FTC scrutiny, the agencies may potentially accomplish much more. Not only does rejection of this transaction prevent the same harms the agencies expressed concerns about in the previous Comcast-NBCU deal, but it also provides breathing room for incipient OVD competition to explode. In the proposed Comcast-Time Warner deal there had been no conditions to protect against Comcast's myriad tools to stifle competition and innovation. Ultimately, the DOJ and FCC came to the right conclusion because there would have been no way to address the competitive concerns raised by merger.

¹²⁹ Congress went beyond the traditional statement of the universal availability of service to stress broadband adoption in the Broadband Technology Opportunities Program, 42 U.S.C. § 1305 (2012), enacted as part of The American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 512 (codified in scattered sections of U.S.C.). Michael Powell rejected this notion in his first press conference as FCC Chairman, belittling the digital divide by declaring "I think there is a 'Mercedes Benz divide.' I'd like one, but I can't afford it." Michael Powell, Chairman, FCC, Press Conference (Feb. 8, 2001).

¹³⁰ See *Three Technology Revolutions*, PEW RESEARCH CTR., <http://perma.cc/J4BG-5CT2>; Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, 2015 WL 477865 (FCC Feb. 4, 2015).

¹³¹ See Kathryn Zickuhr, *Who's Not Online and Why*, PEW RESEARCH CTR. (Sept. 25, 2013), <http://perma.cc/YD75-EQAY>.

More importantly, as the Internet increasingly becomes an essential highway for the marketplace of ideas that fuels our democracy, we need to ensure that no Internet service provider is positioned unfairly to tip the balance of the information flow that informs the citizenry and enables freedom of expression. Given the economics of Internet connectivity (as described above in Part II), the few providers who serve consumers will most likely have the economic opportunity and incentive to favor some Internet content over other content. Therefore, the FCC's most recent Open Internet rules, backed by antitrust enforcement, not only deter extreme anti-competitive behavior but are also essential to protect critical elements of information flow in a democracy.

*B. General Challenges for Antitrust and Economic Regulation
in the Digital Era*

In the wake of a predominantly deregulatory decade for telecommunications, the failure of the Comcast-Time Warner merger represents a success of the antitrust/regulatory system. Combined with the network neutrality decision, the rejection of the merger articulates an important direction of policy for antitrust and regulation in the digital economy. Platforms will inevitably be few in number in the digital age, resulting in concentrated choke points (essential facilities in an earlier age), because of the large and powerful economies of scale and scope of distribution and information gathering. In a sense, this has always been the case with communications infrastructure, but digital technology raised the hope (misplaced it would appear) that competition for infrastructure would be workable. Unfortunately, competition between platforms is not likely to be enough to achieve the outcome we associate with workable competition, although we should never give up hope or abandon efforts to promote such competition, so competition on the platform is crucial.

Thus, one primary goal of public policy in a dynamic digital economy is to ensure that the market power that is inherent in the platforms does not hinder or diminish the competition for goods, services and applications that can flow on the platform. We have the model in hand, bright lines behind which entrepreneurial experimentation is unleashed, and strong antitrust principles to constrain market power.

What antitrust can do is prevent monopolization, collusion, and cartel behavior and block transactions that may significantly impede competition. This is an essential first step to preventing market dominance and failure.

What antitrust most often cannot do is directly expand competition (it cannot even break open a monopoly unless there is behavior to prevent efforts to compete) or promote/support other policies that protect consumers (directly promote privacy, diversity, and choice). This is where we need regulation working in tandem with strong antitrust enforcement. Antitrust could not take cable from monopoly to competitive market, but "access to programming" could jump-start satellite competition to cable.

Unlike cable and telecommunications firms, some of the emerging platforms that could cause consumer harm even if broadband distribution is subject to strong antitrust enforcement and FCC oversight, such as Facebook, Amazon, and Google, are currently not subject to dual review. Will antitrust be adequate to police against the most dangerous harms that may arise? Will it be nimble enough to intervene early, before massive harm is caused? While we do not see a massive problem today, there are danger signs that these types of platforms could tip toward substantial market dominance, and it may be necessary to consider what tools—alongside antitrust enforcement—will be needed to address consumers' needs.

At least for broadband, telecommunications, and cable, we have FCC oversight through the Communications Act and transaction reviews for license transfers that enable dual competitive analysis with antitrust agencies. If done effectively, these parallel and complementary oversight and law enforcement processes should prevent excessive industry consolidation, abuse of market power, and unreasonable discrimination. They should also promote affordable access to essential communications platforms that secure our democracy and protect freedom of expression for all individuals.

Both antitrust and regulation are grappling with the economic characteristics of the digital communications sector, including small numbers in winner-take-most markets that exhibit strong complementarities and vertical relations in platforms. These challenges call for the continued evolution of antitrust and regulation, not their abandonment. Competition and public interest principles still have an important role to play in guiding communications markets. Antitrust can maximize the number of competitors and move swiftly against artificial barriers to entry or anticompetitive vertical leverage. The FCC is charged with the central goals of communications policy: achieving universal service, which involves ensuring deployment and adoption of broadband, protecting consumers, and reviewing mergers with an eye toward promoting competition and the public interest. The recent pressures applied to convince Comcast to abandon its proposed merger with Time Warner provide a new high water mark for forward-looking enforcement of antitrust and the Communications Act. Only this combined market oversight, applied on an ongoing basis, will be adequate to ensure digital communications platforms capable of promoting social and economic justice necessary to support a robust democracy.

