WARNING! TIERED INTERNET AHEAD: EXPECT DELAYS

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INTRODUCTION

On July 12th, 2017, internet consumers rallied the support of more than 125,000 websites, internet users, and web-based companies to protest against the Federal Communications Commission's (FCC) plan to jettison protections against data throttling, blocking, and extra fees.[1] In this "Net Neutrality Day of Action," protesters demonstrated in Washington, D.C., posted YouTube videos, called Congressional representatives, and engaged in various other efforts to fight for continued regulations that ensure net neutrality.[2] In these efforts, protestors sent over 5,000,000 emails to Congress, posted over 2,000,000 comments through the FCC's webpage, and made over 120,000 calls to Congress to express dissatisfaction with the FCC's wavering support of net neutrality regulations.[3]

These protests were not the public's first attempt to rally support for net neutrality regulations.[4] In June 2014, John Oliver addressed net neutrality on his weekly talk show *Last Week Tonight*. This episode provoked such an enormous response that the FCC's website servers overloaded, going offline for hours, as millions of comments flooded the website.[5]

Internet consumers are not alone in opposing relaxed net neutrality regulations; the corporate world has pushed back as well. In 2014, Twitter, Netflix, and Upworthy, along with many others, took place in an "Internet

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1 *July 12th: Internet-Wide Day of Action to Save Net Neutrality*, FIGHT FOR THE FUTURE, https://www.battleforthenet.com/july12/ (last visited Jan. 22, 2019).

2 *Id*.

3 *July 12, 2017: Historic #NetNeutrality Day of Action Swept the Internet Broke Records with Millions of Comments to FCC and Emails to Lawmakers*, FIGHT FOR THE FUTURE, https://imgur.com/a/vYVet (last visited Jan. 22, 2019).

4 *Id*.

5 Jon Brodkin, *FCC Comment Site Breaks After Comedian Asks Trolls to Fight "Fast Lanes,"* ARS TECHNICA (June 3, 2014), https://arstechnica.com/information-technology/2014/06/fcc-comment-site-breaks-after-comedian-asks-trolls-to-fight-fast-lanes.

Slowdown" protest where websites posted banners with the "loading" symbol on their homepages to raise awareness of the need for strong net neutrality regulations.[6] When President Trump discussed his plan to cut back on these regulations in 2017, corporations—this time in much larger numbers than 2014—held another day of protest. On July 12th, 2017, over 170 internet services, including Google, Amazon, and Pornhub, throttled their internet-based services in protest of the possible abandonment of net neutrality regulation.[7]

These protests were not isolated incidents: throughout the past decade, there have been numerous protests as commentators hotly debate the topic of net neutrality.[8] Generally, internet service providers ("ISPs"), such as Verizon, favor deregulation of the market, while consumers, application designers, and web-based service providers, such as Amazon, Netflix, and Hulu, heavily support robust regulation that protects net neutrality.[9]

As the topic of net neutrality becomes increasingly polarized, the question becomes: Who should decide how consumers use the internet? Are usage determinations best left unregulated and to the discretion of massive corporations, or should usage be determined by regulations that aim to ensure an open and freely accessible internet? The answer to this question has far-reaching and deeply meaningful implications for the lives of every American.[10]

The ways in which consumers communicate, access information, and participate in social media are all subject to change as the future of net neutrality

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6 *Sept. 10th Is the Internet Slowdown*, FIGHT FOR THE FUTURE, https://www.battleforthenet.com/sept10th (last visited Jan. 22, 2019). For Trump's attack on net neutrality, see Ray Morris, *Trump's FCC Can't Block This Article—For Now*, HUFFPOST (July 27, 2017, 3:08 PM), https://www.huffingtonpost.com/entry/trumps-fcc-cant-block-this-article-for-nowus; *see also* Jessica Corbett, *With Midnight Deadline, Final Push to Thwart Trump's Attack on Net Neutrality*, COMMON DREAMS (Aug. 30, 2017), https://www.commondreams.org/news/2017/08/30/midnight-deadline-final-push-thwart-trumps-attack-net-neutrality.

7 Rob Waugh, *The Internet Is Slowing Down This Wednesday to Protest Trump's Attack on 'Net Neutrality,'* METRO UK (July 11, 2017), http://metro.co.uk/2017/07/11/the-Internet-is-slowing-down-tomorrow-to-protest-trumps-attack-on-net-neutrality.

8 *See Another Debate About Net Neutrality in America*, ECONOMIST (Apr. 22, 2017), https://www.economist.com/news/business/21721245-new-head-fcc-will-roll-back-obama-era-rules-another-debate-about-net-neutrality; Richard John, *The Next Net Neutrality Debate*, BLOOMBERG VIEW (July 10, 2017), https://www.bloomberg.com/view/articles/2017-07-10/the-next-net-neutrality-debate; Kif Leswing, '*No Paid Fast Lanes,'* BUS. INSIDER (Aug. 31, 2017) http://www.businessinsider.com/apple-comment-net-neutrality-no-paid-fast-lanes-Internet-2017-8; Margaret Harding McGill, *John Oliver Again Fires Up Net Neutrality Debate*, POLITICO (May 8, 2017), https://www.politico.com/story/2017/05/08/john-oliver-net-neutrality-238132.

9 *See* Giuseppe Macri, *Net Neutrality Supporters Pressure FCC to Extend Comment Deadline*, INSIDE SOURCES (Aug. 3, 2017), http://www.insidesources.com/pressure-builds-on-fcc-to-extend-net-neutrality-comment-deadline; Madeline Purdue & Rachel Sandler, *Internet Providers Respond to the Internet's Huge Net Neutrality Protest*, USA TODAY (July 12, 2017), https://www.usatoday.com/story/tech/news/2017/07/12/how-Internet Service Providers-responding-Internets-net-neutrality-protest.

10 *See* Sergey Denisenko, *The Implications of the End of Net Neutrality*, TECHCRUNCH (Feb. 20, 2017), https://techcrunch.com/2017/02/20/the-implications-of-the-end-of-net-neutrality.

regulation becomes uncertain.[11] Part I of this Essay will discuss the technical background of this debate. Part II will discuss the legal background and explain the FCC's jurisdiction to regulate net neutrality. Part III will explain and analyze the current policy debate over net neutrality regulation and discuss why the Trump administration's stance on net neutrality is misguided. With the Trump administration's new goals of light-handed net neutrality regulation, understanding this debate and the consequences of its conclusion are more important than ever.

I. TECHNICAL BACKGROUND

This Part will discuss the historical and technical background of the internet, starting with the rise of broadband. Then, this Part will explain how data is transferred to and between consumers. Lastly, this Part will discuss the general structure of the internet and its relevance to the net neutrality debate.

A. Net Neutrality and the Rise of Broadband

"Net neutrality" refers to an internet regime in which broadband ISPs charge consumers only once for internet access.[12] Under a net neutral system, ISPs cannot favor one content provider over another, meaning they cannot slow down content from or provide faster access to predetermined sources.[13] Moreover, ISPs do not charge content providers for sending their information and content over broadband lines to end users.[14] Before discussing the merits of operating under a net neutral internet system, understanding how the creation of broadband internet service gave rise to the current debate is imperative.

The advent of broadband vastly changed how consumers accessed and used the internet.[15] Before the late 1990s, the majority of internet consumers gained internet access through a "dial-up" connection.[16] Traditional telephone networks forged dial-up connections between users and servers.[17] Under this connection model, independent ISPs, such as AOL, linked internet consumers' telephone networks with the internet.[18]

The process for an internet consumer to connect to the internet before the 1990s was as follows: First, the user would call a telephone number associated with their ISP's facilities, then the telephone company would route that user's call through its circuit-switched network as the call traveled to the ISP's facility.[19] Next, the ISP at the receiving end of the exchange provided the protocol

11 *See id.*

12 STUART MINOR BENJAMIN & JAMES B. SPETA, TELECOMMUNICATIONS LAW AND POLICY 614 (4th ed. 2015).

13 *Id.*

14 *Id.*

15 Jonathan E. Nuechterlein, *Antitrust Oversight of an Antitrust Dispute: An Institutional Perspective on the Net Neutrality Debate*, 7 J. ON TELECOMM. & HIGH TECH. L. 19, 25 (2009).

16 *Id.* at 24.

17 *Id.*

18 *Id.*

19 *Id.*

conversion functions needed for communication to occur between the consumer's computer and the internet applications and content providers.[20] This process was very similar to the process telephone companies used as common carriers to route calls to various ISP modem banks.[21]

In the late 1990s, consumers gained the ability to use local cable companies' facilities with affiliated ISPs to bypass the aforementioned traditional circuit-switching connection.[22] This new bypassing process created much faster internet access than dial-up previously had.[23] With this evolution into faster internet connection came a key policy debate: whether requirements to open cable operators' broadband transmission networks, which provided high-speed internet access to unaffiliated ISPs, were appropriate.[24] Such regulations would operate in the same way as those which required telephone companies to open lines throughout the telecommunications industry.[25]

As scholars drew parallels between broadband transmission and the right to share web content, this policy debate eventually transformed into the concept of net neutrality.[26] While original open access proposals suggested granting ISPs rights of "nondiscriminatory" access to the broadband transmission platform, net neutrality proposals aimed to extend such rights to internet applications and content providers.[27]

By the early 2000s, the internet was significantly changed, once again, by the advent of broadband internet and the ability to split signals.[28] The term broadband "refers to high-speed Internet access that is always on and faster than the traditional dial-up access."[29] "Splitting signals" includes dividing the signal from one line between the telephone service and internet access. This process allowed users to simultaneously connect to the internet and make phone calls.[30] Broadband allowed consumers to download content at greater speeds than ever before, paving the way for new types of websites such as YouTube and Netflix that were not feasible under the old structure's connection speed.[31]

As consumers used this new technology more frequently, the price of internet-related services began to drop, allowing more consumers to use broadband internet services, causing increased ISP competition.[32] Therefore, in the early 2000s, it was common for ISPs to offer customers amenities such as faster

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20 *Id.*
21 *Id.*
22 *Id.* at 24–25.
23 *Id.* at 25.
24 *Id.*
25 *Id.*
26 *Id.* at 26.
27 *Id.*
28 *Broadband History*, USWITCH, https://www.uswitch.com/broadband/guides/broadband_history (last visited Jan. 22, 2019).
29 *Types of Broadband Connections*, FED. COMM. COMM'N, https://www.fcc.gov/general/types- broadband-connections (last visited Jan. 22, 2019).
30 *Broadband History*, *supra* note 28.
31 *Id.*
32 *Id.*

broadband, heavy use broadband, and broadband bundles.[33] Today, nearly everyone in the United States uses some form of broadband through phone lines or cable connections.[34]

B. Internet Protocol Networks

Understanding how the internet operates and is structured is integral in fully grasping the net neutrality debate. This Section explains the internet protocol and the process through which data is transferred over the internet to end users.

The internet "is not a unitary, centrally managed network, but an interconnected set of many thousands of constituent networks."[35] These thousands of networks are joined together through a "voluntarily adopted . . . common protocol and addressing scheme" known as the internet protocol (IP).[36] IP addressing enables "its end users to communicate with end users connected to other networks for purposes of exchanging . . . content."[37] Within the process of exchanging content, the main purpose of an IP addressing system is creating a structured process for tagging datagrams with destination address data during encapsulation.[38] Encapsulation occurs when tags that consist of data, including an IP address's information, are placed within a datagram before the sender transfers it to the receiver's device.[39] The IP addressing process can be analogized to the "U.S. Postal System in that it allows a package (a datagram) to be addressed (encapsulation) and put into the system (the Internet) by the sender (source host)."[40] Notice that during this process there is no direct link between sender and receiver; the ISP creates the connection between the two users.[41]

This process is key to net neutrality for the following reason: when an internet user requests information from a website—for example, the user wants to see a picture on Instagram—the Instagram server divides the requested picture into small data packets, which includes the requesting user's IP as the destination address.[42] By using their individual IP, the picture data packets are transmitted to the requesting consumer.[43] Data packets may take different routes to get to the requesting user and may be received in various orders before the receiving system assembles and displays it.[44] This process would be impossible without the help of ISPs: "While the content providers build big web-servers to make their content

33 *Id.*

34 *Id.*

35 Nuechterlein, *supra* note 15, at 22.

36 *Id.*

37 *Id.*

38 *Internet Protocol (IP)*, TECHOPEDIA, https://www.techopedia.com/definition/5366/Internet-protocol-ip (last visited Jan. 22, 2019).

39 *Id.*

40 *Id.*

41 *Id.*

42 Ravi Kiran, *Net Neutrality Debate—I*, MONEYLIFE (Apr. 1, 2015), http://www.moneylife.in/article/net-neutrality-debate-i/41098.html (using Facebook as an example for this process).

43 *Id.*

44 *Id.*

available, it is ISPs[’] . . . equipment[] which carry the data packets to [users’] home machines as and when requested.”[45] Therefore, at a basic level, there are three key participants in the internet industry: ISPs, applications and content operating companies, and consumers/end users.[46]

C. The Structure of the Internet

In addition to understanding the process by which ISPs transmit content to internet consumers, one must understand a basic structural aspect of the internet: constituent network structures. Recall that thousands of constituent networks make up the internet.[47] In general, there are three broad classifications of constituent networks: internet backbone networks, network access points, and edge networks.[48]

All computers that are connected to the internet are linked to a network supplied by an ISP.[49] When consumers want an internet connection, they must join their ISP’s network to obtain internet access where they are then connected to a larger network.[50] Therefore, in a sense, the internet is a meganetwork comprised of various smaller constituent networks.[51]

The first type of constituent network is an internet backbone network.[52] Internet backbone networks are those that deliver data and content to and from internet consumers.[53] Keeping in mind that the internet is made up of various interconnected networks, it is likely that this delivered data has traveled from internet users that are part of a different internet backbone network than the final consumer’s internet backbone.[54] Accordingly, all internet backbone networks must be interconnected if data is to be effectively transmitted to consumers.[55] Today, many telecommunications companies operate their own high-capacity backbones to connect customers in various geographic regions.[56] These companies each have a point of presence, which is a “place for local users to access the company’s network.”[57] Points of presence are located in the different regions in which ISPs connect their customers; therefore, under this model of interconnection, there is no singular overarching network in control.[58] “Instead,

45 *Id*.
46 *Id*.
47 *See* Nuechterlein, *supra* note 15, at 22.
48 *Id*. at 23.
49 Jeff Tyson, *How Internet Infrastructure Works*, HOWSTUFFWORKS, https://computer.howstuffworks.com/internet/basics/internet-infrastructure.htm (last visited Mar. 15, 2019).
50 *Id*.
51 *Id*. (describing the internet as a “network of networks”).
52 *Id*.
53 Michael Kende, *The Digital Handshake: Connecting Internet Backbones*, 11 COMMLAW CONSPECTUS 45, 45 (2003).
54 *Id.*
55 *Id.*
56 *See id.* at 56.
57 Tyson, *supra* note 49.
58 *Id*.

there are several high-level networks connecting to each other through Network Access Points . . . ."[59]

At the present time, internet backbone providers ("IBPs") are not regulated by any industry-specific rules; therefore, interconnections between backbones and the transmission of data from IBPs are largely unregulated.[60] As opposed to other network services, which have their interconnection processes regulated, IBPs engage in unofficial self-governance guided by common-law principles.[61] IBPs often enter into deals through informal methods, such as handshake agreements. These negotiations are commonly related to two categories of agreements between IBPs: peering arrangements and transit agreements.[62] In peering arrangements, providers' backbone networks transmit and exchange content with one another without charging any additional fee.[63] Conversely, a transit agreement is one in which a backbone network will bear the cost of interconnecting and sharing data with another.[64]

Some politicians have called these unregulated practices into question, arguing that "providers are able to gain or exploit market power through the terms of interconnection that they offer to smaller existing and new backbone providers."[65] Others have argued that this unregulated system fosters competition as IBPs attempt to distinguish themselves through special offerings of new services or better prices.[66] Regardless of where one falls in this debate, it cannot be disputed that the strength of market forces will determine the level of competition in the future market and shape the landscape of this unregulated frontier.[67]

The second type of constituent networks are network access points ("NAPs").[68] Although most large businesses have the capability to contract directly with an internet backbone network provider, individual end users must rely on NAPs to bridge the gap between them and the internet backbone network.[69] NAPs are a critical component of the internet because user traffic is routed through the connections within them and are one of the main areas where internet congestion occurs.[70]

In its early stages, the commercial development of NAPs was quick, making this type of network an additional carrier-neutral service from data center

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59 *Id.* Network access points are points where ISPs can connect with one another through the transfer of data packets across different networks. *See* Rus Shuler, *How Does the Internet Work?*, POMEROY IT SOLUTIONS (2002), https://web.stanford.edu/class/msande91si/www-spr04/readings/week1/InternetWhitepaper.htm.

60 Kende, *supra* note 53, at 45.

61 *Id.* at 45, 48.

62 *Id.* at 45.

63 *Id.*

64 *Id.*

65 *Id.*

66 *Id.*

67 *Id.* at 45–46.

68 *Id.* at 48.

69 *Cf. NAP*, WEBOPEDIA, https://www.webopedia.com/TERM/N/NAP.html (last visited Mar. 15, 2019).

70 *Id.*

providers.[71] However, this commercial development has begun to slow down, due to a recent concentration of data markets caused by public ISPs' ever-increasing use of private modes of interconnection.[72] This trend has caused NAPs to lose importance, which may lead to anticompetitive behavior. Since most residential consumers and small companies rely on high-speed broadband access, the level of competition in the broadband marketplace has become a key controversy in the net neutrality debate.[73] Without sufficient competition, end users could suffer from slowed speeds of interconnection.[74]

The last category of constituent networks is the edge network, which can be broken down into two categories: end-user networks (home Wi-Fi and corporate local area networks) and networks of internet-based service companies.[75] Edge networks are facilities that "quite literally extend the 'edge' of the internet [and are] further from the traditional internet hubs in places like New York."[76]

Traditionally, edge providers were smaller business owners who ran startup companies from small servers.[77] Today, edge networks have become much more sophisticated, with some operating large "server farms" and caching facilities.[78] Large edge networks are referred to as overlay networks; they mimic internet backbone networks' global reach by caching (storing duplicates of web content onto servers located throughout the internet).[79] Caching bypasses points of traffic congestion, providing faster, more reliable internet access.[80] Some megacompanies, such as Google, have built their own overlay networks; however, the average content provider will still rely on third-party providers.[81] Overlay systems threaten the premise of net neutrality: corporations that can afford the high cost of building an overlay system have an enormous advantage over others who still use third-party providers because their consumers "receive faster and more reliable access to applications and content."[82]

With this technical background in mind, it is easy to understand the underlying concept of net neutrality: ISPs connect internet users to internet content without any discrimination against the point from which the data originates.[83]

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71 Kende, *supra* note 53, at 58.

72 *Id.* at 50.

73 *See* Emma N. Cano, Note, *Saving the Internet: Why Regulating Broadband Providers Can Keep the Internet Open*, 2016 BYU L. REV. 711, 721.

74 *See id.*

75 Nuechterlein, *supra* note 15, at 23–24.

76 Yevgeniy Sverdlik, *How Edge Data Center Providers Are Changing the Internet's Geography*, DATACENTER KNOWLEDGE (Aug. 26, 2015), http://www.datacenterknowledge.com/archives/2015/08/26/how-edge-data-center-providers-are-changing-the-internets-geography.

77 *See* Nuechterlein, *supra* note 15, at 23.

78 *Id.*

79 *See id.*

80 *See id.* at 23–24.

81 *Id.* at 24.

82 *Id.*

83 *See* Luca Belli & Primavera De Filippi, *General Introduction: Towards a Multistakeholder Approach to Network Neutrality*, *in* NET NEUTRALITY COMPENDIUM: HUMAN RIGHTS, FREE COMPETITION AND THE FUTURE OF THE INTERNET 1, 3–5 (Luca Belli & Primavera De Filippi eds.,

Furthermore, a net neutral system would prevent ISPs from blocking content, would prevent pricing schemes which charge disparate prices for transmitting data of different types, and would preclude ISPs from creating a tiered system in which there are different "lanes" consisting of different transmission speeds.[84]

II. REGULATORY BACKGROUND

The technical background of net neutrality is only half of the story; net neutrality's regulatory background is also paramount in this debate. This Part discusses the early regulatory background of net neutrality, the significant actions taken by the FCC in 2005, the judiciary's response to the FCC's actions, the FCC's classification of broadband under its 2015 Order, and the FCC's regulatory jurisdiction over net neutrality.

A. Early History

The concept of net neutrality has carried over from the Telecommunications Act of 1996, which mandated the application of common carrier regulations on all telecommunications service providers.[85] These mandatory regulations included "rate, nondiscrimination, interconnection, and universal service obligations."[86] The Act aimed to remove competition barriers while laying the foundation for the FCC's regulatory scheme.[87] As technology developed, the underlying principles of the Act shaped justifications for a regulatory scheme that promotes broadband regulation and an open-access internet.[88]

In the late 1990s, the FCC was charged with answering how broadband should be classified under the current regulatory regime.[89] At the time this question surfaced, the FCC Chairman suggested that the FCC should apply different regulations to broadband than were applied to the telephone industry and advocated for light-handed regulation.[90] However, this approach changed in 2002 when the FCC shed new light on how broadband should be classified.[91]

2016). *See generally* Michel Kerf & Damien Geradin, *Controlling Market Power in Telecommunications: Antitrust vs. Sector-Specific Regulation: An Assessment of the United States, New Zealand and Australian Experiences*, 14 BERKELEY TECH. L.J. 919 (1999).

84 *See* Belli & De Filippi, *supra* note 83, at 3–5 (discussing ways in which ISPs must not discriminate against customers on a country-by-country basis).

85 Jennifer Wong, Comment, *Net Neutrality: Preparing for the Future*, 31 J. NAT'L ASS'N ADMIN. L. JUDICIARY 669, 679–80 (2011).

86 *Id.*

87 *An Interview with William E. Kennard*, GLOBAL COMPETITION REV., Oct.–Nov. 1998, at 1; *see also* Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in scattered sections of 47 U.S.C.).

88 Wong, *supra* note 85, at 680–82.

89 *See* Marguerite Reardon, *Net Neutrality: How We Got from There to Here*, CNET (Feb. 24, 2015), https://www.cnet.com/news/net-neutrality-from-there-to-here/.

90 *Id.*

91 *Id.*

FCC Chairman Powell stimulated the net neutrality debate in 2002 by classifying broadband as an information service under Title I of the Act.[92] The Chairman found that Title II[93] and Title VI classifications were incompatible with new technology.[94] Under Title II and Title VI of the Act, two categories of entities were defined: telecommunications service providers and cable service providers.[95] Telecommunications service providers offer telecommunications to the public for a fee and engage in minimal alteration of the information supplied.[96] Conversely, cable services engage in one-way transmission of video or other programming.[97] Importantly, Title II of the Act requires common carrier regulation of telecommunications service providers.[98] The FCC's choice to classify cable internet as an information service brought the internet outside of mandatory common carrier regulations, creating a regulatory environment in which the FCC only had ancillary jurisdiction to regulate.[99] Overall, the FCC's new classification of cable broadband meant it was not subject to common carrier rules, and that the FCC would have restricted jurisdiction in regulating broadband, causing the FCC various problems in the future.[100]

In 2004, Chairman Powell called attention to consumer rights that would be at stake without common carrier regulations on broadband in a speech named "Four Internet Freedoms."[101] In this speech, Chairman Powell defined "four freedoms consumers had come to expect from their ISPs"—to access content, to run applications, to attach devices, and to obtain service plan information.[102] The influence of this speech was far reaching and soon became an unofficial campaign motto for net neutrality advocates across the United States.[103]

B. 2005 Developments

The year 2005 was significant for the broadband community for three reasons. First, Chairman Powell's successor increased public attention to the net neutrality debate with the release of the 2005 policy statement.[104] This policy statement announced that the FCC would include four main principles—revamped

92 *Id.*

93 *See generally* Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling, 67 Fed. Reg. 18907 (Apr. 17, 2002).

94 *Id.*

95 *Id.*

96 *Id.*

97 Jim Chen, *The Authority to Regulate Broadband Internet Access Over Cable*, 16 BERKELEY TECH. L.J. 677, 689 (2001); *see also* 47 U.S.C. § 522(6)(A) (2012).

98 Cano, *supra* note 73, at 714.

99 *Id.* at 715–16.

100 Reardon, *supra* note 89; *see also* Matthew J. Razzano, *Comcast-NBCU, Netflix, and the FCC: The Dual Merger Review Process as a House of Cards*, 94 NOTRE DAME L. REV. ONLINE 63, 78–79 (2018).

101 *See* Paul Ohm, *The Rise and Fall of Invasive ISP Surveillance*, 2009 U. ILL. L. REV. 1417, 1460; Reardon, *supra* note 89.

102 Ohm, *supra* note 101, at 1460–61, 1461 n.229.

103 *See id.* at 1460.

104 *Id.* at 1461.

versions of the four freedoms—into ongoing policymaking ventures.[105] These four principles were:

> - To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to access the lawful Internet content of their choice.
> - To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement.
> - To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to connect their choice of legal devices that do not harm the network.
> - To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to competition among network providers, application and service providers, and content providers.[106]

Significantly, the Commission noted that "[t]he principles we adopt are subject to reasonable network management."[107] The concept of "reasonable" network management has given the FCC a "line in the sand beyond which regulators need not defer to business judgment and technological decision making."[108] However, this line is not as clear as the Chairman would have the public believe, and the definition of "reasonable" has prompted much debate, blurring the meaning of the standard.[109]

Second, broadband services saw a legitimization of the FCC's 2002 reclassification of broadband through the landmark case *National Cable & Telecommunications Association v. Brand X Internet Services*.[110] In this case, the U.S. Supreme Court upheld the FCC's classification of broadband internet as an information service, thereby subjecting it to less stringent regulations under Title I of the Act and bringing it within the ancillary jurisdiction of the FCC.[111]

Lastly, in 2005, the FCC engaged in its first attempt to enforce net neutrality[112] when it ordered Madison River Communications to stop blocking voice over internet protocols and fined the company $15,000.[113] With this action,

105 *Id.*

106 FED. COMMC'NS COMM'N, FCC 05-151, POLICY STATEMENT 3 (Aug. 5, 2005) (emphasis omitted) (footnotes omitted).

107 *Id.* at 3 n.15.

108 Ohm, *supra* note 101, at 1461.

109 *See id.* at 1461–62.

110 545 U.S. 967 (2005); *see* ANGELE A. GILROY, CONG. RESEARCH SERV., NET NEUTRALITY: BACKGROUND AND ISSUES 2 (2008); Sarah M. Preis, Comment, *To Regulate or Not to Regulate: The FCC's Authority to Regulate Online Copyright Infringement Under the Communications Act*, 2008 U. CHI. LEGAL F. 535, 542–44.

111 *Brand X*, 545 U.S. at 1000–01; GILROY, *supra* note 110, at 2.

112 *See* GILROY, *supra* note 110, at 5–6, 6 n.13.

113 *See* Madison River Commc'ns, LLC & Affiliated Cos., 20 FCC Rcd. 4295 (2005) (order and consent decree).

the FCC demonstrated its determination to move away from light-handed regulation into a more hands-on regulatory approach.

C. Limits on FCC Authority

In 2008, the FCC received a formal complaint alleging that Comcast was suppressing its customers' use of the application BitTorrent.[114] Initially, Comcast denied these claims, but later admitted to degrading its customers' connection and challenged the FCC's authority to act.[115] This complaint brought the FCC's policy of antiblocking to the forefront of telecommunications regulation.[116] In response, the FCC issued an order asserting its jurisdiction over Comcast and censured Comcast for degrading BitTorrent, stating that degradation of this kind was unlawful unless it "further[s] a critically important interest and [is] narrowly or carefully tailored to serve that interest."[117] Moreover, the FCC concluded that the type of "network management" Comcast was engaging in did not pass muster under the appropriate scrutiny; therefore, Comcast had violated the FCC's policy statement, as well as the overarching purpose of the Act.[118] The FCC issued an order that prohibited Comcast's discrimination against BitTorrent.[119]

In 2008, Comcast appealed the FCC's order, challenging the Commission's jurisdiction.[120] When brought before the D.C. Circuit, the case invovled "whether it is 'reasonable' for a broadband provider . . . to treat the use of certain lawful applications . . . as a proxy for undue consumption of finite and shared network resources and thus limit the bandwidth consumed by those applications."[121] Net neutrality advocates, backed by the FCC, argued that network providers should not have the power to make such judgments and that they should be decided by government regulation.[122]

In 2010, the D.C. Circuit "held that the FCC did not have regulatory or ancillary authority over [Comcast]."[123] This marked an important decision by the D.C. Circuit to rein in FCC power by requiring the FCC to firmly root its actions in ancillary jurisdiction.[124]

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114 *See* Jon Brodkin, *Comcast Throttling BitTorrent Was No Big Deal, FCC Says*, ARS TECHNICA (Nov. 28, 2017), https://arstechnica.com/tech-policy/2017/11/comcast-throttling-bittorrent-was-no-big-deal-fcc-says/.

115 David Kravets, *Comcast Discloses Throttling Practices—BitTorrent Targeted*, WIRED (Sept. 19, 2008), https://www.wired.com/2008/09/comcast-disclos-2/.

116 *See generally* Brodkin, *supra* note 114.

117 Michael P. Murtagh, Note, *The FCC, the DMCA, and Why Takedown Notices Are Not Enough*, 61 HASTINGS L.J. 233, 243 (2009).

118 *See id.*

119 *See* Steven Musil, *Comcast Appeals FCC Traffic-Blocking Ruling*, CNET (Oct. 7, 2008), https://www.cnet.com/news/comcast-appeals-fcc-traffic-blocking-ruling/.

120 *See id.*

121 Nuechterlein, *supra* note 15, at 29–30.

122 *See id.* at 30.

123 Wong, *supra* note 85, at 685; *see* Comcast Corp. v. FCC, 600 F.3d 642, 644 (D.C. Cir. 2010).

124 *Comcast Corp.*, 600 F.3d at 644.

After the D.C. Circuit issued its opinion, the chairman of the Commission, Genachowski, announced a "[t]hird [w]ay" to classify broadband under the Act: classifying the transmission component of broadband service as a telecommunications service.[125] Genachowski explained that the "[t]wo primary options [that] have been debated since the *Comcast* decision" are (1) continuing to rely on Title I ancillary authority, and (2) reclassifying internet communications as a telecommunications service, whereby the FCC would gain direct authority to regulate the internet under Title II of the Act.[126] Genachowski worried the first option "would have a high risk of failure in court" and feared the second classification "would impose regulations too extensive to be conducive to the current broadband scene."[127] Genachowski argued that the third way allowed the FCC the power to "recognize the transmission component of broadband as a Title II telecommunications service . . . and renounce several sections of the Communications Act of 1934 as unnecessary or inappropriate to broadband and put in place boundaries to 'guard against regulatory overreach.'"[128] Notwithstanding the Genachowski's proposal, the FCC decided to move forward with net neutrality regulations under its Title I ancillary powers.[129]

While *Comcast* was pending in 2009, the FCC expanded upon its four principles by adding two more: a nondiscrimination principle and a transparency principle.[130] The nondiscrimination principle required ISPs to manage content and applications without discriminating.[131] The second new principle required ISPs to disclose all of their policies to their customers.[132] After strong pushback from ISPs, the FCC also announced several exceptions to the preexisting principles.[133] These exceptions stipulated that an ISP's actions amount to reasonable network management if taken to mitigate congestion on networks, address harmful traffic, block unlawful content, block illegal transfers of content, or promote other reasonable management practices.[134]

After unsuccessfully asserting authority over Comcast, the FCC announced an Open Internet Order in 2010, issuing three new requirements for broadband ISPs: nondiscrimination, transparency, and antiblocking requirements.[135] Verizon challenged the FCC's authority, arguing that (1) the FCC lacked affirmative statutory authority needed, (2) the rules were arbitrary and capricious, and (3) the rules "contravene statutory provisions prohibiting the Commission from treating

125 Wong, *supra* note 85, at 685–86.

126 CHAIRMAN JULIUS GENACHOWSKI, FED. COMMC'NS COMM'N, THE THIRD WAY: A NARROWLY TAILORED BROADBAND FRAMEWORK 4 (May 6, 2010), http://www.broadband.gov/the-third-way-narrowly-tailored-broadband-framework-chairman-julius-genachowski.html.

127 Wong, *supra* note 85, at 685.

128 *Id.* at 686.

129 *See id.*

130 *See id.* at 692.

131 *See id.* at 693.

132 *Id.* at 692–93.

133 *See id.* at 682.

134 *Id.*

135 Verizon v. FCC, 740 F.3d 623, 633 (D.C. Cir. 2014).

broadband providers as common carriers."[136] The D.C Circuit held that the FCC had statutory authority to regulate broadband providers and to take immediate action to deploy internet access, remove barriers, and promote competition.[137] The court also held that the FCC had violated the statute when it regulated broadband providers as "common carriers" despite declining to classify them as such.[138] Therefore, the court struck down the FCC's nondiscrimination and antiblocking rules, and upheld the transparency rule.[139] The court also suggested that the FCC could "regulate broadband providers in order to achieve its goals of maintaining an open Internet and deploying Internet service to all Americans, so long as the FCC regulate[d] within its statutory authority."[140] Although the FCC lost, the case paved the way for the Commission to draft a new Open Internet Order that passed statutory muster.[141]

D. Reclassifying Broadband

After the *Verizon* decision, the FCC went back to the drawing board to create rules consistent with its net neutrality regulatory goals and statutory authority.[142] In 2015, the FCC released a new Open Internet Order which contained three actions. First, the FCC recategorized broadband as a telecommunications service, bringing it under Title II of the Act and thereby subjecting it to common carrier regulations.[143] "Second, the FCC exercised its statutory authority to forebear extensively from applying twenty-seven provisions of Title II of the Communications Act . . . ."[144] In exercising this authority, the FCC forbore section 251 and 252 of Title II from applying.[145] This meant that local exchange carriers were not required to provide competitors with access to network elements on an unbundled basis.[146] Lastly, the FCC promulgated three bright-line rules (prohibiting blocking, throttling, and paid prioritization) and one general-conduct rule which banned internet broadband providers from

> unreasonably interfer[ing] with . . . (i) end users' ability to select, access, and use broadband Internet access service or . . . content, applications, prohibits broadband providers from services, or devices . . . or (ii) edge providers' ability to make lawful content . . . available to end users.[147]

136 *Id.* at 634.
137 *See id.* at 628.
138 *Id.*
139 *Recent Cases*, 127 HARV. L. REV. 2565, 2565, 2567 (2014).
140 Cano, *supra* note 73, at 718.
141 *Recent Cases*, *supra* note 139, at 2565.
142 Cano, *supra* note 73, at 718.
143 Razzano, *supra* note 100, at 78 (citing Protecting and Promoting the Open Internet, 30 FCC Rcd. 5601, 5615–16 (2015)).
144 Lauren Moxley, *E-Rulemaking and Democracy*, 68 ADMIN. L. REV. 661, 686 (2016).
145 *Id.*
146 *See id.*
147 *Id.* at 687 (quoting Protecting and Promoting the Open Internet, 30 FCC Rcd. 5601, 5660 (2015)).

Multiple broadband providers challenged the FCC, arguing that the Commission did not have the statutory authority to reclassify broadband, that the reclassification was arbitrary and capricious, and that the forbearance from provisions of Title II was unlawful.[148]

The D.C. Circuit upheld the entire FCC order, finding that the Commission had good reason for the reclassification, as it was premised on "consumer perception of the broadband providers' services as a standalone offering[] of telecommunications service."[149] Furthermore, the court upheld the Commission's regulation of interconnection arrangements under Title II, finding it was necessary to ensure that broadband providers do not advantage their own interests at the expense of edge providers or end users.[150] Lastly, the court found that the FCC did not act arbitrarily and capriciously in forbearing from Title II provisions.[151]

E. FCC Jurisdiction

Although the most recent D.C. Circuit case against the FCC upheld the Commission's Order and accepted its jurisdictional reasoning and broadband reclassification, jurisdictional issues still lurk in the background of the net neutrality debate.[152] This Section will analyze the FCC's regulatory jurisdiction over net neutrality.

Over the past decade, nearly all of the Commission's orders have been met with pushback from broadband service providers, creating much litigation over the FCC's authority to regulate broadband.[153] Furthermore, many cases in which courts have addressed the FCC's jurisdictional authority have been split decisions, with strong dissenting opinions.[154]

The FCC has had the ability to regulate interstate communications since the Act granted it the power to regulate communications between wire and radio.[155] As discussed above, the Act gave the Commission regulatory authority over telecommunications providers and information service providers, found respectively in Title II and Title I of the Act.[156] Title II provided the Commission "authority to forbear from enforcing provisions of the Act as well as its own regulations."[157] Furthermore, Title II of the Act imposed common carrier

148 *See id.*

149 *Id.* at 688 (citing U.S. Telecom Ass'n v. FCC, 825 F.3d 674, 697 (D.C. Cir. 2016)).

150 *Id.*

151 *Id.* at 689.

152 *See, e.g.*, James Gattuso, *The FCC and Broadband Regulation: What Part of "No" Did You Not Understand?*, HERITAGE FOUND. (Apr. 15, 2010), http://www.heritage.org/report/the-fcc-and-broadband-regulation-what-part-no-did-you-not-understand.

153 *See supra* Section II.C–D.

154 *See, e.g.*, Verizon v. FCC, 740 F.3d 623 (D.C. Cir. 2014).

155 *See* Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 975–76 (2005); *see also* 47 U.S.C. § 153(24), (51) (2012) (defining "information service" and "telecommunications carrier").

156 *See* 47 U.S.C. § 153 (24), (50).

157 *See* Verizon v. FCC, 770 F.3d 961, 964 (D.C. Cir. 2014).

regulations on telecommunications providers.[158] In contrast, Title I only provided the FCC with ancillary jurisdiction over information service providers.[159]

Most debates over the FCC's jurisdiction stem from the enforceability of the 2015 Order and whether the Commission had the power to reclassify broadband as a telecommunications service, thereby bringing broadband services under Title II authority and imposing common carrier obligations on these service providers.[160] The D.C. Circuit upheld the Commission's authority in 2016 and again in 2017, and the Supreme Court recently denied certiorari in an appeal by the ISPs.[161] Furthermore, the new FCC Commissioner, Ajit Pai, stated that he does not intend for the FCC to continue to operate under its Title II authority to regulate broadband.[162]

While the future jurisdiction of the FCC is uncertain and continues to incite much debate, this Essay will assume *arguendo* that the Commission's Title II authority is proper and that they are operating under this authority.

III. THE NEED FOR CONTINUED NET NEUTRALITY REGULATION

Although there is fierce debate over net neutrality, both sides acknowledge the merits of operating under a net neutral internet. Since the majority of the United States and many internet service-based companies support net neutrality, this Essay will not address arguments for or against having an internet that is net neutral.[163] Instead, this Essay addresses the debate over whether the internet needs regulation to maintain net neutrality.[164]

This Part discusses the debate over broadband regulation and offers four arguments to demonstrate the need for continued regulation. Then, this Part will discuss the future of the internet without continued regulations. Lastly, this Part will offer two possible changes to the FCC's 2015 Order that would maximize its regulatory effectiveness.

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158 *See* 47 U.S.C. § 153(51).

159 *See Brand X*, 545 U.S. at 976.

160 Callum Borchers, *How to Argue About Net Neutrality (and Why You Should)*, CHI. TRIB. (Nov. 23, 2017), http://www.chicagotribune.com/business/ct-net-neutrality-20171123-story.html.

161 *See* U.S. Telecom Ass'n v. FCC, 139 S. Ct. 475 (2018).

162 Giuseppe Macri, *Net Neutrality Lawsuit Heads to the Supreme Court*, GOV'T TECH. (May 2, 2017), http://www.govtech.com/policy/Net-Neutrality-Lawsuit-Heads-to-the-Supreme-Court.html.

163 During the most recent period of public comment, 98.5% of unique comments on the FCC's website were supportive of net neutrality principles. *See* Jon Brodkin, *FCC Explains Why Public Support for Net Neutrality Won't Stop Repeal*, ARS TECHNICA (Nov. 22, 2017), https://arstechnica.com/tech-policy/2017/11/why-the-fcc-ignored-public-opinion-in-its-push-to-kill-net-neutrality.

164 *See* Nelson Granados, *The Net Neutrality Debate: Why There Is No Simple Solution*, FORBES (May 31, 2017), https://www.forbes.com/sites/nelsongranados/2017/05/31/the-net-neutrality-debate-why-there-is-no-simple-solution/#108a5b55c672 (explaining the debate over the regulation of net neutrality).

A. The Regulation Debate

It is challenging to effectively argue that the internet is not a basic human need.[165] Americans are accessing the internet every day. Whether they are checking the weather, responding to emails, sending texts, or browsing social media, Americans are constantly using the internet or broadband services. Students and professionals of all ages require the internet to complete their day-to-day tasks and to communicate with others. A lack of internet access would stifle Americans' ability to communicate, receive news transmissions, and access information. Furthermore, a lack of internet access would interrupt or completely halt certain daily tasks.

Given Americans' strong dependence on the internet, the benefits of net neutrality are obvious. Some of these benefits include gaining equal and open access to content, spurring innovation in the market without having to "pay to play," protecting free speech, keeping content choices in the hands of consumers, and stimulating ISP competition to create better service for consumers.[166]

The heart of the net neutrality debate is whether regulation should be used to achieve net neutrality goals.[167] Opponents of regulation argue that FCC regulation is unnecessary because market forces are sufficient to punish anticompetitive ISP behavior.[168] However, this argument is misguided.

B. Need for Continued Regulation

Broadband internet needs strong regulation for the following four reasons. First, the market is not competitive enough to punish anticompetitive behavior. Second, consumers do not have access to the information needed to punish anticompetitive ISP behavior. Third, net neutrality regulation successfully promotes the virtuous cycle which has increased access to and innovation of broadband. Lastly, if the FCC does not commit to regulating broadband internet, consumers might pay for the use of internet and its applications separately, as seen Portugal, Spain, and New Zealand.

1. Lack of Competition

Supporters of deregulation argue that there is enough competition to punish anticompetitive behavior by firms.[169] History has shown that this argument is patently false. In addition to the cases discussed above, there are numerous examples of ISPs blocking or degrading internet speeds for certain applications.[170] For example, from 2007 to 2009, AT&T "forced Apple to block Skype and other

165 *See* Carli Velocci, *Internet Access Is Now a Basic Human Right*, GIZMODO (July 4, 2016), https://gizmodo.com/internet-access-is-now-a-basic-human-right-1783081865.

166 *See, e.g.*, BENJAMIN & SPETA, *supra* note 12, at 614.

167 *Id.* at 614–15.

168 *Id.*

169 *Id.*

170 *See generally* Timothy Karr, *Net Neutrality Violations: A Brief History*, FREE PRESS (Jan. 24, 2018), https://www.freepress.net/blog/2017/04/25/net-neutrality-violations-brief-history.

competing VOIP phone services."[171] Consumers also caught ISPs engaging in similar behavior after the invention of the Google Voice application.[172] In 2010, Windstream Communications, a DSL provider, intercepted toolbar search queries to block the Firefox toolbar and to enter its own search portal instead.[173] In 2011, MetroPCS released its plan to block streaming video over its 4G network from all sites except YouTube.[174] Furthermore, in 2011, the FCC discovered that several ISPs were intercepting customers' search requests on Bing and Yahoo and redirecting them to different search engine pages.[175] In 2012, AT&T blocked FaceTime for its customers unless they entered into specific data plans.[176] Lastly, in 2014, Verizon throttled Netflix data, which occurred until Netflix paid for a streaming deal.[177] These are just a handful of the many examples that illustrate that market forces are not strong enough to thwart ISPs' anticompetitive behavior. Clearly, even with the current regulations, ISPs are powerful enough to continuously engage in anticompetitive behavior that is harmful to consumers.

The FCC recently released data explaining the anticompetitive behavior of ISPs. These 2016 statistics demonstrate that consumers in the United States still do not have a significant choice in high-speed broadband service providers: 39% of rural Americans do not even have access to the FCC's defined standard broadband (25Mpbs/3Mpbs).[178] Moreover, of the 61% of rural Americans who have broadband access, only 13% of Americans living in rural areas have more than one choice of providers, compared to 44% of Americans living in urban areas.[179] Furthermore, only 38% of Americans have two choices in broadband service providers.[180]

While these statistics are troubling, they do not provide the entire picture. The FCC Chairman, Jessica Rosenworcel, stated that the FCC's threshold for broadband used in this study was too low.[181] Rosenworcel argued that anything less than 100Mpbs would "shortchange our children, our future, and our digital economy."[182] If the study had implemented the Rosenworcel's suggested threshold, the numbers would have shown drastically less competition and available coverage.[183] Therefore, it is clear that consumers do not possess the market power to punish ISPs through changing providers when their ISP engages in anticompetitive behavior. As such, it is imperative that the FCC continues to

171 *Id.*
172 *Id.*
173 *Id.*
174 *Id.*
175 *Id.*
176 *Id.*
177 Joel Hruska, *Verizon Caught Throttling Netflix Even After It Pays for More Bandwidth*, EXTREMETECH (July 20, 2014), https://www.extremetech.com/computing/186576-verizon-caught-throttling-netflix-traffic-even-after-its-pays-for-more-bandwidth.
178 2016 FED. COMM. COMMISSION BROADBAND PROGRESS REP. 38.
179 *Id.*
180 *Id.*
181 FED. COMMC'NS COMM'N, DISSENTING STATEMENT OF COMMISSIONER JESSICA ROSENWORCEL (May 2, 2018).
182 *Id.*
183 *Id.*

regulate for net neutrality. Without regulation, ISPs could raise rates, provide decreased levels of service, and block content without suffering repercussions for their behavior.

2. Lack of Requisite Information to Punish ISPs

A lack of power in the broadband market is not the only hurdle consumers must face. The current system also deprives consumers of essential information about their ISP's behavior.[184] There are only a few means by which consumers can determine if ISPs are acting in an anticompetitive manner, and they are time consuming and complicated. Currently, consumers must run various "speed tests" to determine if their ISP is throttling, blocking, or discriminating against content.[185] However, before consumers can run these speed tests, they must (1) restart their modem and router, (2) avoid using the internet for anything else, (3) restart their computer before testing, (4) clear their browser's cache, and (5) choose a proper HTML5 test.[186] This method is ineffective, confusing, and time consuming. Moreover, this method does not provide consumers with a clear and accurate determination of whether their content had been interfered with. Therefore, consumers lack the power to make decisions about net neutrality regulation and choose ISP providers (in the rare circumstance there is a choice) because they lack the ability to be fully informed about their service quality. This lack of information disenfranchises consumers and allows ISPs to degrade content without fear of punishment for their anticompetitive behavior.

3. Regulation Promotes the "Virtuous Cycle"

Opponents of regulation argue that FCC regulation of broadband is ineffective in creating an internet system that is net neutral. However, a recent study shows that the FCC's regulations have been successful in promoting the "virtuous cycle," which increases access to broadband internet. The virtuous cycle suggests broadband providers "have both the incentive and the ability to . . . block access . . . [,] they can target competitors . . . and they can extract unfair tolls."[187] Regulation consistent with a net neutral internet can mitigate these incentives and spur the growth of broadband technology.[188] Regulation promotes a virtuous cycle of innovation

184 *See* Chris Hoffman, *How to Test If Your ISP Is Throttling Your Internet Connection*, HOW-TO GEEK (Apr. 13, 2018), https://www.howtogeek.com/165481/how-to-test-if-your-isp-is-throttling-your-internet-connection.

185 *See id.*

186 Tim Fisher, *5 Rules for a More Accurate Internet Speed Test*, LIFEWIRE (Dec. 17, 2018), https://www.lifewire.com/rules-for-a-more-accurate-internet-speed-test-2617984.

187 John Eggerton, *FCC Releases Net-Neutrality Order*, MULTICHANNEL (Mar. 12, 2015), https://www.multichannel.com/news/fcc-releases-net-regulations-new-order-388802.

188 *See* 47 U.S.C. § 332(a) (2012) (enumerating four factors the Commission must consider in promoting regulation).

whereby consumers' demand for content and higher bandwidth speeds spurs expansion of broadband technology.[189]

In June 2017, the National Cable Television Association released data that shows "the average speed of broadband connections has . . . continued to rise since the FCC first adopted net neutrality rules in 2010."[190] Furthermore, this data demonstrated that "the rate of increase has accelerated since the FCC adopted the Title II reclassification" and that "the cost of moving bits from [a] source to your home has dropped 90 percent on a per bit basis" since the FCC began enforcing net neutrality over a decade ago.[191] This clearly demonstrates the effectiveness of recent regulations in promoting technological advances, thereby creating faster and more cost-effective services. Therefore, not only is continued regulation imperative, as discussed above, but this regulation has also been highly successful. Regulation that fosters this innovation is crucial to the United States ensuring internet access for low-income and rural households across the country.

4. A World Without Regulation

Many arguments in the net neutrality debate fail to account for internet models of other countries when assessing the need for regulation in the United States.[192] A troubling example of a system without strong net neutrality regulations is that of Portugal. Portugal does very little in the way of regulating for a net neutral internet model and its consumers are paying the price.[193] Under Portugal's deregulated scheme, consumers have been subjected to feeding broadband providers' business models and high prices.[194] Customers purchase different service tiers of broadband that cap internet usage data at a certain point.[195] On top of these packages, customers must pay to use common applications and services.[196] This model is detrimental to the use of the internet because it drives up costs, creates barriers, and gives ISPs too much authority in choosing which internet services go under basic plans or add-on packages. Systems such as Portugal's result in a "rich and poor internet" scheme by which certain wealthy consumers can access more information over the internet than those who are economically less fortunate.[197] This type of payment scheme raises

189 Harold Feld, *An Examination of the Economics of Whitacre Tiering*, WETMACHINE (Mar. 27, 2006), http://www.wetmachine.com/tales-of-the-sausage-factory/an-examination-of-the-economics-of-whitacre-tiering/.

190 Harold Feld, *NCTA Proves Virtuous Cycle Works*, PUB. KNOWLEDGE (June 8, 2017), https://www.publicknowledge.org/news-blog/blogs/ncta-proves-virtuous-cycle-works.

191 *Id.*

192 *See generally* Nuechterlein, *supra* note 15; Wong, *supra* note 85; Tyson, *supra* note 49.

193 Karl Bode, *Portugal Shows the Internet Why Net Neutrality Is Important*, NETNEUTRALITY (Oct. 31, 2017), https://www.techdirt.com/articles/20171030/12364538513/portugal-shows-internet-why-net-neutrality-is-important.shtml.

194 *Id.*

195 *See* Michael J. Coren, *Without Net Neutrality in Portugal, Mobile Internet Is Bundled Like a Cable Package*, QUARTZ (Oct. 30, 2017), https://qz.com/1114690/why-is-net-neutrality-important-look-to-portugal-and-spain-to-understand.

196 *See id.*

197 *See id.*

serious concerns about the availability of internet-based educational services to those in lower socioeconomic classes. Furthermore, models such as Portugal's stifle innovation and competition by favoring established companies, because the system makes it more difficult for new applications or websites to get in front of an audience.[198]

Portugal is not the only country that has seen the harmful effects of inadequate net neutrality regulation; customers in both Spain and New Zealand suffer from similar pricing models.[199] These examples clearly demonstrate the repercussions of internet industries that lack net neutrality. As demonstrated above, the United States' market and consumers are not equipped to sufficiently rein in harmful ISP behavior. Therefore, continued regulation of net neutrality by the FCC is necessary to avoid pricing systems like those of Portugal, Spain, or New Zealand.

C. Proposed Changes

In addition to continued FCC regulation, this Essay also argues for two changes to the 2015 Order to increase the FCC's regulatory effectiveness. First, to combat information dissymmetry between ISPs and consumers, the FCC should implement total transparency requirements for ISPs. Under these new transparency requirements, the FCC would require ISPs to notify their consumers each time content was degraded, blocked, or throttled. Regulations requiring greater transparency would help mitigate information dissymmetry between consumers and ISPs by giving consumers direct, real-time notifications of ISP degradation of content. Moreover, increased transparency would empower consumers to pressure their ISPs to stop acting in anticompetitive ways by providing them with easily accessible information. Furthermore, as competition increases between ISPs, and consumers gain more choices in providers, this information would help consumers make informed choices in selecting providers.

The second change this Essay argues for is that the FCC start regulating interconnection agreements between ISPs. In doing so, the FCC would be closing a regulatory loophole that has existed for far too long. Many policymakers and net neutrality advocates have expressed concerns that "ISPs could use interconnection disputes to make an end-run around net neutrality restrictions."[200] Interconnection offers just as many incentives as other aspects of the industry for ISPs to engage in anticompetitive behavior, such as imposing exorbitant costs on networks or blocking networks altogether.[201] As demonstrated above, the industry is not competitive enough to punish this behavior. Therefore, to ensure effective net neutrality

198 *Id.*

199 *Id.*; *see also* Lee Suckling, *Dangers of Net Neutrality in New Zealand*, DIG. LIVING (Dec. 5, 2017), https://www.stuff.co.nz/technology/digital-living/99503146/dangers-of-net-neutrality-in-new-zealand.

200 DANIEL A. LYONS, FREE STATE FOUND., REGULATING INTERCONNECTION (LIGHTLY!) (May 19, 2015), https://pdfs.semanticscholar.org/b66e/64990b587af892a3d4872d930d0d5899e397.pdf.

201 Gerald R. Faulhaber, *Should the FCC Regulate Internet Interconnection?*, REG. REV. (June 9, 2014), https://www.theregreview.org/2014/06/09/09-faulhaber-should-the-fcc-regulate-internet-interconnection/.

regulation, the FCC should regulate this interconnection with the goal of closing the current regulatory gaps. With these changes, the FCC can more effectively regulate broadband to ensure net neutrality.

CONCLUSION

As the current FCC administration deregulates the broadband industry, the net neutrality debate has become more important than ever. This Essay has discussed the ways in which policy goals of this nature are misguided—the current policy overstates the power of competition in the market; underestimates ISPs intention to act in self-serving, anticompetitive ways; does not provide consumers with the tools they need to make informed decisions; and neglects to look at the grim realities of countries that have chosen to deregulate this industry. Without continued regulation, the internet may become less accessible and more expensive, which in turn would stunt its technological growth. Regardless of the outcome of the new FCC policies, the internet community should continue fighting for net neutrality regulations to protect the market from discrimination, blocking, throttling, and other anticompetitive behavior.