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INNOVATIONS IN MOBILE BROADBAND PRICING

by Daniel A. Lyons



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## **Abstract**

Although intended to promote competition and innovation among Internet content providers, “net neutrality” rules reduce innovation by broadband service providers. Within limits, broadband providers may offer different plans that vary the quantity and quality of their service. But they usually cannot vary the service itself: broadband providers are generally required to offer customers access to all lawful Internet traffic, or none at all. This all-or-nothing broadband homogenization places America increasingly at odds with international markets, particularly with regard to mobile broadband. This paper examines the diverse array of wireless broadband products available worldwide, and uses these international innovations to illuminate the difficulties posed by net neutrality principles in the United States. Broadband access is merely one part of a much broader Internet ecosystem. Regulators’ focus on one narrow set of relationships in that ecosystem retards innovation and limits the ability of Americans to share in the global revolution currently taking place for mobile services.

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## Innovations in Mobile Broadband Pricing

Daniel A. Lyons

### Introduction

Through its net neutrality rules, officially adopted in December 2010, the Federal Communications Commission sought to limit interference by broadband service providers in markets for Internet-based content and applications. But to do so, the Commission significantly reduced the amount of innovation possible in the broadband service market. Net neutrality permits broadband providers to offer different plans that vary the *quantity* of service available to customers, as well as the *quality* of that service. But they generally cannot vary the service itself: with limited exceptions, broadband providers must offer customers access to all lawful Internet traffic, or none at all.

This all-or-nothing homogenization of the broadband product places America increasingly at odds with the rest of the world. This is especially true with regard to mobile broadband. In various parts of the world, customers are offered a variety of alternatives to the unlimited-Internet model, such as voice-plus plans with social-media functionality; cross-promotional agreements in which wireless providers and content providers work together to sell additional services; and premium service plans that give wireless customers preferred or exclusive access to certain online content.

The diverse array of wireless innovation happening globally illuminates the difficulties inherent in attempts to impose net neutrality principles on the wireless broadband industry. Broadband access is merely one part of a much broader Internet ecosystem, an ecosystem that also includes equipment manufacturers, content and application providers, operating-system programmers, network operators and engineers, and others. The Commission's myopic focus on

one narrow set of relationships in that ecosystem retards innovation and limits the ability of Americans to share in the global revolution currently taking place for mobile services.

To illustrate this observation, one need look no further than upstart wireless provider MetroPCS. In early 2011, MetroPCS was in a bind. It was a small player in a highly competitive market, with neither the scale nor the margins to compete effectively against industry giants such as Verizon and AT&T. As the industry began the capital-intensive transition to 4G networks, MetroPCS launched an innovative new pricing policy to gain share and escape its fifth-place position. The company offered a base plan of unlimited voice, text, and web-browsing services for only \$40 each month.<sup>1</sup> As an added bonus, the plan also included free access to YouTube, courtesy of an arrangement with Google whereby the search giant helped optimize YouTube content for MetroPCS's capacity-constrained networks.<sup>2</sup> For an additional \$10 or \$20 per month, customers could receive additional services, including turn-by-turn navigation and data access.<sup>3</sup> While these plans were more restrictive than the broadband plans of the larger carriers (in the sense that customers could not access non-YouTube streaming video and some other bandwidth-intensive services), they were only one-third the cost.<sup>4</sup> Through these plans, MetroPCS sought to bring mobile Internet use to its core market of customers unable or unwilling to pay large carrier rates—thus fulfilling its marketing promise of providing “wireless for all.”

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<sup>1</sup> See Ryan Kim, *MetroPCS LTE Plans to Charge More for VoIP & Streaming*, GIGAOM (Jan. 4, 2011, 9:26 AM PST), <http://gigaom.com/2011/01/04/metropcs-lte-plans-charge-more-for-skype-and-streaming/>.

<sup>2</sup> Thomas W. Hazlett, *FCC, Net Neutrality Rules, and Efficiency*, FINANCIAL TIMES, Mar. 29, 2011, <http://www.ft.com/intl/cms/s/0/f75fd638-5990-11e0-baa8-00144feab49a.html#axzz2gFHqNfak>. In a letter to the FCC, MetroPCS explained that because of the limited broadband throughput of its 1xRTT CDMA (2G and 3G) networks that most customers relied upon, it could offer web services such as HTML browsing, but advanced broadband services such as multimedia did not work well. And the company's limited spectrum posed similar challenges for the 4G LTE network that it had recently launched. Because YouTube content was a “competitive necessity” to keep pace with larger carriers, MetroPCS worked with Google to compress its content to consume less bandwidth when accessed over the company's networks. See Letter from Carl W. Northrup to Chairman Julius Genachowski (Feb. 14, 2011) [hereinafter Northrup Letter], <http://apps.fcc.gov/ecfs/document/view?id=7021029361>.

<sup>3</sup> Kim, *supra* note 1.

<sup>4</sup> Hazlett, *supra* note 2.

But rather than cheering this creative attempt to narrow the mobile-digital divide, many consumer groups condemned MetroPCS for violating net neutrality—despite the fact that the Federal Communications Commission’s rules had not yet taken effect, and would not do so for another eleven months.<sup>5</sup> Net neutrality proponents accused MetroPCS of “restrict[ing] consumer choice and innovation in a developing mobile market, all for the sake of further padding its bottom line.”<sup>6</sup> In a letter to then-Commission Chairman Julius Genachowski, a coalition of groups such as the Center for Media Justice, Free Press, Media Access Project, and the New America Foundation urged the Commission to “investigate MetroPCS’s behavior and act to remedy its disparate treatment of mobile broadband services.”<sup>7</sup>

Any traditional antitrust analysis would find this demand for regulatory intervention puzzling. At the time, MetroPCS had only eight million subscribers, a customer base less than one-tenth the size of industry leader Verizon Wireless.<sup>8</sup> The company had no market power and was in no position to extract supercompetitive profits or otherwise harm consumers. As Professor Tom Hazlett notes, its customers were mostly price-sensitive cord-cutters who had little use for the bells and whistles of larger carrier plans, especially at higher price points.<sup>9</sup> MetroPCS’s plan was poised to bring wireless data to this market segment. But instead it found itself facing the threat of agency action because its plan did not match the Federal Communications Commission’s preconceived notion of what the wireless broadband experience should be.

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<sup>5</sup> See Preserving the Open Internet, 76 Fed. Reg. 59192 (2010). The commission originally released the Open Internet order in December 2010, but due in part to interagency review, the final rule did not take effect until November 2011. *Id.* These rules were codified in part at FCC Preserving the Open Internet Rule, 47 C.F.R. § 8 (2011).

<sup>6</sup> Press Release, Free Press, Free Press Urges FCC to Investigate MetroPCS 4G Service Plans (Jan. 4, 2011), <http://www.freepress.net/press-release/2011/1/4/free-press-urges-fcc-investigate-metropcs-4g-service-plans>.

<sup>7</sup> Notice of Ex Parte Presentation: GN Docket No. 09-191 (Preserving the Open Internet); WC Docket 07-52 (Broadband Industry Practices), Jan. 10, 2011, *available at* [http://newamerica.net/publications/resources/2011/notice\\_of\\_ex\\_parte\\_presentation\\_gn\\_docket\\_no\\_09\\_191\\_preserving\\_the\\_open\\_](http://newamerica.net/publications/resources/2011/notice_of_ex_parte_presentation_gn_docket_no_09_191_preserving_the_open_).

<sup>8</sup> Hazlett, *supra* note 2.

<sup>9</sup> *Id.*

So MetroPCS's pricing experiment ended, not with a bang, but with a whimper. The company formally disputed the notion that its plans violated the pending net neutrality rule.<sup>10</sup> But, perhaps uninterested in being the test case for the Commission's newly minted rules, the company ultimately shifted to a higher-priced data plan that did not treat streaming video and other data-intensive applications differently.<sup>11</sup> In the meantime, MetroPCS joined Verizon's lawsuit challenging the Commission's net neutrality rules in court.<sup>12</sup> MetroPCS found it increasingly difficult to survive against its better-capitalized and better-entrenched rivals, and by the end of 2012 had agreed to merge with fellow upstart T-Mobile, thus reducing the number of national facilities-based wireless providers from five to four.<sup>13</sup>

The MetroPCS saga illustrates the chilling effect that even the Commission's "light touch" wireless broadband net neutrality rules have on broadband innovation. The rules for residential fixed Internet providers are even more stringent, imposing significant restrictions on the types of services those providers can offer. Meanwhile, outside the United States, broadband companies are increasingly innovating with regard to the bundles they provide to consumers, especially in the wireless sector. This paper seeks to shine a spotlight on the way that net neutrality limits broadband innovation, by describing some of the diverse business models being offered internationally.

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<sup>10</sup> See Northrup Letter, *supra* note 2.

<sup>11</sup> See Adi Robertson, *MetroPCS Adds \$70 a Month Pricing Tier for Unlimited LTE Data, Caps \$60 Plan at 5GB*, THE VERGE, Apr. 3, 2012, <http://www.theverge.com/2012/4/3/2922425/metropcs-4g-lte-unlimited-data-pricing-change>.

<sup>12</sup> See Stacey Higginbotham, *MetroPCS Joins Verizon in Suing FCC over Net Neutrality*, GIGAOM (Jan. 25, 2011, 12:14 PM PST), <http://gigaom.com/2011/01/25/metropcs-joins-verizon-in-suing-fcc-over-net-neutrality/>.

<sup>13</sup> See David Goldman, *T-Mobile and MetroPCS to Merge*, CNNMONEY, Oct. 3, 2012, <http://money.cnn.com/2012/10/03/technology/mobile/t-mobile-metropcs-merger/>.

## I. Net Neutrality: A Brief Overview

At the core of the net neutrality debate is the principle that Internet service providers should not favor certain Internet content and applications over others.<sup>14</sup> Rather, net neutrality proponents argue that broadband providers should grant consumers access to all services available on the network and should route all data packets to customers in the same fashion, regardless of the identity of the sender or the nature of the content inside. Professor Timothy Wu coined the term in a 2003 article, in which he argued that such a rule was necessary to guard against the risk that broadband providers could leverage their control over the Internet access market to distort innovation in the upstream market for Internet content.<sup>15</sup> Since then, the concept has been the subject of substantial debate among academics, engineers, policymakers, and industry participants.

The Federal Communications Commission adopted rules codifying net neutrality principles in December 2010.<sup>16</sup> The rules provide that fixed-broadband providers (such as Verizon and Comcast, which provide high-speed wire-based Internet access to residential and business customers) “shall not block lawful content, applications, services, or non-harmful devices.”<sup>17</sup> The Commission’s order clarified that “[t]he phrase ‘content, applications, services’ refers to all traffic transmitted to or from end users of a broadband Internet access service, including traffic that may not fit cleanly into any of these categories.”<sup>18</sup>

In addition, these providers “shall not unreasonably discriminate in transmitting lawful network traffic over a consumer’s broadband Internet access service.”<sup>19</sup> Although the

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<sup>14</sup> See, e.g., Public Knowledge, Key Issues: Net Neutrality, <http://publicknowledge.org/issues/network-neutrality> (last visited Jan. 22, 2014).

<sup>15</sup> Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOMM. & HIGH TECH. L. 141, 145 (2003).

<sup>16</sup> See *Preserving the Open Internet: Broadband Industry Practices*, 25 FCC Rcd. 17905, 17906 (2010) [hereinafter Net Neutrality Rules].

<sup>17</sup> *Id.* ¶ 63; see 47 C.F.R. § 8.5(a).

<sup>18</sup> Net Neutrality Rules ¶ 64.

<sup>19</sup> *Id.* ¶ 68; see 47 C.F.R. § 8.7.

Commission did not provide a definition of “unreasonable discrimination,” it noted that such practices would include discrimination that harms an actual or potential competitor, impairs free expression, or “inhibit[s] end users from accessing the content, applications, services, or devices of their choice” online.<sup>20</sup> The Commission explicitly cited “pay-for-priority” agreements, whereby a provider such as Netflix would pay for preferential treatment over the network, as an example of a practice that is likely to be considered unreasonable, because it would give the provider a competitive advantage over its rivals when delivering its product to consumers.<sup>21</sup>

The Commission imposed somewhat less onerous rules on wireless providers, though even this lighter touch imposes significant controls on this segment. The Commission recognized that mobile broadband was a less mature technology than its fixed counterpart, and that the wireless marketplace is more competitive than fixed broadband.<sup>22</sup> At the same time, however, it reiterated that “[t]here is one Internet, which should remain open for consumers and innovators alike, although it may be accessed through different technologies and services.”<sup>23</sup> Moreover, the Commission’s rationales for ordering the rules “are for the most part as applicable to mobile broadband as they are to fixed broadband.”<sup>24</sup>

Under the rules, wireless broadband companies “shall not block consumers from accessing lawful websites.”<sup>25</sup> The Commission found that wireless web browsing was sufficiently “well-developed” to justify regulation. Consumers “expect to be able to access any lawful website through their broadband service, whether fixed or mobile.”<sup>26</sup> Mobile applications were a less mature technology, and the Commission recognized that downloading and running an

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<sup>20</sup> Net Neutrality Rules ¶ 75.

<sup>21</sup> *Id.* ¶ 76.

<sup>22</sup> *Id.* ¶¶ 94–95.

<sup>23</sup> *Id.* ¶ 93.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.* ¶ 99; *see* 47 C.F.R. § 8.5(b).

<sup>26</sup> Net Neutrality Rules ¶ 100.



application may present network-management issues.<sup>27</sup> But the Commission also recognized that mobile broadband providers had incentives to interfere with apps that competed against the carrier's own services. Therefore the rules also prohibited providers from "block[ing] applications that compete with the provider's voice or video telephony services."<sup>28</sup> The Commission explained that it intended to "proceed incrementally" with the wireless market and would "closely monitor developments in the mobile broadband market" to determine whether more regulations are required to admonish "any provider behavior that runs counter to general open Internet principles."<sup>29</sup>

Through net neutrality, the Commission sought to safeguard against barriers to innovation among Internet content and application providers. As the Commission explained, the framework "aims to ensure the Internet remains an open platform . . . that enables consumer choice, end-user control, competition through low barriers to entry, and the freedom to innovate without permission."<sup>30</sup> The rules sought to preserve an environment that "enables innovators to create and offer new applications and services without needing approval from any controlling entity."<sup>31</sup> Without these restrictions, broadband providers' actions might "reduce the rate of innovation at the edge" of the network.<sup>32</sup>

But to promote innovation on the Internet, the rules inhibited innovation by the networks that bring the Internet to consumers. The Commission was explicit about its desire to prevent broadband providers from changing their business models: "These rules are generally consistent

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<sup>27</sup> Both the fixed and mobile broadband rules were subject to exceptions for "reasonable network management," meaning a practice that is "appropriate and tailored to achieving a legitimate network management purpose, taking into account the particular network architecture and technology of the broadband Internet access service." *Id.* ¶ 10; *see* 47 C.F.R. §§ 8.5, 8.7.

<sup>28</sup> *Id.* ¶ 100, ; *see* 47 C.F.R. § 8.5(b).

<sup>29</sup> Net Neutrality Rules ¶¶ 104–5.

<sup>30</sup> *Id.* ¶ 10.

<sup>31</sup> *Id.* ¶ 13.

<sup>32</sup> *Id.* ¶ 14.

with, and should not require significant changes to, broadband providers' current practices, and are also consistent with the common understanding of broadband Internet access service as a service that enables one to go where one wants on the Internet and communicate with anyone else online."<sup>33</sup> In fact, the Commission suggested that a company offering access to only a portion of the Internet would be suspected of trying to evade the rules:

A key factor in determining whether a service is used to evade the scope of the rules is whether the service is used as a substitute for broadband Internet access service. For example, an Internet access service that provides access to a substantial subset of Internet endpoints based on end users preference to avoid certain content, applications, or services; Internet access services that allow some uses of the Internet (such as access to the World Wide Web) but not others (such as e-mail); or a "Best of the Web" Internet access service that provides access to 100 top websites could not be used to evade the open Internet rules applicable to "broadband Internet access service."<sup>34</sup>

Before the rules were adopted, several critics recognized that the Commission was biasing the market in favor of existing models and that it was myopic to sacrifice potential advancements from network diversity. Professor Christopher Yoo had long suggested that network differentiation, rather than network neutrality, may be the best approach to increasing consumer welfare.<sup>35</sup> In comments filed in the net neutrality proceeding, Yoo noted that the Internet is an incredibly complex phenomenon that exhibits growing heterogeneity among users, meaning a one-size-fits-all access model is unlikely to meet customer needs.<sup>36</sup> As the market becomes saturated, providers must be free to innovate to deliver increasing value to this disparate array of consumers.<sup>37</sup> Yoo highlighted the wireless broadband market in particular, which faces unique physical characteristics that may demand greater flexibility.<sup>38</sup> Companies often test new

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<sup>33</sup> *Id.* ¶ 43.

<sup>34</sup> *Id.* ¶ 47.

<sup>35</sup> Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARV. J.L AND TECH. 1 (2005).

<sup>36</sup> Comments of Christopher S. Yoo, In re Preserving the Open Internet: Broadband Industry Practices, at 13.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.* at 13–26 (noting, for example, that the physics of wave propagation, the need for congestion management, and the heterogeneity of mobile devices suggest the need for greater flexibility when regulating the mobile access market).

business models without a firm and clear understanding of the model's benefits. Instead they rely on a trial-and-error process to identify better methods of delivering value to consumers.<sup>39</sup> Given this framework, Yoo and others advocated for a more flexible model that would allow broadband providers to experiment with different business models and that would intervene only in the event that a particular model caused actual consumer harm.<sup>40</sup>

In January 2014, the decision of the U.S. Court of Appeals for the D.C. Circuit in *Verizon v. FCC* invalidated the Commission's net neutrality rules, based on a nuance in the Communications Act of 1934.<sup>41</sup> The Commission had previously categorized broadband networks as "information services" governed by Title I of the Act, rather than as "telecommunications services" governed by Title II's common carriage regime.<sup>42</sup> Because the Commission had not classified broadband networks as common carriers, Section 153(51) of the Act prohibited the Agency from imposing common carriage obligations on them.<sup>43</sup> And because the net neutrality rules required broadband networks to "serve the public indiscriminately" without fee, the court held that the rules constituted common carriage under past precedent and thus were barred by Section 153(51).<sup>44</sup>

But the *Verizon* decision left the door open for the Commission to reenact the rules through different means. The court held that Section 706 of the Communications Act gave the Commission some jurisdiction to regulate broadband networks, including the power "to promulgate rules governing broadband providers' treatment of Internet traffic."<sup>45</sup> It also held that the Commission's findings that broadband providers might interfere with Internet traffic and that

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<sup>39</sup> *Id.* at 33.

<sup>40</sup> *Id.* at 43.

<sup>41</sup> *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

<sup>42</sup> *See National Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005).

<sup>43</sup> *Verizon*, 2014 WL 113946 at \*22.

<sup>44</sup> *Id.* at \*26.

<sup>45</sup> *Id.* at \*1.

net neutrality rules would promote Internet innovation were “reasonable and supported by substantial evidence.”<sup>46</sup> Therefore the Commission remains free to impose net neutrality principles on broadband networks, so long as the regulations do not amount to common carriage. For example, the Commission could require broadband providers to carry all Internet traffic on “commercially reasonable terms.” As long as the Commission left “substantial room for individualized bargaining and discrimination in terms,”<sup>47</sup> the court explained that the rules would not rise to the level of common carriage.<sup>48</sup> And of course, the Commission could also reclassify broadband networks as Title II common carriers rather than Title I information services, which would place the Commission on a stronger jurisdictional basis and obviate the concerns underlying the *Verizon* decision.<sup>49</sup>

Following the *Verizon* decision, the Commission has reiterated its support for net neutrality. In a press release shortly after the decision was announced, new Chairman Tom Wheeler explains that the court “correctly held” that the Commission had jurisdiction to promulgate these rules, and that he remains “committed . . . to ensur[ing] that these networks on which the Internet depends continue to provide a free and open platform for innovation and expression, and operate in the interest of all Americans.”<sup>50</sup> And in a statement a month after the decision, he announced a plan to adopt new rules that would fulfill the goals of the “no blocking” and nondiscrimination rules as much as possible within the confines of the *Verizon*

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<sup>46</sup> *Id.*

<sup>47</sup> *Id.* at \*24.

<sup>48</sup> *Id.* at \*29.

<sup>49</sup> But see Daniel A. Lyons, *Net Neutrality and Nondiscrimination Norms in Telecommunications*, 54 ARIZ. L. REV. 1029 (2012) (arguing that net neutrality imposes greater restrictions on broadband providers than traditionally required under Title II common carriage).

<sup>50</sup> Statement by Chairman Tom Wheeler Regarding DC Circuit Opinion, Jan. 14, 2014, available at <http://www.fcc.gov/document/chairman-wheeler-statement-court-opinion-open-internet-rules>.

opinion.<sup>51</sup> The Chairman opened a new docket to solicit public input on the court's decision and to lay the groundwork for a future rulemaking proceeding that would accomplish these goals.<sup>52</sup>

The *Verizon* court found that the Commission's conclusion that net neutrality promotes innovation was reasonable and supported. But as the MetroPCS anecdote suggests, these restrictions foreclose many potential avenues for innovation within the broadband industry. In international markets, which are not bound by these rules and where heterogeneous demand is perhaps more easily observed, providers are engaging in precisely the type of experimentation that Yoo suggests: testing a wide range of potential business models through a trial-and-error process to determine empirically which models best deliver the most value to consumers. The next section of this paper offers a nonexhaustive glimpse into this increasingly rich and diverse market for broadband access.

## **II. Broadband Pricing Innovation**

### ***A. Innovation Within the Confines of Net Neutrality***

Within the United States, firms have taken advantage of opportunities to offer innovative solutions that do not violate the Commission's net neutrality rules, though at times their efforts to do so have drawn the ire of net neutrality proponents. To its credit, the Commission did not impose a completely homogenous product on all providers. Although it placed a significant premium on assuring that consumers can get the content of their choice, the Commission left broadband providers some flexibility when determining how they might do so. It explained that

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<sup>51</sup> See Statement by FCC Chairman Tom Wheeler on the FCC's Open Internet Rules, Feb. 19, 2014, *available at* <http://www.fcc.gov/document/statement-fcc-chairman-tom-wheeler-fccs-open-internet-rules>.

<sup>52</sup> *Id.*

“[d]ifferential treatment of traffic that does not discriminate among specific uses of the network or classes of uses is likely reasonable.”<sup>53</sup> And firms are increasingly experimenting with different models that are likely within the rules’ confines.

For example, some American broadband providers have introduced usage-based pricing plans, which charge on the basis of the amount of data a customer consumes each month.<sup>54</sup> One may group such plans under the heading of varying the *quantity* of broadband service. Usage-based pricing models are most robust in the wireless sector, where tiered service plans are the norm.<sup>55</sup> Most firms offer an array of plans, each of which offers a specific amount of data (usually in gigabytes) per month for a fixed rate. These plans typically involve some penalty for exceeding monthly plan limits, such as an overage charge or (less commonly) a degradation of network speed.<sup>56</sup> Some fixed-broadband providers offer similar pricing plans, either imposing a single monthly limit on all consumers with an overage charge for exceeding the limit, or offering consumers a choice among various tiers of monthly limits. Because fixed-broadband networks have more capacity than wireless networks, plan limits tend to be much higher than wireless tiers. For example, Comcast is currently testing a 300 gigabyte limit in several markets,<sup>57</sup> while Time Warner Cable has experimented with lower tiers alongside its traditional unlimited-data plan.<sup>58</sup>

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<sup>53</sup> Net Neutrality Rules ¶ 73.

<sup>54</sup> See, e.g., Daniel A. Lyons, *Internet Policy’s Next Frontier: Usage-Based Broadband Pricing*, 66 FED. COMM. L.J. 1 (2013).

<sup>55</sup> *Id.* at 11–12.

<sup>56</sup> *Id.*

<sup>57</sup> See *Comcast Monthly Data Usage Threshold Suspension*, COMCAST, <http://customer.comcast.com/help-and-support/internet/common-questions-excessive-use/> (last updated July 23, 2013).

<sup>58</sup> Jeff Simmermon, *Launching an Optional Usage-Based Broadband Pricing Plan in Southern Texas* (Feb. 27, 2012), <http://www.twcableuntangled.com/2012/02/launching-an-optional-usage-based-pricing-plan-in-southern-texas-2/>.

While many consumer groups have criticized usage-based pricing,<sup>59</sup> the Commission has tacitly endorsed this form of experimentation. It explained that “prohibiting tiered or usage-based pricing and requiring all subscribers to pay the same amount for broadband service, regardless of the performance or usage of the service, would force lighter end users of the network to subsidize heavier end users. It would also foreclose practices that may appropriately align incentives to encourage efficient use of networks.”<sup>60</sup> Because tiered-service plans do not interfere with the consumer’s ability to reach the Internet content of his or her choice, such plans are unlikely to violate the Commission’s conception of net neutrality: “The framework we adopt today does not prevent broadband providers from asking subscribers who use the network less to pay less, and subscribers who use the network more to pay more.”<sup>61</sup>

AT&T recently announced a permutation of this pricing model known as “sponsored data,” through which AT&T would exempt certain Internet content from customers’ data limits, in exchange for a payment from the Internet-content provider.<sup>62</sup> Verizon had previously floated the possibility of entering into similar “toll-free data” agreements with providers of popular Internet content.<sup>63</sup> These agreements are valuable to carriers seeking to develop the other side of the two-sided market for broadband access. And they can be valuable for participating Internet content providers as well, as a way to differentiate their content from that of their rivals online.<sup>64</sup>

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<sup>59</sup> See, e.g., ANDREW ODLYZKO ET AL., KNOW YOUR LIMITS: CONSIDERING THE ROLE OF DATA CAPS AND USAGE BASED BILLING IN INTERNET ACCESS SERVICE (2012) (white paper by Public Knowledge criticizing usage-based pricing).

<sup>60</sup> Net Neutrality Rules ¶ 72.

<sup>61</sup> *Id.*

<sup>62</sup> See, e.g., Daniel Lyons, *Rethink Possible When It Comes to Wireless Pricing Plans*, TECHPOLICYDAILY.COM (Jan. 20, 2014, 6:00 AM), <http://www.techpolicydaily.com/communications/rethink-possible-comes-wireless-pricing-plans/>.

<sup>63</sup> See Sue Marek, *Verizon’s Shammo: Content Providers See Value in Toll-Free Data Model*, FIERCEWIRELESS (May 22, 2013), <http://www.fiercewireless.com/story/verizons-shammo-content-providers-see-value-toll-free-data-model/2013-05-22>.

<sup>64</sup> *Id.*

The sponsored-data program likely does not violate the (currently defunct) net neutrality rules, because it does not involve blocking web access or rival voice or video services. As Verizon’s Chief Financial Officer explained, “Net neutrality is about prioritizing the delivery of content. We aren’t talking about that. This is who pays for the delivery of that content.”<sup>65</sup> But AT&T’s announcement was nonetheless criticized by net neutrality proponents, who called it a loophole that violated the spirit of net neutrality.<sup>66</sup> Chairman Wheeler also viewed the plan with some skepticism, noting that while he was inclined to “take a look at how it operates,” there would be “cause for us to intervene” if the plan “interferes with the operation of the Internet” or “develops into an anti-competitive practice.”<sup>67</sup>

In addition to varying the quantity of broadband service, American providers are also experimenting with speed-based pricing tiers, which one may classify as varying the *quality* of the broadband product. Rather than paying for a fixed amount of gigabytes monthly, the customer chooses among different maximum download and upload rates.<sup>68</sup> For example, the basic Verizon FiOS broadband plan delivers customers 15 megabits per second (“Mbps”) download and 5 Mbps upload.<sup>69</sup> But customers can upgrade to premium plans offering between 50 and 500 Mbps download, and 25 to 100 Mbps upload.<sup>70</sup> Some broadband providers offer

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<sup>65</sup> *Id.*

<sup>66</sup> See, e.g., Michael Weinberg, *AT&T’s New “Sponsored Data” Scheme Is a Tremendous Loss for All of Us*, PUBLIC KNOWLEDGE BLOG (Jan. 8, 2014), <http://www.publicknowledge.org/news-blog/blogs/attas-new-asponsored-dataa-scheme-tremendous>.

<sup>67</sup> Brian Fung, *Will the FCC Strike Down AT&T’s Sponsored Data Plan?*, WASHINGTON POST SWITCH BLOG (Jan. 8, 2014, 8:42 PM), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/01/08/will-the-fcc-strike-down-atts-sponsored-data-plan/>.

<sup>68</sup> See, e.g., Michael Weinberg, *Price Discrimination and Data Caps Are Not the Same Thing*, ALLTHINGS.D (Apr. 8, 2013, 3:26 PM PT), <http://allthingsd.com/20130408/price-discrimination-and-data-caps-are-not-the-same-thing/>; Daniel A. Lyons, *We Should Promote Broadband Pricing Innovation*, COMPUTERWORLD (June 18, 2013, 8:17 AM ET), [http://www.computerworld.com/s/article/9240126/We\\_should\\_promote\\_broadband\\_pricing\\_innovation](http://www.computerworld.com/s/article/9240126/We_should_promote_broadband_pricing_innovation).

<sup>69</sup> *Whatever You’re Into, There’s a FiOS Speed for You*, VERIZON, <http://www.verizon.com/home/fios-fastest-internet/fastest-internet-plans/> (last visited Aug. 14, 2013).

<sup>70</sup> *Id.*



unlimited monthly data at various speeds, while others offer plans that vary both maximum speed and monthly data limits.<sup>71</sup>

But while the net neutrality rules allow providers to vary the *quantity* and *quality* of the broadband service, there is an important dimension of innovation that the rules foreclose: varying the *nature* of the service itself. The Commission’s conception of net neutrality requires providers to offer all users the opportunity to reach the entire Internet, which is costly and does not fit the needs of consumers interested in visiting only a handful of the Internet’s myriad destinations. International providers are increasingly innovating along this dimension as well, offering a wide range of services to customers uninterested in overpaying for access they would not use.

### ***B. Voice-Plus and Social Media Plans***

One increasingly common model internationally is a “voice-plus” plan that offers traditional voice service (or voice and texting services) along with access to selected online content or apps. A variant of this model is the “social media plan,” which couples traditional service with access to popular social media networks such as Facebook and Twitter. Other plans pair traditional voice service with basic Internet functionality, such as email access.

“Voice plus” plans can serve two different segments of the market. First, they expand the array of services available to customers who would like to engage in some activities online but are unwilling or unable to pay for access to the entire Internet. Second, they serve as introductory-level plans to give customers reluctant about mobile broadband a low-cost

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<sup>71</sup> For example, in some markets Comcast offers several tiers of service at different speeds, but each tier is subject to a soft monthly data cap and an overage charge for exceeding the plan. See Jeff Baumgartner, *Comcast, TWC Try on Data Caps*, MULTICHANNEL NEWS, Aug. 5, 2013, 2013 WLNR 19139706; *What Are the Different Plans You Will Be Launching?*, COMCAST, <http://customer.comcast.com/help-and-support/internet/data-usage-what-are-the-different-plans-launching> (last updated Aug. 27, 2013, 6:14 PM).

opportunity to sample the benefits of online access. As customers get more comfortable with using their phones to access Internet content, the provider can try to upsell them to plans with more comprehensive access to Internet content and applications.

*Social media plans.* Starting in 2010, Turkey's Turkcell offered a free Facebook promotion in which all Turkcell customers were given access to a text-only version of Facebook on their phones, free of charge.<sup>72</sup> In 2012 the company launched a similar "Twitter Zero" promotion.<sup>73</sup> In both campaigns, once the promotional period ended the company replaced the free, stripped-down service with a paid package that included unlimited Facebook or Twitter access for a set fee. Currently, Turkcell customers can add unlimited Twitter use to a basic voice plan for 3 TL/month, unlimited Facebook access for 4 TL/month, or unlimited Twitter and Facebook, plus 20 megabytes of data, for 5 TL/month.<sup>74</sup>

According to company representatives, the goal of these campaigns was to get existing customers more comfortable with the idea of using mobile data.<sup>75</sup> Turkcell gambled that giving technophobes free or low-cost opportunities to sample mobile broadband would erode their apprehension and drive more of them to adopt plans that include some form of broadband access. And it worked: the free Facebook offer drove an 820% increase in mobile Facebook use in 2010. By the end of the year, 6.5 million Turkcell customers were accessing Facebook on their phones each month. And Twitter Zero drove a 340% increase in mobile Twitter use. These translated into significant upselling opportunities for the company:

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<sup>72</sup> Turkcell Annual Report 2010 (2010), available at <http://yatirimci-2010-eng.turkcell.com.tr/downloads/Turkcell-EN-FR-2010.pdf>.

<sup>73</sup> <https://twitter.com/TurkcellNews/status/217578634221862912>.

<sup>74</sup> See Openet Telecom, Real World Examples of Innovative Data Centric Offers, at 4. 5 TL equals about \$2.21.

<sup>75</sup> *Id.*

Turkcell sold 30,000 social media packages in the first week the add-on was available, and 600,000 in the first four months. Turkcell reports that this promotion increased average revenue per customer by nine percent.<sup>76</sup>

Nor is Turkcell alone in leveraging the popularity of social media to expand its revenue base. In early 2013, Facebook announced that it had struck similar deals with 18 wireless-service providers in 14 countries, including partners in Portugal, Ireland, India, Bulgaria, Azerbaijan, and Indonesia, to secure free or discounted data plans for Facebook users.<sup>77</sup> Similar programs have proven wildly popular in Latin America, where wireless provider Claro brought free Facebook access to 66.5 million subscribers, 48.5 million of whom access the site *each day*.<sup>78</sup> Twitter-based promotions are also popular, the most recent of which was recently announced by Ucell in Uzbekistan.<sup>79</sup>

*Email.* Wireless providers have long bundled traditional services with email access. For example, in 2007 Safaricom Kenya partnered with Google to offer Google's Gmail service to Safaricom mobile-phone users in conjunction with its rollout of 3G services across the country. The company credits the partnership with raising the number of people in Kenya with mobile Internet access from 2.7 million to 4.4 million that year.<sup>80</sup>

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<sup>76</sup> *Id.*

<sup>77</sup> See *Facebook Offering Mobile Deal in 14 Countries*, CNBC Reports, ARKA TELECOM, Feb. 26, 2013, [http://telecom.arka.am/en/news/internet/facebook\\_offering\\_mobile\\_deal\\_in\\_14\\_countries\\_cnb\\_reports/](http://telecom.arka.am/en/news/internet/facebook_offering_mobile_deal_in_14_countries_cnb_reports/).

<sup>78</sup> Brazil: Claro Partners with Facebook, IT Digest (South America) Aug. 2, 2013, 2013 WLNR 19138975.

<sup>79</sup> See *Ucell Activated New Service Twitter Zero*, <http://www.12uz.com/en/news/show/economy/13861/#> (last visited Jan. 22, 2014).

<sup>80</sup> Joyce Joan Wangui, *Kenya: Safaricom, Google in Internet Partnership*, ALLAFRICA.COM (Nov. 21, 2007), <http://allafrica.com/stories/200711210365.html>.

### *C. “Feature Phone Access” Partnerships*

One other growing area of innovation is in wireless-carrier partnerships with content and application providers to make stripped-down versions of their products available on an ongoing basis for feature-phone customers. Although smartphones dominate the postpaid market in the United States and Europe, worldwide they command only twenty-five to thirty percent of the total market.<sup>81</sup> Particularly in the developing world, most customers have previous-generation “feature phones,” which lack much of the computing power and flexibility of smartphones and are therefore limited in their ability to access Internet content and applications. Most lack data plans, and if they have Internet access at all, it’s through a protocol that developed nations abandoned several years ago.<sup>82</sup> To bring the Internet to these consumers, wireless companies are partnering with content and application providers, particularly in developing countries, to design code that would extend their products to feature-phone users on limited-capacity networks.

*Facebook Zero.* Facebook was one of the first content providers to move into this space. In 2010, the company launched 0.facebook.com, which offered a basic version of the company’s ubiquitous social-networking service.<sup>83</sup> The service is primarily text-based and lacks photos, graphics, and other features of the general service. Facebook negotiated with fifty wireless carriers around the world to allow feature phones on their networks to access the

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<sup>81</sup> Kevin Fitchard, *Ericsson: Global Smartphone Penetration Will Reach 60% in 2019*, GIGAOM (Nov. 19, 2013, 9:42 AM PST), <http://gigaom.com/2013/11/11/ericsson-global-smartphone-penetration-will-reach-60-in-2019/>.

<sup>82</sup> Christopher Mins, *Facebook’s Plan to Find Its Next Billion Users*, QUARTZ (Sept. 24, 2012), <http://qz.com/5180/facebook-s-plan-to-find-its-next-billion-users-convince-them-the-internet-and-facebook-are-the-same/>. The protocol is known as Wireless Application Protocol or WAP. Feature phones with WAP browsers can access websites that are specifically tailored to use the protocol. In the US and Europe WAP has largely disappeared, because mobile browsers now support HTML, CSS, and Javascript, thus obviating the need to use the separate WAP protocol.

<sup>83</sup> Robin Wauters, *Facebook Launches Zero, a Text-Only Mobile Site for Carriers*, TECHCRUNCH (Feb. 16, 2010), <http://techcrunch.com/2010/02/16/facebook-launches-zero-a-text-only-mobile-site-for-carriers/>.

service without charge.<sup>84</sup> The company followed this in July 2011 with Facebook for Everyone, a Java app that is designed to run on eighty percent of all mobile phones in existence. The company updated Facebook Zero in 2012 with Facebook by Fonetwish, a program developed in conjunction with Malaysian company U2opia Mobile that can create a Facebook graphic interface on even the most basic devices.<sup>85</sup>

The service has proven tremendously popular, particularly in Africa, where most consumers are on prepaid plans and zero-rated data costs are a significant lure.<sup>86</sup> In the 18 months since launching the service in Africa, Facebook saw a 114% increase in the number of Africans using the service.<sup>87</sup> It has proven similarly popular in the Philippines, Vietnam, and Latin America.<sup>88</sup> Six of the top ten countries with the most Facebook users are in the developing world, and five of those offer a free Facebook Zero service through at least one prominent wireless carrier.<sup>89</sup>

*Google Free Zone.* Perhaps not to be outdone, Google launched its own stripped-down bundle of services for feature phones in 2012.<sup>90</sup> Google Free Zone offers feature-phone users access to Gmail, the Google Plus social network application, and Google search results. Like Facebook Zero, the service is free to the customer as a result of agreements with participating wireless carriers.<sup>91</sup> If a customer clicks on links within any of the programs (including the results

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<sup>84</sup> Sid Murlidhar, *Fast and Free Facebook Mobile Access with 0.facebook.com*, FACEBOOK (May 18, 2010, 2:20 PM) <https://www.facebook.com/blog/blog.php?post=391295167130>.

<sup>85</sup> Mins, *supra* note 82.

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> *Id.* The exception is Mexico, which lacks Facebook Zero access but nonetheless has a sizeable Facebook population, partly as the result of significant direct investment by the company.

<sup>90</sup> Geoff Duncan, *Is Google 'Free Zone' Internet Altruistic Service for Emerging Economies or Something Else?*, DIGITAL TRENDS (Nov. 12, 2012), <http://www.digitaltrends.com/mobile/google-free-zone-placeholder/#ixzz2d0jllhNSP>.

<sup>91</sup> *Id.*

of a Google search), the customer receives a warning that he or she is leaving the free zone and may incur additional charges.

The service launched in the Philippines in late 2012 as a partnership with wireless provider Globe.<sup>92</sup> Since then, the company has partnered with providers in several other countries, including India's Airtel, Sri Lanka's Dialog, and Thailand's AIS.<sup>93</sup> The service also launched in South Africa in partnership with Telekom Mobile/8ta, though the program was terminated in May 2013 at the end of its trial run.<sup>94</sup>

Neither Facebook nor Google has disclosed the conditions under which it is making these services available in the developing world. A Facebook spokesperson recently hinted that the company did not pay for the data that Facebook Zero users consume, which makes it unlike AT&T's "sponsored data" plan.<sup>95</sup> This implies that the companies are making the services available for free and convincing participating wireless partners of the wisdom of extending a form of Internet access to customers who are not yet connected. For wireless providers, these arrangements provide an inexpensive way to offer additional services to feature-phone customers and perhaps entice them to migrate to more profitable smartphone plans. For content providers, it is an investment in penetrating their brands further into the developing world, where future growth may be found. Each company is positioning itself to be the first point of contact between the consumer and the digital world.

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<sup>92</sup> Paul Lilly, *Google Free Zone Offers Free Internet Connectivity for Feature Phones*, HOT HARDWARE (Nov. 12, 2012), <http://hothardware.com/News/Google-Free-Zone-Offers-Free-Internet-Connectivity-For-Feature-Phones/>.

<sup>93</sup> Free Zone Powered by Google, [http://www.google.com/intl/en\\_es/mobile/landing/freezezone/stp.html](http://www.google.com/intl/en_es/mobile/landing/freezezone/stp.html); Prashant Reddy, *Poke Me: Why Consumers, Not Companies, Should Be Kings of the Internet*, ECONOMIC TIMES, July 24, 2013, [http://articles.economictimes.indiatimes.com/2013-07-24/news/40771834\\_1\\_airtel-isps-google](http://articles.economictimes.indiatimes.com/2013-07-24/news/40771834_1_airtel-isps-google).

<sup>94</sup> *Free Zone Powered by Google Is No More*, MYBROADBAND MOBILE (June 4, 2013), <http://mybroadband.co.za/news/internet/79371-free-zone-powered-by-google-is-no-more.html>.

<sup>95</sup> See David Talbot, *Around the World, Net Neutrality Is Not a Reality*, MIT TECH. REV., Jan. 20, 2014, <http://www.technologyreview.com/news/523736/around-the-world-net-neutrality-is-not-a-reality/>.

Net neutrality proponents decry these initiatives as watered-down, “walled garden” experiences that are pale imitations of true Internet access. Professor Susan Crawford argues that “[f]or poorer people, Internet access will equal Facebook. That’s not the Internet—that’s being fodder for someone else’s ad-targeting business. . . . That’s entrenching and amplifying existing inequalities and contributing to poverty of imagination—a crucial limitation on human life.”<sup>96</sup> But among users in the developing world, for whom some connectivity is better than none, the services are popular and have few critics.<sup>97</sup>

#### ***D. Co-marketing and Cross-Promotional Agreements***

In more developed markets, wireless providers are also signing agreements with content and application providers to use the wireless platform as a promotional tool for Internet services. And, contrary to the concerns about anticompetitive behavior that gave rise to the Commission’s net neutrality order, many of these partnerships are with app developers whose products supplant traditional wireless revenue sources: voice and text messaging. The subsections below provide a representative sample of such agreements.

*VoIP partnerships.* TELUS, Canada’s third-largest wireless provider, has signed a strategic partnership with Microsoft to promote Skype on many smartphones on its network.<sup>98</sup> The app runs on both Wi-Fi and the wireless network, and although use on the latter incurs data charges, TELUS customers receive unlimited Skype-to-Skype voice calls and instant messages.

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<sup>96</sup> *See id.*

<sup>97</sup> *Id.*

<sup>98</sup> See Press Release, TELUS Communications Company, TELUS and Skype Sign Agreement to Offer the Best Customer Service for On the Go Skype Users (Sept. 6, 2011), [http://about.telus.com/community/english/news\\_centre/news\\_releases/blog/2011/06/09/telus-and-skype-sign-agreement-to-offer-the-best-customer-experience-for-on-the-go-skype-users](http://about.telus.com/community/english/news_centre/news_releases/blog/2011/06/09/telus-and-skype-sign-agreement-to-offer-the-best-customer-experience-for-on-the-go-skype-users).

TELUS allows customers the option to purchase Skype credit and have the charge turn up on their monthly TELUS bills.<sup>99</sup> The companies celebrated the 2011 launch of their partnership by offering a special, new, Skype-friendly version of the Optimus Black handset, which came with Skype preinstalled and 60 minutes of Skype international calling free.<sup>100</sup>

In February 2013, Internet-based VoIP and messaging provider Viber announced that it wished to enter into revenue-sharing agreements with wireless providers.<sup>101</sup> The 175-million-user service struck an agreement with Axis, an Indonesian wireless provider, which allows Axis customers to use Viber at a discounted rate without Viber use counting against the customers' monthly data or voice limits.<sup>102</sup>

*What's App.* Wireless providers are also bundling traditional services with access to the popular What's App program. What's App is a cross-platform instant-messaging subscription service for smartphones that offers users unlimited messaging for \$0.99 each year. Though not popular in the United States, What's App boasts over 300 million active users worldwide and claims to process 50 billion messages each day.<sup>103</sup>

The service is a substitute for traditional text-messaging services, which have historically been a significant profit center for wireless providers.<sup>104</sup> Despite this fact, some wireless firms have been eager to capitalize on the popular app (which is the most popular paid app in over 100

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<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> Mike Dano, *Viber: We Want to Share Revenues with Wireless Providers*, FIERCECABLE (Feb. 26, 2013), <http://www.fiercemobilecontent.com/story/viber-we-want-share-revenues-wireless-carriers/2013-02-26>.

<sup>102</sup> *Axis Launches Viber Package*, TELECOMPAPER (Sept. 6, 2013, 2:09 CET), <http://www.telecompaper.com/news/axis-launches-viber-package--965242>.

<sup>103</sup> Tyler Lee, *WhatsApp Processes More Than 50 Billion Messages a Day, Might Have Overtaken SMS, Ubergizmo* (Jan. 20, 2014), <http://www.ubergizmo.com/2014/01/whatsapp-processes-more-than-50-billion-messages-a-day-might-have-overtaken-sms/>.

<sup>104</sup> See Brian X. Chen, *Apps Redirect Text Messages, and Profits, from Cellular Providers*, N.Y. TIMES, Dec. 5, 2012, B1.



countries)<sup>105</sup> to attract share and boost revenue, particularly in more competitive markets. In September 2012, the Hong Kong wireless company 3HK started bundling WhatsApp in plans that did not have full Internet access, for \$1 per month—revenue that the firm is sharing with WhatsApp.<sup>106</sup> This partnership helped WhatsApp achieve over fifty percent penetration of the Hong Kong wireless market—over three million users.<sup>107</sup> Shortly thereafter, Malaysian provider Digi held a promotion allowing customers five consecutive days of unlimited WhatsApp access for \$1.50,<sup>108</sup> and SingTel of Singapore recently began bundling WhatsApp with its tiered pricing plans.<sup>109</sup>

As noted above, these joint ventures may surprise regulators who expected broadband providers to block such services. But it is consistent with the evolution of the wireless broadband industry in the developed world from traditional voice and text services to data. Even in the United States, voice and text messaging are often treated as unlimited throw-ins to packages that are priced based on total data consumed each month. From this perspective, wireless providers and app developers have aligned interests to entice consumers to consume more data.

In addition, the TELUS-Skype deal shows that app developers can be a source of supplemental revenue for carriers. In addition to cross-marketing, TELUS provides billing services for the VoIP provider, presumably for a fee. These back-office service agreements are the natural outgrowth of another traditional revenue source for telecommunications providers,

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<sup>105</sup> Francis Bea, *Rumor: Google Negotiating \$1 Billion Acquisition of WhatsApp*, DIGITAL TRENDS (Apr. 5, 2013), <http://www.digitaltrends.com/social-media/google-acquiring-whatsapp/>.

<sup>106</sup> *Id.*; Press Release, 3 Hong Kong, 3 Hong Kong Partners with WhatsApp to “Free the World” with the First Ever “WhatsApp Roaming Pass” (Sept. 12, 2012), [http://www.three.com.hk/website/appmanager/three/home?\\_nfpb=true&\\_pageLabel=P200470391219567710594&lang=eng&pageid=0031c0912](http://www.three.com.hk/website/appmanager/three/home?_nfpb=true&_pageLabel=P200470391219567710594&lang=eng&pageid=0031c0912).

<sup>107</sup> Liz Gannes, *The Quiet Mobile Giant: With 300M Active Users, WhatsApp Adds Voice Messaging*, ALL THINGS D (Aug. 6, 2013, 2:15 PM PT), <http://allthingsd.com/20130806/the-quiet-mobile-giant-with-300m-active-users-whatsapp-adds-voice/>.

<sup>108</sup> *DiGi Partners with WhatsApp*, MALAYSIAN WIRELESS (Oct. 22, 2012), <http://www.malaysianwireless.com/2012/10/digi-partners-with-whatsapp/>.

<sup>109</sup> *SingTel Partners with WhatsApp, Rolls-Out Plans for Prepaid Customers*, SINGAPORE GOV’T NEWS, Aug. 6, 2013, Westlaw Next 2013 WLNR 19347009.

which have long provided fee-based billing and collection services for text-soliciting charities, 1-900 numbers, and other entities that use the telecommunications network to make money.

### ***E. Premium Content and Carrier Upselling***

To gain an advantage on competitors, many wireless providers around the world have also forged partnerships with content providers to offer their subscribers exclusive or preferred access to attractive content. For example, French telecommunications provider Orange allows customers to choose among several content-based applications, including Sky Sports TV, the Deezer music service, and the Times newspaper. These applications are typically offered on a subscription basis, but Orange customers can choose one for free, which comes bundled with the customer's wireless data plan.<sup>110</sup> Orange fixes the value of this service at £20 per month. The company has noted that these additional services increase customer loyalty: customers with an active Deezer connection, for example, are half as likely as others to terminate their plans.<sup>111</sup> T-Mobile also allows its customers in the Netherlands discounted Deezer services with a subscription, and in Canada, TELUS has bundled some of its plans with streaming service Radio free of charge.

Partnership agreements like these may or may not run afoul of the Commission's conception of net neutrality, depending on how they are structured. If the agreement simply reduces the price the customer would otherwise pay for the Internet content or application, it would not violate the Commission's wireless rules as long as the carrier does not block web access or competing applications. AT&T's sponsored-data plan and other toll-free promotions might fit this category. But as noted above, although these arrangements did not violate the letter of the rules, many consumer advocates nonetheless argued that such paid-prioritization

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<sup>110</sup> See Openet Telecom, Real World Examples of Innovative Data Centric Offers, at 9.

<sup>111</sup> Orange France Q3 2012 Results.

agreements violate the spirit of net neutrality, because one content provider can leverage a carrier relationship to improve its position versus a competitor.

Other perks are more benign. For example, AT&T also has partnered with airport Wi-Fi provider Boingo to allow certain AT&T subscribers 1GB of access each month on Boingo hotspots. And in mid-2013, Verizon Wireless paid \$1 billion to allow its subscribers to watch National Football League games on Verizon-network phones through 2017. Neither would seem to raise net neutrality problems. But as noted above, MetroPCS's aborted partnership with YouTube raised significant red flags, in part because YouTube was the only streaming video that customers could access under the plan.

Carriers themselves have also begun to expand into upstream markets for services sold as add-ons to broadband. On the fixed-broadband side, cable providers in the United States and Canada are increasingly marketing home-security monitoring systems, long a mainstay of independent companies that used the voice network to watch people's homes. On the wireless side, AT&T offers a Smart Limits parental-control service for \$4.99 per month that monitors kids' online use and sets limits regarding when they can go online, for how long, and where they can go on the Web. These expansions would likely fit the "specialized services" exemption to the net neutrality rules and therefore would not be problematic, although net neutrality proponents may suspect these developments create greater incentives for broadband providers to leverage their power in broadband markets to threaten competitors in the marketplace for complementary services.

#### ***F. Equipment Subsidies***

Finally, many broadband companies abroad have contracted with providers to restrict their customers' online use in exchange for financial assistance in constructing and maintaining the

network. Perhaps most famously, Clearwire signed a strategic alliance with Bell Canada in 2005, in conjunction with Clearwire's rollout of wireless broadband service in the United States. Bell Canada invested \$100 million in Clearwire, much of which was used to deploy network architecture.<sup>112</sup> In exchange, Clearwire named Bell Canada its exclusive strategic partner for VoIP and other IP services in the United States.<sup>113</sup> It was unclear what precisely this agreement required for Clearwire; rival VoIP provider Vonage alleged in 2005 that Clearwire was interfering with customer use of Vonage services over the Clearwire network, but no official action was ever taken.<sup>114</sup> If in fact the arrangement required Clearwire to give Bell Canada preferential treatment over other VoIP providers on its network, the Commission may have investigated whether the agreement violated the net neutrality rules. But it was never tested, because the two companies terminated their strategic alliance in 2008, three years before the rules took effect.

### **III. Vertical Agreements, Diversification, and Innovation**

The wide range of successful wireless innovations and partnerships at the international level should prompt U.S. regulators to rethink their commitment to a rigid set of rules that limit flexibility in American broadband markets. This should be especially true in the wireless broadband space, where complex technical considerations, rapid change, and robust competition make for anything but a stable and predictable business environment. In a fluid business environment, a rule that limits innovation restricts a company's ability to respond to competitive pressures and to test out new business models that might better meet consumer needs.

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<sup>112</sup> BCE Inc. Annual Information Form 2006, *available at* [http://www.bce.ca/assets/Uploads/Documents/archives/AnnualReport/BCE/2006/BCE\\_aif\\_2006\\_en.pdf](http://www.bce.ca/assets/Uploads/Documents/archives/AnnualReport/BCE/2006/BCE_aif_2006_en.pdf) (last visited Jan. 29, 2014).

<sup>113</sup> *Id.*

<sup>114</sup> Ben Charny, *Vonage Says Its Calls Are Still Being Blocked*, CNET, Mar. 21, 2005, [http://news.cnet.com/Vonage-says-its-calls-are-still-being-blocked/2100-7352\\_3-5628564.html?tag=mncol;txt](http://news.cnet.com/Vonage-says-its-calls-are-still-being-blocked/2100-7352_3-5628564.html?tag=mncol;txt).

### *A. Ambiguous Effects of Vertical Agreements*

At its base, the net neutrality dispute is a dispute about vertical foreclosure. The Commission and its supporters are concerned that broadband providers will use control of broadband networks to disrupt competition in upstream markets for Internet content and applications. The Commission's response was to adopt a strict per se rule that prohibits the ability of broadband providers to change their business models in ways that make only part of the Web available to consumers.

This is not a frivolous concern: firms sometimes have incentives to engage in anticompetitive vertical foreclosure. A vertically integrated firm, for example, may have incentives to leverage market power in one segment to improve its position in another segment.<sup>115</sup> This may have been the motivating factor in the Madison River case, which the Commission cited to support its net neutrality order. Madison River Communications paid a \$15,000 fine to the Commission in 2005 to settle allegations that it blocked third-party Voice-over-Internet-Protocol ("VoIP") services from operating on its network, allegedly because these VoIP services competed against Madison River's traditional telephone service.<sup>116</sup>

But these instances are the exception rather than the rule. Under the principle of internalization of complementary externalities ("ICE"), a firm that is free from rate regulation will usually deal fairly with independent companies in complementary upstream markets, because failure to do so will reduce the value of the firm's product.<sup>117</sup> In more concrete terms, a customer will likely pay more for a broadband service that reaches all Internet content and applications than one that reaches only part of the Web—which means that broadband providers have incentives to allow open access to all Internet content and applications. The ICE principle doesn't mean that

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<sup>115</sup> See, e.g., Jonathan E. Nuechterlein, *Antitrust Oversight of an Antitrust Dispute: An Institutional Perspective on the Net Neutrality Debate*, 7 J. TELECOMM. & HIGH TECH. LAW 19, 41–42 (2009).

<sup>116</sup> *Madison River Communications, LLC and Affiliated Companies*, Consent Decree, 20 FCC Rcd. 4295 (2005).

<sup>117</sup> Nuechterlein, *supra* note 115, at 40.

broadband companies will never block certain Internet content or applications, but it suggests that if they do limit access, there is often a procompetitive rationale for doing so.<sup>118</sup>

There are many ways that a vertical agreement can be procompetitive. For example, Brent Skorup and Adam Thierer highlight Apple's (in)famous control over its ecosystem.<sup>119</sup> Apple exercises significant control over which apps may be made available for the iPhone and iPad, in stark contrast to its primary rival, Android. Despite this control, which limits consumer choice and "distorts" competition in the app market, a sizeable share of the market continues to favor Apple's walled garden over more open systems. Skorup and Thierer argue that the reason, in part, is that Apple's selectivity reduces the consumer's costs of information and oversearching.<sup>120</sup> Apple-oriented consumers rely on the company to sift the wheat from the chaff among application developers, and value the fact that the iOS operating system is well-integrated with the suite of apps that Apple promotes.<sup>121</sup>

Vertical agreements can also promote interbrand competition among companies. Prior to 2011, AT&T was the exclusive U.S. provider of Apple's popular iPhone, which provided the company with a competitive advantage over Verizon Wireless and other competitors.<sup>122</sup> But the Commission never foreclosed these contracts despite some calls to do so, perhaps because this vertical agreement was a net positive for consumers. It woke up a sleepy smartphone market, as AT&T advertised the product for which it paid so dearly, and Verizon responded to the competitive threat by helping develop and market the rival Android platform as an Apple alternative.

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<sup>118</sup> *Id.* at 41.

<sup>119</sup> Brent Skorup & Adam Thierer, *Uncreative Destruction: The Misguided War on Vertical Integration in the Information Economy*, 65 FED. COMM. L.J. 157, 169 (2013).

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> *Annual Report*, 26 FCC Rcd 9664, 9753 (2011).

At a minimum, one can say that vertical agreements have ambiguous effects on consumer welfare.<sup>123</sup> One significant, relatively recent empirical study explains that, according to the data, “efficiency considerations overwhelm anticompetitive motives in most contexts” and that even in natural monopolies or oligopolistic markets, “the evidence of anticompetitive harm is not strong.”<sup>124</sup> Therefore “under most circumstances, profit-maximizing vertical-integration decisions are efficient, not just from the firms’ but also from the consumers’ point of view.”<sup>125</sup> Antitrust scholar Herbert Hovenkamp similarly notes that in most cases, vertical integration “is either competitively neutral or affirmatively desirable because it promotes efficiency.”<sup>126</sup> He further explained that “tying,” an agreement that requires customers to purchase one product in order to get access to another, more popular, product, is “rarely competitively harmful” in the view of “most economists and others interested in antitrust law.”<sup>127</sup> Tying, of course, is the type of vertical agreement most common in broadband markets.

In the case studies above, one can see two clusters of procompetitive justifications for wireless broadband carriers’ efforts to engage in non-net-neutral practices: operational efficiencies and product differentiation.

### ***B. Operational Efficiencies***

Vertical agreements may help companies achieve operational efficiencies and reduce costs, allowing them to compete more effectively against rivals. In the information economy, these

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<sup>123</sup> James C. Cooper et al., *Vertical Antitrust Policy as a Problem of Inference*, 23 INT’L J. INDUS. ORG. 639, 643–47 (2005).

<sup>124</sup> Francine Lafontaine & Margaret Slade, *Vertical Integration and Firm Boundaries: The Evidence*, 45 J. ECON. LITERATURE 629, 677 (2007).

<sup>125</sup> *Id.* at 680.

<sup>126</sup> Philip E. Areeda & Herbert Hovenkamp, *Antitrust Law*, ¶ 756a, at 9 (3d ed. 2008).

<sup>127</sup> HERBERT HOVENKAMP, *CLAYTON ACT (1914): AN ENTRY FROM MACMILLIAN REFERENCE USA’S MAJOR ACTS OF CONGRESS* 123, 125 (Brian K. Landsberg ed., 2003).

efficiency gains could come in either the broadband or Internet content market. Many comarketing agreements analyzed above were signed because each party helped the other achieve a goal more efficiently. For example, TELUS offers Skype a platform with which to operate its service, free marketing and outreach to reach an installed base of potential Skype customers, and back-office billing support, an area in which TELUS has significant expertise. In exchange, Skype allows TELUS to grow both its customer base and average revenue per user: Skype integration is an advantage that TELUS can advertise over Rogers Communications and other Canadian providers, and existing TELUS customers who use Skype may be enticed to migrate to larger and more expensive data plans.

### ***C. Product Differentiation***

Product differentiation can help drive consumer-enhancing innovation. At a simple level, differentiation enhances the level of competition between firms by increasing the faces upon which they may compete against one another. An increased number of points of competition means a corresponding increase in the number of different options available to consumers, which increases the likelihood of identifying a business model that is more efficient than those currently in the market. Requiring standardization of the product, as net neutrality does, removes a plane upon which firms can compete, and thus gives an advantage to large incumbent players against upstarts that are looking for places to distinguish themselves.

Broadband product differentiation may expand the number of providers in this capital-intensive industry by increasing the opportunities to seek investment capital from those looking



for an advantage in return.<sup>128</sup> The Clearwire deal exemplifies this: by being able to offer Bell Canada a preferred partnership arrangement (whatever the ultimate terms of the deal entailed), Clearwire was able to entice Bell Canada to provide it with much-needed capital with which to start building its network. Without the opportunity to offer Bell Canada an advantage, Clearwire likely would not have received the money it needed from Bell Canada, which would have reduced competition in the American wireless broadband market. This type of “angel funding” agreement would be difficult under the Commission’s conception of net neutrality.

Moreover, broadband differentiation may help narrow the digital divide. By offering a lower-quality product at a lower price point, broadband providers could extend service to those who cannot afford, or otherwise do not wish to buy, full broadband access at the market rate. Facebook Zero and the Google Free Zone are good examples of this. By reducing the quality of the service, developers and broadband providers offered a product that had value for low-tech customers, without risking cannibalization of revenues from those already paying for more advanced services. In the process, such programs help introduce people to the Internet, making them more familiar with the perks of Internet access and helping ensure that if they continue to decline full Internet access, it is not because of lack of familiarity with the product.

Finally and relatedly, differentiation allows companies to cater to niche markets that are not served by the homogenous mass-market solution. In the United States, the net neutrality rules limit customers to purchasing full Internet access or none at all. But the worldwide success of voice-plus plans like social media plans shows there is demand internationally for products that fall between these poles. Given the number of social media users in America, it is likely that there is similarly significant pent-up demand here. There may be a large population of consumers

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<sup>128</sup> See, e.g., Christopher S. Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. TELECOMM. & HIGH TECH. L. 23 (2004).

who purchase unlimited-access service only to reach a handful of websites or apps each month. They may be better off with a reduced-access plan that would give them a discount in exchange for giving up the power to visit sites that they generally will not visit anyway. More importantly, there are likely many consumers who choose not to purchase unlimited-access data plans, but would be willing to pay for limited additional functionality such as the ability to access Facebook or Twitter. If the amount they are willing to pay is more than the provider's cost of providing the service, then it is inefficient not to serve this niche market.

In other contexts, the Commission has shown a significant appreciation of the value of niche programming. When it approved satellite radio in 1997, the Commission noted that one of the benefits of augmenting local radio with satellite transmissions is that satellite radio can reach niche audiences that local broadcasters could not.<sup>129</sup> Individually, local populations around the country interested in a particular genre of music may not be numerous enough to support stations in that genre in every town where there is interest. But satellite radio could unite these pockets by giving them all one nationwide station dedicated to their interests—in the meantime generating the efficiencies that make the station economical. The Commission found it was in the public interest to meet those needs if it was economical to do so, and the same analysis should control here.

#### ***D. Rule-of-Reason Analysis and Market Power***

Because vertical agreements have ambiguous effects on overall welfare, antitrust law rarely pronounces them illegal per se, and instead analyzes the effects under the rule of reason doctrine,

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<sup>129</sup> In re DARS, 12 FCC Rcd 5754, 5760 (1997).

which states that only unreasonable agreements are actionable under antitrust law.<sup>130</sup> Judge Kavanaugh addressed this at length in a recent concurring opinion about vertical restraints in the market for cable programming, another area where the Commission has long feared bottleneck discrimination by network operators.<sup>131</sup> He noted that in most cases, “vertical integration ‘is either competitively neutral or affirmatively desirable because it promotes efficiency.’”<sup>132</sup> Such agreements “are ubiquitous in our economy and virtually never poses [sic] a threat to competition when undertaken unilaterally and in competitive markets.”<sup>133</sup>

Market power is an important component when analyzing the risks of vertical foreclosure. As noted above, the ICE principle suggests that, normally, a firm that engages in anticompetitive vertical foreclosure will devalue its product compared to its rivals. Absent market power, the firm is likely to face significant backlash from consumers, who will desert to rivals in search of a substitute good that is not tainted by anticompetitive foreclosure.

Because consumers can punish firm behavior in competitive markets, the Supreme Court has repeatedly affirmed that vertical agreements are generally legitimate in the absence of market power.<sup>134</sup> As Judge Kavanaugh explained,

Vertical integration and vertical contracts become potentially problematic only when a firm has market power in the relevant market. That’s because, absent market power, vertical integration and vertical contracts are procompetitive. Vertical integration and vertical contracts in a competitive market encourage product innovation, lower costs for businesses, and create efficiencies—and thus reduce prices and lead to better goods and services for consumers.<sup>135</sup>

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<sup>130</sup> Skorup & Thierer, *supra* note 119, at 165; see Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 143 (1984); *Leegin Creative Leather Prods. v. PSKS, Inc.*, 551 U.S. 877, 907 (2007).

<sup>131</sup> *Comcast Cable Commc’ns LLC v. Fed. Commc’ns Comm.*, 717 F.3d 982, 990 (2013) (Kavanaugh, J., concurring).

<sup>132</sup> *Id.* (quoting 3B Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶ 756a, at 9 (3d ed.2008)).

<sup>133</sup> *Id.* at 990–91 (quoting Areeda & Hovenkamp, *Antitrust Law* ¶ 755c, at 6).

<sup>134</sup> *Leegin Creative Leather Products*, 551 U.S. 877, 127 S.Ct. 2705; *State Oil Co.*, 522 U.S. 3, 118 S.Ct. 275; *Business Electronics*, 485 U.S. 717, 108 S.Ct. 1515; *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 97 S.Ct. 2549, 53 L.Ed.2d 568 (1977).

<sup>135</sup> *Comcast*, 717 F.3d at 990 (Kavanaugh, J., concurring).

He concluded that “this Court’s case law has stated that vertical integration and vertical contracts are procompetitive, at least absent market power.”<sup>136</sup>

Viewed in this light, the Commission’s insistence on net neutrality rules to forestall possible anticompetitive foreclosure in the mobile market seems somewhat alarmist. The Federal Communications Commission has repeatedly issued reports analyzing the competitiveness of the wireless sector.<sup>137</sup> The industry is marked by four significant national networks, and a variety of resellers and regional or local carriers that compete vigorously for consumer attention. The Commission found that the 2011 weighted average Herfindahl-Hirschman Index, a widely used metric of industry concentration, was 2873, which suggests a highly concentrated market.<sup>138</sup> But as the Commission explained, high concentration does not necessarily imply market power if there are other indicia of price and nonprice rivalry between competitors.<sup>139</sup> Geoffrey Manne has noted that wireless telephone prices have fallen significantly over the last ten years, and network investment has risen each year.<sup>140</sup> Providers continue to build and upgrade their networks and are engaged in vigorous price competition, including T-Mobile’s move in 2011 to decouple handset sales from service contracts and offer postpaid service on a no-contract basis. With no market power, wireless broadband providers would be highly unlikely to actually harm consumers if they tried to adopt anticompetitive practices—such a plan would likely face significant defections as consumers flee to competing carriers.

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<sup>136</sup> *Id.* at 991.

<sup>137</sup> *See* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Sixteenth Annual Report, 28 FCC Rcd. 3700 (2013).

<sup>138</sup> *Id.* at 3718.

<sup>139</sup> *Id.* at 3759.

<sup>140</sup> Geoffrey A. Manne et al., *The Law and Economics of the FCC’s Transaction Review Process* (Draft Paper) at 30, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2242681](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2242681) (last visited Jan. 29, 2014). Cited with permission of the author.

#### IV. Conclusion

In the rapidly changing world of information technology, it is sometimes easy to forget that experimental new pricing models can be just as innovative as new technological developments. By offering new and different pricing models, companies can provide better value to consumers or identify niche segments that are not well-served by dominant pricing strategies. In 1996, when most providers were charging an hourly rate, America Online attracted significant market share by introducing an unlimited, flat-rate model. NetZero responded with a free, advertising-supported model that was popular for some time but ultimately fizzled. It was this experimentation that let companies determine which model best suited dial-up consumers. In the race to provide better service to customers at lower rates, pricing and service differentiation can be just as disruptive as technological innovation.

Chairman Wheeler has indicated agreement with this principle. His early remarks have repeatedly stressed the importance of competition, the need to limit government involvement in Internet governance, and the need for any government intervention to be conducted in a fact-based, data-driven manner.<sup>141</sup> As the Commission is considering its options in the aftermath of the *Verizon* decision, Wheeler has affirmed his commitment to net neutrality but floated the possibility of enforcing these principles in the future in a “common law fashion,” with the goal of avoiding both false positives and false negatives. “It is important,” he wrote, “not to prohibit or inhibit conduct that is efficiency producing and competition enhancing . . . [and] not to permit conduct that reduces efficiency, competition, and utility.”<sup>142</sup>

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<sup>141</sup> Daniel Lyons, *Defining Broadband Competition*, TECHPOLICYDAILY.COM (Dec. 6, 2013, 6:00 AM), <http://www.techpolicydaily.com/communications/defining-broadband-competition/>.

<sup>142</sup> Tom Wheeler, *Ensuring an Open Internet Now and for the Future*, OFFICIAL FCC BLOG (Jan. 14, 2014), <http://www.fcc.gov/blog/ensuring-open-internet-now-and-future>.

This article suggests that the Chairman should adopt an ex post approach to net neutrality concerns, rather than an ex ante prohibition on nontraditional Internet access models. Without question, the Commission can and should intervene to stop anticompetitive practices, including anticompetitive vertical foreclosure. But these determinations should be made on a case-by-case basis and should require a demonstration that the carrier abused market power in a way that actually harmed consumers. A case-by-case approach would allow wireless providers to experiment with new and different Internet business models without risking an unnecessary regulatory response. “Permissionless innovation” is just as important to broadband providers as to other players in the Internet ecosystem—and an ex post enforcement mechanism based on antitrust principles would better allow American consumers to join their international counterparts in reaping the benefits of procompetitive innovation.