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## Innovations in Mobile Broadband Pricing

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# INNOVATIONS IN MOBILE BROADBAND PRICING

DANIEL A. LYONS<sup>†</sup>

## ABSTRACT

The FCC's net neutrality rules 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. Within limits, broadband providers may 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 Article explores the way in which this all-or-nothing homogenization of the American broadband product differs from innovative experiments taking place in other countries. In various parts of the world, customers are offered several alternatives to the unlimited Internet model, including social media plans, feature phone partnerships, bundled apps, and free premium content. It also examines the positive role that vertical agreements may play when promoting innovation and competition within a market.

Undoubtedly, the FCC can and should intervene to stop anticompetitive practices, including anticompetitive vertical foreclosure. But these determinations should be made on a case-by-case basis based on proof of market power and consumer harm. This approach would allow wireless providers to experiment with new and different Internet business models without risking an unnecessary regulatory response.

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## TABLE OF CONTENTS

INTRODUCTION.....	454
I. NET NEUTRALITY: A BRIEF OVERVIEW .....	458
II. BROADBAND PRICING INNOVATION .....	465
<i>A. Innovation Within the Confines of Net Neutrality</i> .....	465
<i>B. Voice-Plus and Social Media Plans</i> .....	467
1. Social Media Plans .....	468
2. Email.....	469
<i>C. "Feature Phone Access" Partnerships</i> .....	469
1. Facebook Zero .....	470
2. Google Free Zone .....	471
<i>D. Co-Marketing and Cross-Promotional Agreements</i> .....	472
1. VoIP Partnerships .....	472
2. WhatsApp .....	473
3. Opera.....	474
<i>E. Premium Content and Carrier Upselling</i> .....	475
<i>F. Equipment Subsidies</i> .....	476
<i>G. Innovation Within the United States</i> .....	477
III. REGULATING VERTICAL AGREEMENTS .....	479
<i>A. Applying Net Neutrality to Alternative Business Models</i> .....	480
<i>B. Ambiguous Effects of Vertical Agreements</i> .....	483
<i>C. Operational Efficiencies and Promoting Competition</i> .....	485
<i>D. Product Differentiation</i> .....	486
<i>E. Rule-of-Reason Analysis and Market Power</i> .....	488
<i>F. The Need for Greater Flexibility in Wireless Broadband Markets</i> .....	490
CONCLUSION .....	491

## INTRODUCTION

Through its ongoing net neutrality efforts, the Federal Communications Commission seeks to limit interference by broadband service providers in markets for Internet-based content and applications. But to do so, the Commission has 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 (within certain parameters). 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, and on relatively equal terms.

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 networks. In various parts of the world, customers are offered a variety of alternatives to the unlimited-Internet

model that may or may not violate American net neutrality norms. These alternative models include 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 innovations happening globally illuminates the tradeoffs inherent in the Commission's ongoing net neutrality efforts. To protect Internet content and application providers (often called "edge providers" because they provide service at the edge of the network), the Commission generally requires broadband providers to grant access to all lawful Internet endpoints at all times from all devices. Conventional wisdom suggests this arrangement benefits consumers as well. But in international markets, consumer demand and carrier innovation are challenging that wisdom by introducing competitive and popular alternatives to the traditional net-neutral model. As Christopher Yoo and others have noted, consumers are increasingly accessing the Internet through multiple devices, which suggests less need for every device to provide the same comprehensive service.<sup>1</sup> Internationally, companies are using that flexibility to develop alternative service bundles that appeal to a broad base of consumers. But the long shadow of the Commission's net neutrality proceeding may limit the ability of Americans to share in the global revolution currently taking place for mobile services.

MetroPCS offers a prime example of this chilling effect. 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.<sup>2</sup> 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 market position.<sup>3</sup> The company offered a base plan of unlimited voice, text, and web-browsing services for only \$40 per month.<sup>4</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>5</sup> For an

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1. *E.g.*, CHRISTOPHER S. YOO, *THE DYNAMIC INTERNET* 122–23 (2012).

2. *See* Thomas W. Hazlett, *FCC Net Neutrality Rules and Efficiency*, *FIN. TIMES* (Mar. 29, 2011, 1:57 AM), <http://www.ft.com/intl/cms/s/0/f75fd638-5990-11e0-baa8-00144feab49a.html>.

3. *See id.*

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

5. Hazlett, *supra* note 2. In a letter to the Commission, 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. Letter from Carl W. Northrop of Paul, Hastings, Janofsky & Walker LLP, to Julius Genachowski, Chairman, Fed. Commc'ns Comm'n 5, 11 (Feb. 14, 2011), available at <http://apps.fcc.gov/ecfs/document/view?id=7021029361> [hereinafter Northrop Letter].

additional \$10 or \$20 per month, customers could receive additional services, including turn-by-turn navigation and data access.<sup>6</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 other bandwidth-intensive services), they were only one-third the cost.<sup>7</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 “[w]ireless for [a]ll.”<sup>8</sup>

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 the first iteration of the Commission’s rules had not yet taken effect and would not do so for another eleven months.<sup>9</sup> Net neutrality supporters 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>10</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>11</sup>

From an antitrust perspective, this demand for regulatory intervention seemed puzzling. At the time, MetroPCS had approximately eight million subscribers, a customer base “less than one-tenth the size” of industry leader Verizon Wireless.<sup>12</sup> The company had no market power and was in no position to extract super-competitive profits or otherwise harm consumers.<sup>13</sup> As Thomas Hazlett notes, its customers were mostly

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And the company’s limited spectrum posed similar challenges for the 4G LTE network that it had recently launched. *Id.* at 6–7. 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. *Id.* at 6, 11–12.

6. Kim, *supra* note 4.

7. See Hazlett, *supra* note 2.

8. See, e.g., *MetroPCS Introduces Wireless For All(SM) Nationwide Service Plans with No Hidden Taxes or Regulatory Fees*, BUS. WIRE (Jan. 19, 2010, 5:51 PM), <http://www.businesswire.com/news/home/20100112005629/en/MetroPCS-Introduces-Wireless-SM-Nationwide-Service-Plans>.

9. See *Preserving the Open Internet*, 76 Fed. Reg. 59192, 59192 (Dec. 1, 2011) (codified at 47 C.F.R. pts. 0, 8). 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 as *Preserving the Open Internet*, 47 C.F.R. § 8 (2015).

10. Press Release, Free Press, Free Press Urges FCC to Investigate MetroPCS 4G Service Plans (Jan. 4, 2011) (quoting a statement by M. Chris Riley, Policy Counsel for Free Press), *available at* <http://www.freepress.net/press-release/2011/1/4/free-press-urges-fcc-investigate-metropcs-4g-service-plans>.

11. Letter from M. Chris Riley et al., Counsel, Free Press, to Julius Genachowski, Chairman, Fed. Comm’ns Comm’n 5 (Jan. 10, 2011), *available at* [http://newamerica.net/sites/newamerica.net/files/profiles/attachments/metropcs\\_letter\\_NAF\\_et\\_al.pdf](http://newamerica.net/sites/newamerica.net/files/profiles/attachments/metropcs_letter_NAF_et_al.pdf).

12. Hazlett, *supra* note 2.

13. *Id.*

price-sensitive “cord-cutters” who had little use for the bells and whistles of larger carrier plans, especially at higher price points.<sup>14</sup> MetroPCS’s plan was poised to bring wireless web browsing and YouTube access to this market segment. But instead it found itself facing the threat of agency action because its plan did not match net neutrality proponents’ preconceived notions of what the wireless broadband experience should be.

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>15</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>16</sup> In the meantime, MetroPCS joined Verizon’s lawsuit challenging the Commission’s net neutrality rules in court.<sup>17</sup> Ultimately, competitive pressures led the company to merge with fellow upstart T-Mobile, thus reducing the number of national facilities-based wireless providers from five to four.<sup>18</sup>

The MetroPCS case illustrates the chilling effect that even the Commission’s “light touch” wireless net neutrality rules could have on broadband innovation. 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 Article examines some of the diverse business models emerging in international markets, discusses the nascent attempts to bring some of these innovations to the United States, and analyzes how these models might fare under a new net neutrality regime. Part I offers a brief summary of the Commission’s recent net neutrality decisions. Part II offers a non-exhaustive glance at various international offerings in the wireless broadband marketplace that differ from the traditional net-neutral model. Part III uses these consumer-friendly alternative models to critically assess the Commission’s net neutrality efforts. While the Commission may well be correct that broadband providers have incentives to interfere anticompetitively in upstream markets for Internet content and applications, its remedy should allow room for consumer-friendly innovations that would allow American consumers to share in the global revolution currently taking place for mobile broadband services.

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14. See *id.* (internal quotation marks omitted).

15. See Northrop Letter, *supra* note 5, at 11–20.

16. See Adi Robertson, *MetroPCS Adds \$70 a Month Pricing Tier for Unlimited LTE Data, Caps \$60 Plan at 5GB*, VERGE (Apr. 3, 2012, 11:00 AM), <http://www.theverge.com/2012/4/3/2922425/metropcs-4g-lte-unlimited-data-pricing-change>.

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

18. See David Goldman, *T-Mobile and MetroPCS to Merge*, CNN MONEY (Oct. 3, 2012, 12:25 PM), <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>19</sup> Rather, proponents argue broadband providers should grant consumers access to all lawful Internet content and should route all data packets to customers in a similar fashion, regardless of the identity of the sender or the nature of the content inside.<sup>20</sup> Professor Tim 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 upstream markets for Internet content (such as online video).<sup>21</sup> Since then, the concept has been the subject of substantial debate among academics, engineers, policymakers, and industry participants.

The Commission first adopted rules codifying net neutrality principles in December 2010.<sup>22</sup> The proceeding focused primarily upon fixed broadband providers such as Verizon and Comcast, which provide high-speed wire-based Internet access to residential and business customers. These providers were subject to three basic requirements. The first dealt with transparency: broadband providers were required to “publicly disclose accurate information regarding the network management practices, performance, and commercial terms” of their services “sufficient for consumers to make informed choices” among providers.<sup>23</sup> Second, fixed broadband providers “shall not block lawful content, applications, services, or non-harmful devices.”<sup>24</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>25</sup>

The third and final rule required that fixed providers “shall not unreasonably discriminate in transmitting lawful network traffic over a consumer’s broadband Internet access service.”<sup>26</sup> Although the 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 de-

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19. See, e.g., *Net Neutrality*, PUB. KNOWLEDGE, <https://www.publicknowledge.org/issues/net-neutrality> (last visited Feb. 19, 2015).

20. See, e.g., Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOMM. & HIGH TECH. L. 141, 145 (2003) (defining a “neutral network” as one “that does not favor one application (say, the world wide web), over others (say, email)”).

21. See *id.*

22. See Preserving the Open Internet: Broadband Indus. Practices, 25 FCC Rcd. 17905 (2010) [hereinafter *2010 Rules*], vacated in part, *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

23. *Id.* para. 54; see also 47 C.F.R. § 8.3 (2015).

24. *2010 Rules*, supra note 22, para. 63; see also 47 C.F.R. § 8.5(a) (2015).

25. *2010 Rules*, supra note 22, para. 64.

26. *Id.* para. 68; see also 47 C.F.R. § 8.7 (2015).

vices of their choice” online.<sup>27</sup> The Commission explicitly cited “pay-for-priority” agreements, whereby an edge provider such as Netflix would pay for preferential treatment over the network, as an example of a practice that would likely be considered unreasonable, because it would give the provider a competitive advantage over its rivals when delivering its product to consumers.<sup>28</sup>

The Commission imposed somewhat less onerous rules on wireless broadband providers such as Verizon Wireless and Sprint. The Commission recognized mobile broadband was a less mature technology than its fixed counterpart.<sup>29</sup> It noted that “[t]he mobile ecosystem is experiencing very rapid innovation and change” and is “rapidly evolving.”<sup>30</sup> Moreover, the wireless marketplace is more competitive than fixed broadband, with consumers able to choose from a wide range of nationwide and regional wireless providers.<sup>31</sup> Finally, the Commission noted that because wireless providers depend upon spectrum for communication, they face “operational constraints that fixed broadband networks do not typically encounter,” which suggest wireless providers may need greater flexibility when managing network traffic.<sup>32</sup> But at the same time, the Commission 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>33</sup> Moreover, the Commission’s rationale for ordering the rules is “for the most part as applicable to mobile broadband as they are to fixed broadband.”<sup>34</sup>

In recognition of the differences between mobile and fixed broadband service, the Commission applied a modified version of its Open Internet rules to wireless providers. Like fixed broadband providers, wireless broadband companies were bound by the obligation to make their network practices transparent.<sup>35</sup> But the Commission applied its no-blocking rule less stringently. Under the rules, wireless broadband companies “shall not block consumers from accessing lawful websites.”<sup>36</sup> The Commission found wireless web browsing was sufficiently “well-developed” to justify regulation.<sup>37</sup> Consumers “expect to be able to access any lawful website through their broadband service, whether fixed or mobile.”<sup>38</sup> Because mobile applications are a less mature technology, the Commission recognized that downloading and running an application

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27. 2010 Rules, *supra* note 22, para. 75.

28. *Id.* para. 76.

29. *Id.* para. 94.

30. *Id.*

31. *Id.* paras. 94–95.

32. *Id.* para. 95.

33. *Id.* para. 93.

34. *Id.*

35. *Id.* para. 97; *see also* 47 C.F.R. § 8.3 (2015).

36. 2010 Rules, *supra* note 22, para. 99; *see also* 47 C.F.R. § 8.5(b) (2015).

37. 2010 Rules, *supra* note 22, para. 100.

38. *Id.*



may present network management issues.<sup>39</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>40</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>41</sup>

In January 2014, the decision of the U.S. Court of Appeals for the D.C. Circuit in *Verizon v. FCC*<sup>42</sup> invalidated the Commission's net neutrality rules, based on a nuance in the Communications Act.<sup>43</sup> Section 153(51) of the Act prohibits the Commission from imposing common carriage obligations on services that are not considered "telecommunications services" under Title II of the Act.<sup>44</sup> The Commission had previously determined broadband Internet access should be classified as an "information service" governed by Title I of the Act, rather than as "telecommunications services" governed by Title II.<sup>45</sup> The court held that because the net neutrality rules required broadband networks "to serve the public indiscriminately" without fee, they amounted to common carriage and thus were barred by Section 153(51) from being applied to non-Title II services.<sup>46</sup>

But the *Verizon* decision left the door open for the Commission to regulate some broadband network practices, in two ways. First, 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>47</sup> The court found that the Commission's findings that broadband providers might interfere with Internet traffic and that net neutrality rules would promote Internet innovation were "reasonable and supported by substantial evidence."<sup>48</sup> Therefore, the Commission could use Section 706 to impose restrictions on broadband networks to promote

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39. 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.* para. 82; *see also* 47 C.F.R. §§ 8.5, 8.7 (2015).

40. 2010 Rules, *supra* note 22, para. 99; *see also* 47 C.F.R. § 8.5(b) (2015).

41. 2010 Rules, *supra* note 22, paras. 104–05.

42. 740 F.3d 623 (D.C. Cir. 2014).

43. *Id.* at 628.

44. *Id.* at 650 (quoting 47 U.S.C. § 153(51) (2012)).

45. *See Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 977–78 (2005).

46. *Verizon*, 740 F.3d at 655–56 (quoting *Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC*, 525 F.2d 630, 642 (D.C. Cir. 1976)) (internal quotation marks omitted).

47. *Id.* at 628.

48. *Id.*

net neutrality, so long as the regulations do not amount to common carriage.

Alternatively, the court suggested that the Commission could reclassify broadband networks as Title II telecommunications services rather than Title I information services.<sup>49</sup> The *Verizon* decision hinged upon Section 153(51)'s language prohibiting the Commission from imposing common carrier obligations on companies that are not common carriers. Reclassification would subject broadband providers to the common carriage regime originally developed to discipline the Bell Telephone monopoly in the 1930s. Although a more significant regulatory step, this reclassification would formally label broadband providers as "common carriers" and thus render Section 153(51) inapplicable.<sup>50</sup>

The Commission initially chose the former path. In mid-2014, it promulgated a notice of proposed rulemaking to preserve the Open Internet under Section 706 through rules consistent with the *Verizon* decision.<sup>51</sup> For fixed broadband providers, the Commission proposed re-enacting the 2010 no-blocking rule verbatim, while allowing broadband providers to engage in individualized bargaining with edge providers who seek more than a minimum level of access to consumers.<sup>52</sup> In lieu of the problematic unreasonable discrimination rule, the Commission proposed a rule prohibiting "commercially unreasonable" practices,<sup>53</sup> as determined by a multifactor test including the impact of the challenged practice on present and future competition, consumers, speech and civic engagement; technical characteristics; good faith negotiation; and industry practices.<sup>54</sup> This standard, which would be applied on a case-by-case basis, was consistent with the *Verizon* court's holding that any restrictions leave "substantial room for individualized bargaining and discrimination in terms."<sup>55</sup> For wireless providers, the Commission effectively proposed re-enacting its 2010 rules with minimal changes: wireless providers would be prohibited from blocking lawful websites or "applications that compete with the . . . providers' . . . voice or video

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49. *Id.* at 650 ("Given the Commission's still-binding decision to classify broadband providers not as providers of 'telecommunications services' but instead as providers of 'information services,' such treatment would run afoul of Section 153(51)." (citation omitted)); *see also id.* ("[G]iven the manner in which the Commission has chosen to classify broadband providers, the regulations cannot stand.").

50. *But see* Daniel A. Lyons, *Net Neutrality and Nondiscrimination Norms in Telecommunications*, 54 ARIZ. L. REV. 1029, 1031 (2012) (noting that the 2010 rules imposed greater restrictions than traditionally required under Title II common carriage regime).

51. Protecting and Promoting the Open Internet, 29 FCC Rcd. 5561, para. 24 (proposed May 15, 2014) [hereinafter 2014 NPRM].

52. *Id.* paras. 94–95.

53. *Id.* para. 116.

54. *Id.* paras. 122–35 (outlining the proposed multifactor test and its rationale).

55. *Verizon v. FCC*, 740 F.3d 623, 652 (quoting *Cellco P'ship v. FCC*, 700 F.3d 534, 548 (D.C. Cir. 2012)).

telephony services,”<sup>56</sup> but would be exempt from the “commercial reasonableness rule.”

But these proposed rules were heavily criticized by net neutrality proponents because they permitted broadband providers to differentiate among different types of traffic. Consistent with the *Verizon* court’s mandate, the proposed rules would have allowed broadband providers to enter paid prioritization agreements, whereby an Internet content or application provider could pay for its packets to be delivered at a guaranteed minimum speed or to be given priority in the event of network congestion.<sup>57</sup> Proponents argued that this raised the possibility of dividing the Internet into “fast lanes” for those who could afford prioritization and “slow lanes” for everyone else.<sup>58</sup> Comedian John Oliver implored viewers of his HBO show “Last Week Tonight” to complain to the Commission, which prompted enough comments to crash the Commission’s servers.<sup>59</sup> Ultimately, the Commission received a record 3.7 million comments on its proposed rules, most of which argued the rules did not go far enough to protect the Open Internet.<sup>60</sup> And as the comment period closed, President Obama released his own statement criticizing the Commission’s proposed rules and calling upon the agency to adopt more stringent net neutrality restrictions by taking the alternative road implied by the *Verizon* decision: reclassifying broadband providers as Title II common carriers.<sup>61</sup>

Responding to this criticism, the Commission changed course and in February 2015 enacted binding regulations that placed greater restrictions on broadband providers than either its 2010 rules or its 2014 proposed rules.<sup>62</sup> The final rules prohibit three specific practices that the Commission has deemed a threat to the Open Internet:

- **Blocking:** Broadband providers “shall not block lawful content, applications, services, or non-harmful devices, subject to reasonable network management.”<sup>63</sup>

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56. 2014 NPRM, *supra* note 51, para. 105.

57. *Id.* paras. 95–96.

58. See, e.g., Public Knowledge, Benton Found., & Access Sonoma Broadband, Comments on Protecting & Promoting the Open Internet 34–35 (July 15, 2014), available at [https://www.publicknowledge.org/assets/uploads/blog/Public\\_Knowledge\\_NN\\_NPRM\\_comments\\_2014\\_FINAL.pdf](https://www.publicknowledge.org/assets/uploads/blog/Public_Knowledge_NN_NPRM_comments_2014_FINAL.pdf).

59. Soraya Nadia McDonald, *John Oliver’s Net Neutrality Rant May Have Caused FCC Site Crash*, WASH. POST, June 4, 2014, <http://www.washingtonpost.com/news/morning-mix/wp/2014/06/04/john-olivers-net-neutrality-rant-may-have-caused-fcc-site-crash>.

60. Protecting and Preserving the Open Internet, 30 FCC Rcd. 5601 (2015) [hereinafter *2015 Rules*].

61. Presidential Statement on Internet Neutrality, 2014 DAILY COMP. PRES. DOC. 841 (Nov. 10, 2014), available at <https://www.whitehouse.gov/the-press-office/2014/11/10/statement-president-net-neutrality>.

62. See *2015 Rules*, *supra* note 60.

63. *Id.* para. 15.

- **Throttling:** Broadband providers “shall not impair or degrade lawful Internet traffic on the basis of Internet content, application, or service, or use of a non-harmful device, subject to reasonable network management.”<sup>64</sup>
- **Paid Prioritization:** broadband providers “shall not engage in paid prioritization,” defined as “directly or indirectly favor[ing] some traffic over others, including through use of techniques such as traffic shaping, prioritization, resource reservation, or other forms of preferential traffic management, either (a) in exchange for consideration (monetary or otherwise) from a third party or (b) to benefit an affiliated entity.”<sup>65</sup>

The order supplements these bright-line prohibitions with a “catch-all” standard, under which broadband providers shall not “unreasonably interfere with or unreasonably disadvantage (i) end users’ ability to select, access, and use broadband Internet access service or (ii) edge providers’ ability to make lawful content, applications, services, or devices available to end users.”<sup>66</sup> This standard allows the Commission to investigate practices that may threaten the Open Internet but do not fall within the specific prohibitions described above. Importantly, the Commission applied the rules to fixed and wireless broadband providers alike, thus reversing its earlier policy of applying a lighter touch in the wireless space.<sup>67</sup> To establish its authority to enact such far-reaching rules and to avoid the pitfall of the *Verizon* decision, the Commission reclassified broadband providers as Title II telecommunications carriers.<sup>68</sup>

Through net neutrality, the Commission sought to prohibit broadband providers from erecting barriers to innovation among edge providers. As the Commission explained, the framework is intended “to protect and promote the ‘virtuous cycle’ that drives innovation and investment on the Internet.”<sup>69</sup> The Commission explained that an Open Internet enables “innovations at the edges of the network [which] enhance consumer demand, leading to expanded investments in broadband infrastructure that, in turn, spark new innovations at the edge.”<sup>70</sup> Without such rules, broadband providers may “act as gatekeepers standing between edge providers and consumers” and “reduce the rate of innovation at the edge and, in turn, the likely rate of improvements to network infrastructure.”<sup>71</sup>

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64. *Id.* para. 16.

65. *Id.* para. 18.

66. *Id.* para. 21.

67. *Id.* para. 25.

68. *Id.* para. 331.

69. *Id.* para. 2.

70. *Id.* para. 7.

71. *Id.* para. 20 (quoting *2010 Rules*, *supra* note 22, para. 14).

But to promote innovation by Internet-based edge providers, the rules inhibit innovation by the broadband providers that bring the Internet to consumers. The 2010 rules were explicit about the Commission's desire to prevent broadband providers from changing their business models:

These rules are generally consistent 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>72</sup>

Numerous commentators have faulted the Commission for biasing the market in favor of existing models, arguing it is myopic to sacrifice potential advancements that we might otherwise achieve 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>73</sup> In comments filed in the 2010 proceeding, Yoo noted 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>74</sup> As the market becomes saturated, providers must be free to innovate to deliver increasing value to this disparate array of consumers.<sup>75</sup> Yoo highlighted the wireless broadband market in particular, which faces unique physical characteristics that may demand greater flexibility.<sup>76</sup> Companies often test new 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>77</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 would intervene only in the event that a particular model caused actual consumer harm.<sup>78</sup>

The *Verizon* court found the Commission's conclusion that net neutrality promotes innovation was reasonable and supported by the evidence.<sup>79</sup> But as the MetroPCS anecdote suggests, these restrictions foreclose many potential avenues for innovation within the broadband indus-

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72. 2010 Rules, *supra* note 22, para. 43.

73. Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARV. J.L. & TECH. 1, 25–26 (2005).

74. CHRISTOPHER S. YOO, PRESERVING THE OPEN INTERNET: BROADBAND INDUSTRY PRACTICES 13, 21–22 (comments before the FCC regarding 24 FCC Rcd. 13064 (proposed Oct. 22, 2009)), available at <http://apps.fcc.gov/ecfs>.

75. *Id.* at 26.

76. *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).

77. *Id.* at 33.

78. *Id.* at 42–43.

79. *Verizon v. FCC*, 740 F.3d 623, 628 (D.C. Cir. 2014).

try. 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 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 Article offers a nonexhaustive glimpse into this increasingly rich and diverse market for broadband access services.

## 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 likely do not violate the Commission's net neutrality rules, though at times their efforts to do so have drawn criticism from net neutrality proponents. Notably, the rules do not impose a completely homogenous product on all providers. Rather, the Commission prohibited practices that "*unreasonably* interfere with or unreasonably disadvantage the ability of consumers to reach the Internet content, services, and applications of their choosing or of edge providers to access consumers using the Internet."<sup>80</sup> It is unclear precisely how much flexibility this reasonableness standard affords to broadband providers, although the Commission offered a multi-factor test including whether the practice allows end-user control, whether the practice is use-agnostic, the effect the practice has on innovation and broadband deployment, and whether it has negative competitive effects.<sup>81</sup> Firms are increasingly experimenting with different models that likely do not run afoul of the Commission's restrictions.

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>82</sup> One may describe such plans as 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>83</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.<sup>84</sup> 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>85</sup> Some fixed broadband providers offer similar pricing plans, either imposing a single monthly limit on all consumers with an

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80. 2015 Rules, *supra* note 60, para. 135 (emphasis added).

81. *Id.* paras. 138–40, 142, 144.

82. See, e.g., Daniel A. Lyons, *Internet Policy's Next Frontier: Usage-Based Broadband Pricing*, 66 FED. COMM. L.J. 1, 4 (2013).

83. *Id.* at 11–12.

84. See *id.*

85. *Id.*

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>86</sup> while Time Warner Cable has experimented with lower tiers alongside its traditional unlimited-data plan.<sup>87</sup>

Many consumer groups have criticized usage-based pricing.<sup>88</sup> The Commission has historically endorsed this form of experimentation. For example, in the 2010 rules, it explained:

[P]rohibiting 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. . . . 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>89</sup>

The 2015 order is somewhat less charitable. In it, the Commission reserved judgment on whether usage-based pricing was reasonable, noting some commenters' assertions that monthly limits can be used anticompetitively.<sup>90</sup> But tiered pricing seems likely to meet the Commission's standard, at least in the absence of evidence of actual anticompetitive effects. It enhances end-user control by charging customers based upon the data they actually use, without interfering with the consumer's ability to reach the Internet content of his or her choice.

In addition to varying the quantity of broadband service, American providers are also experimenting with speed-based pricing tiers, which one may describe 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>91</sup> For

86. See *What XFINITY Internet Data Usage Plans Will Comcast Be Launching?*, COMCAST, <http://customer.comcast.com/help-and-support/internet/data-usage-what-are-the-different-plans-launching> (last visited Nov. 8, 2015).

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

88. See, e.g., ANDREW ODLYZKO ET AL., KNOW YOUR LIMITS: CONSIDERING THE ROLE OF DATA CAPS AND USAGE BASED BILLING IN INTERNET ACCESS SERVICE 48–53 (2012), available at <https://www.publicknowledge.org/files/UBP%20paper%20FINAL.pdf> (criticizing usage-based pricing).

89. *2010 Rules*, *supra* note 22, para. 72.

90. *2015 Rules*, *supra* note 60, para. 153.

91. See, e.g., Daniel A. Lyons, *We Should Promote Broadband Pricing Innovation*, COMPUTERWORLD (June 18, 2013, 9:17 AM),

example, Comcast's "Performance Starter" Internet service offers up to six megabits per second (Mbps) download speed.<sup>92</sup> But customers can upgrade to premium plans offering download speeds of 25, 105, 150, or more megabits per second.<sup>93</sup> Some broadband providers offer unlimited monthly data at various speeds, while others offer plans that vary both maximum speed and monthly data limits.<sup>94</sup> Like tiered service plans, tiered speed plans help differentiate customers in use-agnostic ways and therefore are likely to be considered reasonable network management practices.

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 generally requires providers to offer all users the opportunity to reach the entire Internet, which may be costly and may 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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[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); Michael Weinberg, *Price Discrimination and Data Caps Are Not the Same Thing*, ALL THINGS D (Apr. 8, 2013, 3:26 PM), <http://allthingsd.com/20130408/price-discrimination-and-data-caps-are-not-the-same-thing>.

92. *Shop: XFINITY Internet*, COMCAST, <http://www.comcast.com/internet-service.html> (last visited Feb. 19, 2014).

93. *Id.*

94. For example, in some markets, Comcast offers several tiers of service at different speeds, but in other markets, each tier is subject to a soft monthly data cap and an overage charge for exceeding the plan. See Teff Baumgartner, *Comcast, TWC Try on Data Caps*, MULTICHANNEL NEWS, Aug. 5, 2013, available at 2013 WLNR 19139706; *What XFINITY Internet Data Usage Plans Will Comcast Be Launching?*, *supra* note 86. By comparison, Verizon offers multiple speed tiers with unlimited monthly consumption at each tier. See *Verizon FiOS Internet Plans*, VERIZON, <http://www.verizon.com/home/fios-fastest-internet/fastest-internet-plans/> (last visited Feb. 19, 2015).



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.

### 1. 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>95</sup> In 2012 the company launched a similar "Twitter Zero" promotion.<sup>96</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.<sup>97</sup> 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>98</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>99</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 seems to have worked. Although it is difficult to determine what proportion of the population would have adopted mobile social media even without the promotion, Turkcell reported the free Facebook offer helped spark an 820% increase in mobile Facebook use in 2010.<sup>100</sup> By the end of the year, 6.5 million Turkcell customers were accessing Facebook on their phones each month.<sup>101</sup> And Twitter Zero led to a 340% increase in mobile Twitter use.<sup>102</sup> These translated into significant upselling opportunities for the company. Turkcell sold 30,000 social media packages in the first week the add-on was available, and 600,000 in the first four months.<sup>103</sup> Turkcell reported this promotion increased average revenue per customer by nine percent.<sup>104</sup>

Nor is Turkcell alone in leveraging the popularity of social media to expand its revenue base. In early 2013, Facebook announced it had struck similar deals with eighteen wireless-service providers in fourteen

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95. TURKCELL ANNUAL REPORT 2010, at 26 (2010), available at <http://yatirimci-2010-eng.turkcell.com.tr/downloads/Turkcell-EN-FR-2010.pdf>.

96. @TurkcellNews, *TURKCELL News*, TWITTER (June 26, 2012, 5:22 AM), <https://twitter.com/TurkcellNews/status/217578634221862912>.

97. See OPENET, REAL WORLD EXAMPLES OF INNOVATIVE DATA CENTRIC OFFERS 4 (2013).

98. See *id.* ("5 TL/month (approx., US \$2.80).").

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.*

104. *Id.*

countries, including partners in Portugal, Ireland, India, Bulgaria, Azerbaijan, and Indonesia, to secure free or discounted data plans for Facebook users.<sup>105</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>106</sup> Twitter-based promotions are also popular, the most recent of which was recently announced by Ucell in Uzbekistan.<sup>107</sup>

## 2. 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.<sup>108</sup> 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>109</sup>

### C. "Feature Phone Access" Partnerships

One related area of innovation is in wireless carrier partnerships with edge 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>110</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.<sup>111</sup> Most lack data plans, and if they have Internet access at all, it is through a protocol developed nations abandoned several years ago.<sup>112</sup> To bring the

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105. See *Facebook Offering Mobile Deal in 14 Countries*, CNBC Reports, ARKA TELECOM (Feb. 26, 2013, 11:45 AM), [http://telecom.arka.am/en/news/internet/facebook\\_offering\\_mobile\\_deal\\_in\\_14\\_countries\\_cncb\\_reports](http://telecom.arka.am/en/news/internet/facebook_offering_mobile_deal_in_14_countries_cncb_reports).

106. *Brazil: Claro Partners with Facebook*, IT DIG. (S. AM.), Aug. 2, 2013, available at 2013 WLNR 19138975.

107. See *Ucell Activated New Service Twitter Zero*, UZ DAILY (Apr. 5, 2013), <http://www.uzdaily.com/articles-id-22618.htm>.

108. Joyce Joan Wangui, *Kenya: Safaricom, Google in Internet Partnership*, ALL AFRICA (Nov. 21, 2007), <http://allafrica.com/stories/200711210365.html>.

109. See *id.*

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

111. See, e.g., Nicole Lee, *The 411: Feature Phones vs. Smartphones*, CNET (Mar. 1, 2010, 5:14 PM), <http://www.cnet.com/news/the-411-feature-phones-vs-smartphones>.

112. Christopher Mims, *Facebook's Plan to Find Its Next Billion Users: Convince Them the Internet and Facebook Are the Same*, QUARTZ (Sept. 24, 2012), <http://qz.com/5180/facebooks-plan-to-find-its-next-billion-users-convince-them-the-internet-and-facebook-are-the-same>. The abandoned protocol is known as Wireless Application Protocol or WAP. See *id.* Feature phones with WAP browsers can access websites that are specifically tailored to use the protocol. See *id.* In the US and

Internet to these consumers, wireless companies are partnering with edge providers to design code that would extend their products to feature phone users on limited-capacity networks.<sup>113</sup>

### 1. Facebook Zero

Facebook was one of the first edge providers to move into this space. In 2010, the company launched Facebook Zero—0.facebook.com—which offered a basic version of the company’s ubiquitous social networking service.<sup>114</sup> The service was primarily text-based and lacks photos, graphics, and other features of the general service.<sup>115</sup> Facebook negotiated with fifty wireless carriers around the world to allow feature phones on their networks to access the service without charge.<sup>116</sup> The company followed this in July 2011 with Facebook for Everyone, a Java app designed to run on eighty percent of all mobile phones in existence.<sup>117</sup> 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>118</sup>

The service proved popular, particularly in Africa, where most consumers are on prepaid plans and are attracted to services that do not debit one’s prepaid account.<sup>119</sup> In the first eighteen months after launching the service in Africa, Facebook saw a 114% increase in the number of Africans using the service.<sup>120</sup> It is also popular in the Philippines, Vietnam, and Latin America.<sup>121</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>122</sup>

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Europe WAP has largely disappeared, because mobile browsers now support HTML, CSS, and Javascript, thus obviating the need to use the separate WAP protocol. *See id.*

113. *See id.*

114. 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>.

115. *See id.*

116. Matt Hicks, *Fast and Free Facebook Mobile Access with 0.facebook.com*, FACEBOOK (May 18, 2010, 3:20 PM), <https://www.facebook.com/blog/blog.php?post=391295167130>.

117. *See Mims, supra* note 112.

118. *Id.*

119. *See id.*

120. *Id.*

121. *Id.*

122. *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. *Id.*

## 2. Google Free Zone

Perhaps not to be outdone, Google launched its own stripped-down bundle of services for feature phones in 2012.<sup>123</sup> Google Free Zone offers feature phone users access to Gmail, the Google Plus social network application, and Google search results.<sup>124</sup> Like Facebook Zero, the service is free to the customer as a result of agreements with participating wireless carriers.<sup>125</sup> If a customer clicks on links within any of the programs (including the results of a Google search), the customer receives a warning that he or she is leaving the free zone and may incur additional charges.<sup>126</sup>

The service launched in the Philippines in late 2012 as a partnership with wireless provider Globe.<sup>127</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>128</sup> The service also launched in South Africa in partnership with Telekom Mobile/8ta, though at the end of its trial run in May 2013, the program was terminated.<sup>129</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 does not pay for the data Facebook Zero users consume.<sup>130</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 edge 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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123. 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>.

124. *Id.*

125. *Id.*

126. *Id.*

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

128. *Are You in the Free Zone?*, GOOGLE FREE ZONE, <http://googlefreezone.com/> (last visited Feb. 19, 2105); Prashant Reddy, *Poke Me: Why Consumers, Not Companies, Should Be Kings of Internet*, ECON. TIMES (Jul. 24, 2013, 7:06 PM), <http://articles.economictimes.indiatimes.com/2013-07-24/news/40771834>.

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

130. 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>.

Many net neutrality proponents have criticized these initiatives as watered-down, “walled garden” experiences that are pale imitations of true Internet access.<sup>131</sup> Professor Susan Crawford argues, “[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>132</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>133</sup>

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

In more developed markets, wireless providers are also signing agreements with edge providers to use the wireless platform as a promotional tool for Internet-based 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.

##### 1. VoIP Partnerships

TELUS, Canada’s third-largest wireless provider, has signed a strategic partnership with Microsoft to promote Voice-over-Internet-Protocol (VoIP) provider Skype on many of its network’s smartphones.<sup>134</sup> The Skype 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.<sup>135</sup> TELUS allows customers the option to purchase Skype credit and have the charge turn up on their monthly TELUS bills.<sup>136</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 sixty minutes of Skype international calling free.<sup>137</sup>

In February 2013, Internet-based VoIP and messaging provider Viber announced it wished to enter into revenue-sharing agreements with

131. See David Talbot, *Facebook and Google Create Walled Gardens for Web Newcomers Overseas*, MIT TECH. REV. (Mar. 21, 2013), <http://www.technologyreview.com/news/512316/facebook-and-google-create-walled-gardens-for-web-newcomers-overseas>.

132. See Talbot, *supra* note 130.

133. *Id.*

134. See Press Release, TELUS Co., TELUS and Skype Sign Agreement to Offer the Best Customer Service for On-the-Go Skype Users (Sept. 6, 2011, 7:00 AM), available at [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).

135. See *id.*

136. *Id.*

137. *Id.*

wireless providers.<sup>138</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>139</sup>

## 2. WhatsApp

Wireless providers are also bundling traditional services with access to the popular WhatsApp program. WhatsApp is a cross-platform instant-messaging subscription service for smartphones that offers users unlimited messaging for \$0.99 each year.<sup>140</sup> Though not popular in the United States, WhatsApp boasts over 300 million active users worldwide<sup>141</sup> and claims to process 50 billion messages each day.<sup>142</sup>

The service is a substitute for traditional text-messaging services, which have historically been a significant profit center for wireless providers.<sup>143</sup> Despite this fact, some wireless firms have been eager to capitalize on the app (which is the most popular paid app in over 100 countries)<sup>144</sup> to attract market 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>145</sup> This partnership helped WhatsApp achieve over fifty percent penetration of the Hong Kong wireless market—over three million users.<sup>146</sup> Shortly thereafter, Malaysian provider Digi held a promotion allowing customers five consecutive days of unlimited WhatsApp ac-

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

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

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

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

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

143. See Brian X. Chen, *Apps Redirect Text Messages, and Profits, from Cellular Providers*, N.Y. TIMES, Dec. 5, 2012, at B1.

144. Bea, *supra* note 140.

145. *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), *available at* [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).

146. See Gannes, *supra* note 141; Alan Yu, *Facebook's WhatsApp Blasted for Failing to Protect Users' Rights*, S. CHINA MORNING POST (June 22, 2015), <http://www.scmp.com/tech/social-gadgets/article/1824929/facebooks-whatsapp-blasted-failing-protect-users-rights>.

cess,<sup>147</sup> and SingTel of Singapore recently began bundling WhatsApp with its tiered pricing plans.<sup>148</sup>

As noted above, these joint ventures may surprise regulators who might have 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 postpaid market, 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.

The TELUS-Skype deal also 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, 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.

### 3. Opera

Norway's Opera Software has also forged partnerships with wireless carriers worldwide to enhance the customer's mobile Internet experience while growing market share for the company's products. The company is most famous for its Opera Mini web browser, an app that uses cloud-based compression technology to reduce the amount of data a consumer uses when surfing the web on his or her mobile device.<sup>149</sup> Opera claims its techniques can compress webpages by up to ninety percent, which both reduces the customer's data usage and alleviates congestion on a carrier's wireless network.<sup>150</sup> For this reason, the company has successfully partnered with 130 mobile operators worldwide to introduce co-branded versions of the Opera Mini browser and other Opera services to over 250 million customers.<sup>151</sup>

One noteworthy service available through the Opera Mini browser is the Opera Web Pass, which allows consumers to purchase mobile Internet access in amounts other than those offered by traditional monthly

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

148. *SingTel Partners with WhatsApp, Rolls-Out Plans for Prepaid Customers*, SING. GOV'T NEWS, Aug. 6, 2013, available at 2013 WLNR 19347009.

149. *See Opera Mini*, OPERA SOFTWARE, <http://www.operasoftware.com/products/opera-mini> (last visited Feb. 19, 2015).

150. *See id.*

151. *See id.*

or prepaid plans.<sup>152</sup> Customers of participating carriers can use Opera Software to purchase short-term access for weekly, daily, hourly, or even three-minute intervals, each at a different price.<sup>153</sup> Opera allows the customer to purchase full Internet access or to purchase access only to specific sites such as Facebook or Twitter.<sup>154</sup> And in a throwback to dial-up era marketing plans here in the United States, the Opera Sponsored Web Pass helps operators partner with companies to grant customers a free web pass after viewing a short advertisement by a sponsoring company.<sup>155</sup>

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

To gain an advantage on competitors, many wireless providers around the world have also forged partnerships with edge providers to offer their subscribers exclusive or preferred access to attractive content. For example, from 2011 until 2013 French telecommunications provider Orange offered Swapables, a premium data package that allowed top-tier customers free access to one or two subscription-based services from a wide menu of popular content including Sky Sports TV, the Deezer music service, and the Times newspaper.<sup>156</sup> Orange fixed the value of this service at £20 per month.<sup>157</sup> The company noted that these additional services increased customer loyalty: customers with an active Deezer connection, for example, were half as likely as others to terminate their plans.<sup>158</sup> T-Mobile also allows its customers in the Netherlands discounted Deezer services with a subscription,<sup>159</sup> and in Canada, TELUS has bundled some of its plans with streaming service Rdio free of charge.<sup>160</sup>

In Denmark, access to premium content has become a significant plane of competition among mobile providers. Strand Consult's Roslyn Layton notes it is the only country in the world in which every major mobile operator offers a package that includes music: incumbent TDC offers its own Play service, while wireless company 3 offers Deezer, and

152. *Opera Web Pass*, OPERA SOFTWARE, <http://www.operasoftware.com/products/web-pass> (last visited Feb. 19, 2015).

153. *See id.*

154. *See id.*

155. *See id.*

156. OPENET, *supra* note 97, at 9.

157. *Id.*

158. STÉPHANE RICHARD & GERVAIS PELLISSIER, FRANCE TELECOM ORANGE: 3Q12 RESULTS AND OUTLOOK 25 (2012), available at [http://www.orange.com/en/content/download/7459/108306/version/2/file/Q3%2712+presentation\\_VDEF\\_ENG\\_sans+speakers.pdf](http://www.orange.com/en/content/download/7459/108306/version/2/file/Q3%2712+presentation_VDEF_ENG_sans+speakers.pdf).

159. Press Release, Deezer Unveils Exclusive Partnership with T-Mobile in The Netherlands (May 7, 2012), available at <http://www.prnewswire.com/news-releases/deezer-unveils-exclusive-partnership-with-t-mobile-in-the-netherlands-150437275.html>.

160. Press Release, TELUS and Rdio to Partner to Take the Social Media Experience to the Next Level (July 7, 2011, 11:30 AM), available at [http://about.telus.com/community/english/news\\_centre/news\\_releases/blog/2011/07/07/telus-and-rdio-to-partner-to-take-the-social-music-experience-to-the-next-level](http://about.telus.com/community/english/news_centre/news_releases/blog/2011/07/07/telus-and-rdio-to-partner-to-take-the-social-music-experience-to-the-next-level).



Telia offers Spotify.<sup>161</sup> Service provider Telmore has gone even further: in addition to offering a streaming music service free with all wireless packages, Telmore offers a plan with premium content including digital movies, television, newspapers, and magazines, for €33 per month.<sup>162</sup> Strand estimates the included content would cost €127 monthly if ordered a la carte.<sup>163</sup>

In the United States, companies are experimenting with such partnerships on a much smaller scale. For example, AT&T has partnered with airport Wi-Fi provider Boingo to allow certain AT&T subscribers 1GB of access each month on Boingo hotspots.<sup>164</sup> 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.<sup>165</sup> 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 telephone 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.<sup>166</sup>

#### *F. Equipment Subsidies*

Finally, many broadband companies abroad have contracted with providers to influence 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 ser-

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161. Roslyn Layton, *Apple iTunes Downloading vs. Spotify Streaming: Which Will Prevail in the Playlist Economy?*, TECHPOLICYDAILY.COM (Aug. 29, 2014, 6:00 AM), <http://www.techpolicydaily.com/communications/apple-itunes-vs-spotify-streaming>.

162. *The Mother of No Frill MVNOs, Denmark's Telmore, Sets a New Standard for Bundled Mobile Traffic and Content. A package of Premium Content Worth €127 Goes for €11/month.*, STRAND CONSULT, <http://strandreports.com/sw6174.asp> (last visited Feb. 14, 2015).

163. *Id.*

164. OPENET, *supra* note 97, at 11.

165. Mike Ozanian, *Verizon and NFL Score with New \$1 Billion Wireless Deal*, FORBES (July 25, 2013, 11:30 AM), <http://www.forbes.com/sites/mikeozanian/2013/07/25/verizon-and-nfl-score-with-new-1-billion-mobile-deal/>.

166. *AT&T Smart Limits*, AT&T, <http://www.att.com/esupport/article.jsp?sid=KB92823> (last visited Feb. 15, 2015).

vice in the United States.<sup>167</sup> Bell Canada invested \$100 million in Clearwire, much of which was used to deploy network architecture.<sup>168</sup> In exchange, Clearwire named Bell Canada its exclusive strategic partner for VoIP and other IP services in the United States.<sup>169</sup> It was unclear what precisely this agreement required from 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>170</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 by 2008, three years before the rules took effect.<sup>171</sup>

### *G. Innovation Within the United States*

Wireless carriers within the American market have also begun exploring alternative business models that might deliver Internet-based content and applications to consumers in different and potentially more efficient ways. In late 2013, Verizon had floated the possibility of entering into “toll-free data” agreements with providers of popular Internet content.<sup>172</sup> Under such agreements, a particular edge provider would pay a fee to the carrier, which would allow the carrier’s customers to access the edge provider’s services without incurring data charges toward the customer’s monthly data allotment.<sup>173</sup> In January 2014 AT&T formally launched a similar program, known as “Sponsored Data.”<sup>174</sup> The company developed a program with which any interested edge provider could have its traffic “zero-rated” on the AT&T network, meaning customers could download the provider’s content without incurring data charges.<sup>175</sup> Instead, the program allows AT&T to bill the edge provider for the cost

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167. BELL CAN. ENTERPRISES, 2006 ANNUAL INFORMATION FORM 20 (2007), available at [http://www.bce.ca/assets/Uploads/Documents/archivesAnnualReport/BCE/2006/BCE\\_aif\\_2006\\_en.pdf](http://www.bce.ca/assets/Uploads/Documents/archivesAnnualReport/BCE/2006/BCE_aif_2006_en.pdf).

168. *Id.*

169. *Id.*

170. Ben Charny, *Vonage Says Clearwire Interfered with VoIP Calls*, CNET (Apr. 6, 2005, 1:04 PM), [http://news.cnet.com/Vonage-says-Clearwire-interfered-with-VoIP-calls/2100-7352\\_3-5657386.html](http://news.cnet.com/Vonage-says-Clearwire-interfered-with-VoIP-calls/2100-7352_3-5657386.html).

171. See Tricia Duryee, *Bell Canada Picks LTE for 4G Despite Investments in WiMax and Clearwire*, MOCO NEWS.NET (Oct. 10, 2008), available at <http://www.washingtonpost.com/wp-dyn/content/article/2008/10/10/AR2008101002840.html> (“[A]lthough Bell Canada continues to be a shareholder, the company no longer uses Bell Canada’s VoIP technology and [Bell Canada CEO Michael] Sabia will leave the board once Clearwire finalizes its merger with Sprint.”)

172. 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>.

173. *Id.*

174. See Press Release, AT&T, AT&T Introduces Sponsored Data for Mobile Data Subscribers and Businesses (Jan. 6, 2014), available at <http://www.att.com/gen/press-room?pid=25183>.

175. See *Messaging APIs (SMS and MMS) FAQs*, AT&T, <http://developer.att.com/support/faqs/messaging-apis-faqs> (last visited Feb. 19, 2015).

of the customer's data.<sup>176</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 edge providers as well, as a way to differentiate their content from that of their rivals online.<sup>177</sup>

Seattle-based startup Syntonic Wireless seeks to develop more comprehensive alternative methods of enabling the delivery of mobile content to consumers. The company has developed proprietary technology known as the Connected Services Platform to provide application-specific bandwidth to mobile devices.<sup>178</sup> In August 2014, the company leveraged that technology, in conjunction with AT&T Wireless, to launch the Freeway app, "a one-stop shop for AT&T mobile customers to access free or premium mobile content without incurring data charges."<sup>179</sup> Companies ranging from large edge providers like Expedia to small startups like BBA Studios are using Freeway to deliver content to loyal customer bases and to find new customers by allowing them to sample that content without cost.<sup>180</sup>

Syntonic has also launched On-Ramp Educational Services, a service designed to bring increased connectivity to school districts.<sup>181</sup> Through On-Ramp, school districts can distribute 4G-enabled laptops to students, which are specially calibrated to access only curriculum-approved applications and content.<sup>182</sup> Using On-Ramp, a school district can leverage mobile broadband to improve the educational experience both in the classroom and at students' homes, while avoiding the costs and security risks of unauthorized personal use of district-provided devices.<sup>183</sup> The service launched with Highline School District in Washington State in September 2014.<sup>184</sup>

Going forward, the company envisions using its technology to deliver Internet-based content to a wide range of devices that can be con-

176. See 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>.

177. See *id.*

178. See GARY S. GREENBAUM, FRAMEWORK FOR BROADBAND INTERNET SERVICE: OPEN INTERNET RULEMAKING at 4 (reply comments before the FCC regarding GN Docket Nos. 10-127 & 14-28 (Sept. 3, 2014)) [hereinafter Greenbaum, Syntonic Reply Comments], available at <http://apps.fcc.gov/ecfs/document/view?id=7521827783>; Press Release, Syntonic Wireless, Syntonic Wireless(TM) Introduces Sponsored Content Store (July 10, 2014), available at <http://www.marketwatch.com/story/syntonic-wirelesstm-introduces-sponsored-content-store-2014-07-10>.

179. Greenbaum, Syntonic Reply Comments, *supra* note 178, at 9.

180. See *id.*; see also Alex Samuely, *Expedia Reduces Friction for Mobile Engagement with Sponsored Data*, MOBILE MARKETER (Oct. 28, 2014), <http://www.mobilemarketer.com/cms/news/advertising/19013.html>.

181. Greenbaum, Syntonic Reply Comments, *supra* note 178, at 11.

182. See *id.*

183. *Id.*

184. *Id.*

nected to a wireless network but are not covered by data plans, or which the provider would want exempted from the consumer's data plan.<sup>185</sup> These may include streaming entertainment or navigation content to wireless-enabled automobiles; monitoring a medical patient's health and vital signs remotely, around the clock; and helping employers manage bring-your-own-device policies by providing a suite of workplace-specific applications that an employee could access on a personal mobile device without incurring charges on his or her monthly data plan.<sup>186</sup>

As part of its ongoing efforts to distinguish itself from its competition, T-Mobile has targeted American consumers interested in receiving streaming music.<sup>187</sup> T-Mobile's Simple Choice Plan not only offers unlimited talk and text along with a monthly allotment of data, but also includes unlimited streaming from selected Internet-based streaming audio services such as Pandora and iHeartRadio.<sup>188</sup> The top-tier Simple Choice Plan also includes a subscription to Rhapsody's unRadio service for devices compatible with the service.<sup>189</sup> The zero-rating and bundling of certain streaming audio content mirrors the partnerships T-Mobile and others have entered into in European wireless markets to differentiate themselves from their competition.

Sprint has also announced plans to offer a differentiated wireless broadband access plan. In a press release, the company indicated it will soon test-market social media and other voice-plus plans under its Virgin Mobile brand, which will offer customers unlimited talk and text, plus access to a limited suite of mobile broadband services, such as Facebook, Twitter, Instagram, or Pinterest.<sup>190</sup> The press release suggests a desire to import the alternative access models that Turkcell and others have used effectively to reach those consumers who are interested in accessing some Internet services on mobile devices, but who are unwilling or unable to buy a traditional full-access wireless data package.

### III. REGULATING VERTICAL AGREEMENTS

Given the growing number of business models cropping up worldwide, and the tentative exploration of alternative models by American companies, it is important to consider how these plans will fare under the Commission's new net neutrality rules. As noted above, the rules explic-

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185. See SYNTONIC, <http://www.syntonicwireless.com> (last visited Feb. 19, 2015).

186. See *id.*

187. See Thomas Gryta, *T-Mobile Will Waive Data Fees for Music Services*, WALL ST. J. (June 18, 2014, 9:51 PM), <http://www.wsj.com/articles/t-mobile-will-waive-data-fees-for-music-service-1403142678>.

188. *The Simple Choice Plan*, T-MOBILE, <http://www.t-mobile.com/cell-phone-plans/individual.html> (last visited Feb. 19, 2015).

189. *Id.*

190. Ryan Knutson, *Sprint Will Sell a \$12 Wireless Plan that Only Connects to Facebook or Twitter*, WALL ST. J. BLOG (July 30, 2014, 9:04 AM), <http://blogs.wsj.com/digits/2014/07/30/sprint-tries-a-facebook-only-wireless-plan>.

itly favor the traditional broadband model.<sup>191</sup> The Commission seems willing to entertain the notion that some innovation is permissible within the broadband space, cabined by its awkward and amorphous “no unreasonable interference/disadvantage” standard.<sup>192</sup> But it has also emphasized the need to “protect” and “preserve” the Open Internet, rhetoric that suggests a bias toward the status quo.<sup>193</sup>

#### *A. Applying Net Neutrality to Alternative Business Models*

Of the alternative business models discussed in Part II above, the ones that seem most at risk under the Open Internet rules are those involving only partial web access, such as voice-plus or social media plans. In the 2010 rules, the Commission suggested 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>194</sup>

It is likely that this analysis remains relevant today, given that the Commission explained that the record “overwhelmingly supports the . . . re-adopting of the original [2010] rule” and that it therefore intends the existing rule to be “[s]imilar to the 2010 no-blocking rule.”<sup>195</sup> Throughout the order, the Commission repeatedly emphasized the importance of allowing consumers to reach all lawful Internet content,<sup>196</sup> and importantly, the duty now applies fully to wireless as well as fixed broadband providers.<sup>197</sup> Under this rule, the Commission could reasonably find plans such as those proposed by Sprint, which provide access to a select number of online services, effectively block consumers from reaching other websites that are not included within the limited package.

Chile has expressly interpreted its net neutrality rules in just this fashion. Chile famously enacted the world’s first net neutrality rule in

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191. See *supra* Part II.A.

192. See *supra* text accompanying note 66.

193. See, e.g., *2015 Rules*, *supra* note 60, paras. 74, 102.

194. *2010 Rules*, *supra* note 22, para. 47 (footnote omitted).

195. *2015 Rules*, *supra* note 60, paras. 112, 113.

196. See, e.g., *id.* para. 111.

197. *Id.* para. 117.

2010.<sup>198</sup> Subtel, the nation's telecommunications regulator, ruled that promotional plans coupling traditional voice service with access to selected online content, violate the law and mandated that broadband providers cannot "arbitrarily block, interfere with, discriminate, hinder, or restrict the right of any Internet user to use, send, receive, or offer any content, application, or legal service through the Internet."<sup>199</sup> Subtel's concern is that by granting free access to Facebook, wireless providers are handicapping a hypothetical future competitor to the social media giant, which consumers would not be able to reach for free unless this new competitor struck a similar deal with carriers.<sup>200</sup>

Similarly, it is unclear whether sponsored data and other zero-rated data agreements survive the Commission's "no unreasonable interference/disadvantage" standard. The 2015 order explicitly refused to decide the issue. As with usage-based pricing, the Commission noted that the record reflected "mixed views" about the desirability of the practice.<sup>201</sup> On the one hand, the Commission noted, zero-rated data can "increase choice and lower costs for consumers" by offering them free content above and beyond their monthly data allotments.<sup>202</sup> It also creates a point of differentiation among edge providers, allowing a way by which one edge service can distinguish itself from its competition.<sup>203</sup> On the other hand, the Commission explained, zero-rating certain data can distort competition in favor of those who can afford to pay their customers' data charges and may disadvantage less-well-funded edge providers.<sup>204</sup>

Many net neutrality advocates have been less ambivalent, arguing that such agreements should be barred.<sup>205</sup> Shortly after Sprint announced its future plans, Free Press decried the fact that the alternative business model "'helps lock in the existing choices and not let the new ones grow more organically' . . . . 'That's just not the way the Internet has worked.'"<sup>206</sup> Similarly, Public Knowledge described T-Mobile's streaming music plans as, "the latest example of ISPs using data caps to under-

198. *Chile: First Country to Legislate Net Neutrality*, GLOBAL VOICES (Sept. 4, 2010, 2:49 PM), <http://globalvoicesonline.org/2010/09/04/chile-first-country-to-legislate-net-neutrality>.

199. Daniel Lyons, *In Chile, Net Neutrality Widens the Digital Divide*, TECHPOLICYDAILY.COM (June 2, 2014, 6:00 AM), <http://www.techpolicydaily.com/communications/chile-net-neutrality-widens-digital-divide> (quoting a translation of Chile's net neutrality law, Law No. 20.453, Augusto 26, 2010 (Chile), available at <http://bcn.cl/1087>) (internal quotation marks omitted).

200. *Id.*

201. *2015 Rules*, *supra* note 60, para. 151.

202. *Id.*

203. *Id.*

204. *Id.*

205. *See, e.g.*, Michael Weinberg, *AT&T's New Sponsored Data Scheme Is a Tremendous Loss for All of Us*, PUB. KNOWLEDGE (Jan. 8, 2014), <http://www.publicknowledge.org/news-blog/blogs/attas-new-sponsored-dataa-scheme-tremendous>.

206. Ryan Knutson, *Sprint Tries a Facebook-Only Plan*, WALL ST. J. (July 30, 2014, 6:03 PM), <http://online.wsj.com/articles/sprint-tries-a-facebook-only-plan-1406724847> (quoting Matt Wood, Free Press policy director).

mine net neutrality. . . . [T]his type of gatekeeping interference by ISPs is exactly what net neutrality rules should be designed to prevent.”<sup>207</sup> And both have condemned sponsored data as “a [l]ose-[l]ose for [c]ustomers and [a]pp [m]akers”<sup>208</sup> and a “tremendous loss for all of us.”<sup>209</sup> These commenters and others have pressed the Commission to enact more stringent rules on wireless broadband providers. If their efforts are successful, these agreements may also be restricted or prohibited outright.

More promisingly, the 2015 rules seem to create a space for experimentation with targeted services and specialized devices such as Syn-tonic’s On-Ramp Educational Service and its proposed business-oriented solutions. As the “Internet of Things”<sup>210</sup> expands to include more wired devices, an increasing portion of the nation’s wireless networks will be dedicated to devices that need only limited connectivity. The Commission explained that it will not apply its content-based net neutrality rules to “services offered by broadband providers that share capacity with broadband Internet access service over providers’ last-mile facilities” but that fall outside the Commission’s definition of “broadband Internet access service.”<sup>211</sup> Included on this list of so-called “non-BIAS services” are facilities-based VoIP service and IP-based cable programming, which many broadband providers offer as separate businesses and which few have thought should be subject to net neutrality rules.<sup>212</sup> The rules helpfully offer a non-exhaustive list of other excluded services, including Internet connectivity bundled with e-readers, connected heart monitors and energy sensors, and “services that provide schools with curriculum-approved applications and content.”<sup>213</sup> Although these app-specific offerings are not explicitly subject to the Open Internet rules, the Commission has retained jurisdiction to review complaints that such offerings are “providing a functional equivalent of broadband Internet access service” or are otherwise undermining Open Internet principles.<sup>214</sup>

At a minimum, the Commission’s new rules cast doubt upon the legality of numerous alternative wireless broadband business models that are currently available and popular in international markets. The amorphous “no unreasonable interference/disadvantage” standard potentially sweeps broadly to encompass a wide range of possible broadband busi-

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207. Michael Weinberg, *T-Mobile Uses Data Caps to Manipulate Competition Online, Undermine Net Neutrality*, PUB. KNOWLEDGE (June 19, 2014), <https://www.publicknowledge.org/news-blog/blogs/t-mobile-uses-data-caps-to-manipulate-competition-online-undermine-net-neut>.

208. Press Release, Free Press, AT&T Sponsored Data Scheme is a Lose-Lose for Customers and App Makers (Jan. 6, 2014), available at <http://www.freepress.net/press-release/105490/att-sponsored-data-scheme-lose-lose-customers-and-app-makers>.

209. Weinberg, *supra* note 207.

210. See *Internet of Things*, WHATIS.COM, <http://whatis.techtarget.com/definition/Internet-of-Things> (last visited Feb. 19, 2015).

211. *2015 Rules*, *supra* note 60, para. 207.

212. *Id.* para. 208.

213. *Id.*

214. *Id.* para. 210.

ness models. As innovators such as Syntonic have noted, the shadow of regulation can discourage companies from testing new ideas. Even if the rules ultimately bar only voice-plus plans, the net effect would be to limit consumer choice and deprive the American market of options that are proving popular internationally.

Underlying the net neutrality initiative is the implication consumers are better served by a legal regime in which all Internet connections reach all Internet endpoints.<sup>215</sup> But developments in the wireless marketplace suggest this implication may be fallacious. The proliferation of Internet-connected devices means consumers have multiple ways of reaching the Internet, and do not necessarily need every device to access every Internet endpoint at all times. Moreover, as an increasing amount of our daily activities migrate online, different customers are likely to demand different services from their network providers. Allowing broadband providers to tailor offerings to customers' particular preferences can be more efficient than forcing them into one-size-fits-all plans that are ill-suited to their needs. In an increasingly diverse Internet ecosystem, innovative new broadband models can potentially enhance consumer welfare. Before enforcing rules that would retard these innovations, the Commission should consider carefully the rationale for reducing opportunities for experimentation in this space.

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

At its base, net neutrality stems from concerns about vertical foreclosure. The Commission and its supporters fear 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 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.

As the *Verizon* court noted, the Commission raised a legitimate concern. Firms sometimes have incentives to engage in anticompetitive vertical foreclosure.<sup>216</sup> A vertically integrated firm, for example, may leverage market power in one segment to improve its position in another segment.<sup>217</sup> Many commentators suggest these motives were present 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 VoIP services from operating on its network, allegedly because these

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215. See YOO, *supra* note 1, at 122–23.

216. *Verizon v. FCC*, 740 F.3d 623, 629 (D.C. Cir. 2014).

217. 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. L. 19, 41 (2009).



VoIP services competed against Madison River's traditional telephone service.<sup>218</sup>

But these instances are likely 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>219</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 broadband providers have incentives to allow open access to all Internet content and applications. The ICE principle does not mean broadband companies will never block certain Internet content or applications, but it suggests if they do limit access, there is usually a procompetitive rationale for doing so.<sup>220</sup>

There are many ways a vertical agreement can be procompetitive. For example, Brent Skorup and Adam Thierer highlight Apple's (in)famous control over its ecosystem.<sup>221</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.<sup>222</sup> Despite this control, which limits consumer choice and arguably distorts competition in the app market, a sizeable share of the market continues to favor Apple's walled garden over more open systems.<sup>223</sup> Skorup and Thierer argue the reason, in part, is Apple's selectivity reduces the consumer's costs of information and excessive searching.<sup>224</sup> Apple-oriented consumers rely on the company to sift the wheat from the chaff among application developers, and value the fact the iOS operating system is well integrated with the suite of apps that Apple promotes.<sup>225</sup>

Vertical agreements can also promote 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>226</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

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218. Madison River Commc'ns, LLC and Affiliated Companies, 20 FCC Rcd. 4295, 4297 (2005).

219. Nuechterlein, *supra* note 217, at 41.

220. *Id.*

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

222. *Id.*

223. *Id.*

224. *Id.*

225. *Id.*

226. Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, 26 FCC Rcd. 9664, 9753 (2011).

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.

At a minimum, one can say that vertical agreements have ambiguous effects on consumer welfare.<sup>227</sup> One significant empirical study explains that according to the data, “efficiency considerations overwhelm anticompetitive motives in most contexts” and even in natural monopolies or oligopolistic markets, “the evidence of anticompetitive harm is not strong.”<sup>228</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>229</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>230</sup> He further explained “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>231</sup> Tying, of course, is the type of vertical agreement most common in broadband markets.

In the case studies above, one can see several related potentially procompetitive justifications for wireless broadband carriers’ efforts to engage in non-net-neutral practices.

### C. Operational Efficiencies and Promoting Competition

Vertical agreements may allow companies to share resources and leverage one another’s strengths, which can achieve greater operational efficiencies and reduce costs. In the information economy, these efficiency gains could come in either the broadband or edge provider market. Many co-marketing agreements analyzed above were signed because each party helped the other achieve a goal more efficiently. For example, TELUS offers Skype a platform 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.<sup>232</sup> In exchange, Skype allows TELUS to grow both its customer base and average revenue per user. Skype integration is an advantage TELUS can advertise over Rogers Communications and other Canadian

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

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

229. *Id.* at 680.

230. PHILLIP E. AREEDA & HERBERT HOVENKAMP, 3B ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 756a, at 9 (3d ed. 2008).

231. Herbert Hovenkamp, *Clayton Act (1914)*, in MAJOR ACTS OF CONGRESS 123, 125 (Brian K. Landsberg ed., 2004).

232. See *supra* text accompanying notes 134–37.

providers, and existing TELUS customers who use Skype may be enticed to migrate to larger and more expensive data plans.

Significantly, many co-marketing agreements can promote greater competition within broadband markets by allowing smaller broadband providers who lack the scale and infrastructure to compete against entrenched incumbent providers, by changing the rules of the game. As noted above, Orange leveraged bundled services to boost its market share in the United Kingdom by offering a wireless plan with premium content for one low price, below the cost of the two services separately, setting its brand apart from its competitors.<sup>233</sup> T-Mobile is attempting a similar strategy in the United States, holding itself out as the “un-carrier” in part by bundling its plans with unlimited streaming music.<sup>234</sup>

This bundling can also promote greater competition among edge providers by providing a useful avenue for a start-up Internet company to shake up the online status quo. Orange’s inclusion of Deezer as a Swapable option coincided with Deezer’s launch into the United Kingdom.<sup>235</sup> Although popular in its native France, Deezer faced an uphill battle gaining traction in the British online streaming market, which was dominated by market leader Spotify.<sup>236</sup> The partnership was thus lucrative for Deezer, which received built-in delivery over the Orange network, easy access to Orange’s installed customer base, and low-cost marketing in conjunction with the Swapables offer. Thus the Orange-Deezer partnership offered both a way for Orange to expand its presence in the wireless market and for Deezer to make a splash in the streaming music market.

#### *D. Product Differentiation*

Vertical agreements can also improve consumer welfare through product differentiation. Differentiation enhances the level of competition between firms by increasing the faces upon which they may compete against one another. Greater points of competition mean more options available to consumers, which increases the likelihood of identifying a business model that is more efficient than those currently in the market. Encouraging 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

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233. See *supra* text accompanying notes 156–60.

234. See *supra* text accompanying notes 187–89.

235. See Tim Bradshaw, *Deezer Takes On Spotify with Orange Deal*, FINANCIAL TIMES (Sept. 7, 2011), <http://www.ft.com/cms/s/2/66bfd5c-d939-11e0-bd7e-00144feabdc0.html#axzz3p1nlygDb>.

236. *Id.*

seek investment capital from those looking for an advantage in return.<sup>237</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 to start building its network.<sup>238</sup> Without the opportunity to offer Bell Canada an advantage, Clearwire likely would not have received the money it needed from Bell Canada, and 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. 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, differentiation allows companies to cater to niche markets whose needs are imperfectly met by traditional broadband offerings. In the United States, the net neutrality rules generally 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. Sprint's plan to offer social media plans in the United States suggests the company believes there is pent-up demand for such a product in America as well. There may be a large population of consumers who purchase unlimited-access service only to reach a handful of websites or apps each month. These consumers would 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. Similarly, there are likely consumers who choose not to purchase unlimited-access data plans at existing price points, but would be willing to pay less for limited additional functionality such as the ability to access Facebook or Twitter. The success of Turkcell's social media plans in Turkey suggests that this differentiated model can be attractive to certain customers. If the amount these

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237. 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, 64–66 (2004).

238. See *supra* Part II.F.

customers 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 catering to niche markets. When it approved satellite radio in 1997, the Commission noted 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>239</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.

#### *E. 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, which states only unreasonable agreements are actionable under antitrust law.<sup>240</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>241</sup> He noted that in most cases, “vertical integration ‘is either competitively neutral or affirmatively desirable because it promotes efficiency.’”<sup>242</sup> Such agreements “[are] ubiquitous in our economy and virtually never pose[] a threat to competition when undertaken unilaterally and in competitive markets.”<sup>243</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.

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239. Establishment of Rules and Policies for the Digital Audio Radio Satellite Serv., 12 FCC Rcd. 5754, 5760 (1997).

240. *Leegin Creative Leather Prods. Inc. v. PSKS, Inc.*, 551 U.S. 877, 907 (2007); Skorup & Thierer, *supra* note 221, at 165; see Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 143 (1984).

241. *Comcast Cable Commc'ns, LLC v. FCC*, 717 F.3d 982, 990 (D.C. Cir. 2013) (Kavanaugh, J., concurring).

242. *Id.* (quoting AREEDA & HOVENKAMP, *supra* note 230, ¶ 756a, at 9).

243. *Id.* at 990–91 (quoting AREEDA & HOVENKAMP, *supra* note 230, ¶ 755c, at 6) (internal quotation marks omitted).

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>244</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>245</sup>

He concluded, “[T]his Court’s case law has stated that vertical integration and vertical contracts are procompetitive, at least absent market power.”<sup>246</sup>

Viewed in this light, the Commission’s insistence on prophylactic net neutrality rules to forestall possible anticompetitive foreclosure seems somewhat alarmist, at least in the wireless market. The Commission has repeatedly issued reports analyzing the competitiveness of the wireless sector.<sup>247</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. Interestingly, the Commission found the 2011 weighted average Herfindahl-Hirschman Index, a widely used metric of industry concentration, was 2873, which suggests a highly concentrated market.<sup>248</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>249</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>250</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. Lacking market power, wireless providers are unlikely to be able to sustain alternative business models that are harmful

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244. *Leegin*, 551 U.S. at 898; see *State Oil Co. v. Khan*, 522 U.S. 3, 17–19 (1997); *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 725 (1988); *Cont’l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 53–59 (1977).

245. *Comcast*, 717 F.3d at 990 (Kavanaugh, J., concurring).

246. *Id.* at 991.

247. Implementation of §§ 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, 28 FCC Rcd. 3700, 3704 (2013).

248. *Id.* at 3718.

249. *Id.* at 3759.

250. Geoffrey A. Manne et al., *The Law and Economics of the FCC’s Transaction Review Process* 30 (Aug. 23, 2013) (unpublished manuscript), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2242681](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2242681) (cited with author’s permission).

to consumers, as adversely affected consumers are likely to simply defect to a competitor.

*F. The Need for Greater Flexibility in Wireless Broadband Markets*

As noted above, the Commission has long recognized the value of permitting greater regulatory flexibility in wireless markets. And its original reasons for applying a light regulatory touch in 2010 remain relevant in today's market. First, the wireless environment is a more dynamic and growing segment of the broadband market. Chairman Tom Wheeler has noted that the number of LTE users has grown from 200,000 in 2010 to over 120 million by the end of 2014.<sup>251</sup> And the market has shown no signs of slowing to maturity: Sandvine estimates that median mobile data use rose by 20% in the first half of 2014 alone, from 84 to 102 megabytes per month.<sup>252</sup> Moreover, these users' online patterns are growing more differentiated; the top 1% of users are responsible for 19% of upstream and 12% of downstream traffic, while the bottom half of users together comprise less than 2% of total network volume.<sup>253</sup> Given the relatively young and dynamic nature of the marketplace, rigid net neutrality rules risk eliminating potentially innovative proconsumer business models.

Second, as noted above, the wireless market remains competitive. Unlike fixed broadband, which in most markets is dominated by two providers, most Americans have four national wireless carriers to choose from, plus regional and niche players. And the evidence suggests they are actually competing for customers; the rise of no-contract plans and promotions offering to pay off new customers' early termination fees shows that customers wish to—and do—change wireless providers often, and firms are responding to that demand. This suggests less need for prophylactic rules to protect consumers, as companies lack market power and consumers facing potentially problematic business practices can simply defect to an alternative provider relatively easily.

Finally, wireless companies face unique capacity constraints that are not present on fixed broadband networks. Spectrum is a limited resource.<sup>254</sup> While wireless companies can research technology to use existing spectrum more efficiently, they generally cannot solve congestion by adding more spectrum, the way that fixed broadband providers can

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251. See Stephen Lawson, *FCC May Put Mobile Under Same Net-Neutrality Rules as Wired Broadband*, PCWORLD (Sep. 9, 2014), <http://www.pcworld.com/article/2604980/fcc-may-put-mobile-under-same-netneutrality-rules-as-wired-broadband.html>.

252. SANDVINE, INTELLIGENT BROADBAND NETWORKS: GLOBAL INTERNET PHENOMENA REPORT 1H 2014, at 8 (2014), available at <https://www.sandvine.com/downloads/general/global-internet-phenomena/2014/1h-2014-global-internet-phenomena-report.pdf> (last visited Feb. 19, 2015).

253. *Id.* at 9.

254. See, e.g., Syracuse Peace Council, 2 FCC Rcd. 5043, 5054–55 (1987) (discussing spectrum scarcity).

lay more cable. Providers must deal with interference from other wireless devices. And while Commission studies show fairly consistent peak periods for fixed broadband traffic,<sup>255</sup> wireless traffic patterns are less predictable than fixed traffic, which has fairly consistent peak periods.<sup>256</sup> Together, these operational constraints suggest the need for wireless providers to have greater flexibility when engaging in network management.

#### CONCLUSION

The Commission's Open Internet initiative has unquestionably targeted an important issue. Broadband networks are important gateways to Internet-based content and applications, and regulators should remain vigilant to safeguard against the risk of anticompetitive foreclosure. But the wide range of vertical agreements occurring internationally, including those profiled in this Article, testify to the fact that not all agreements between broadband and edge providers are harmful to consumers. To paraphrase Justice Blackmun, the Commission must make sure its efforts to safeguard the public from harm do not amount to "launch[ing] a missile to kill a mouse."<sup>257</sup>

Federal Trade Commissioner Joshua Wright has rightly warned about the potential harm of overreaching in pursuit of an Open Internet. Commenting on the 2010 rules, Commissioner Wright explained:

What the theoretical literature and empirical evidence demonstrates . . . is that vertical contracts, including those captured by the Neutrality Order, are not always anticompetitive and in most cases are procompetitive. This is a critical observation for answering the question: "what kind of regulatory regime and legal rules governing this behavior will best serve consumers?"<sup>258</sup>

Commissioner Wright's emphasis on *consumers* provides some important guidance to the Open Internet proceeding. The Commission's first significant pronouncement on broadband practices came in the 2005 Internet Policy Statement, a non-binding document that ultimately launched the Open Internet proceeding. That statement was largely focused on consumer welfare, emphasizing "*consumers* are entitled to access the lawful Internet content of their choice," to "run applications and use services of their choice," and "connect their choice of legal device[]"

255. FCC, 2012 MEASURING BROADBAND AMERICA JULY REPORT: A REPORT ON CONSUMER WIRELINE BROADBAND PERFORMANCE IN THE U.S. 8 (2012), available at <http://transition.fcc.gov/cgb/measuringbroadbandreport/2012/Measuring-Broadband-America.pdf>.

256. See Lyons, *supra* note 82, at 35–36 (discussing wireless congestion unpredictability and citing studies).

257. *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1036 (1992) (Blackmun, J., dissenting).

258. Joshua D. Wright, Comm'r, Fed. Trade Comm'n, *Broadband Policy & Consumer Welfare: The Case for an Antitrust Approach to Net Neutrality Issues* 12 (Apr. 19, 2013) (transcript available at <http://www.ftc.gov/public-statements/2013/04/broadband-policy-consumer-welfare-case-antitrust-approach-net-neutrality>).



to the network.<sup>259</sup> But as the 2005 Policy Statement gave way to the 2010 rules and the current rules, the Commission's focus has shifted from the welfare of consumers to that of edge providers. The Supreme Court has long emphasized that antitrust law protects "*competition, not competitors.*"<sup>260</sup> The protection of edge providers should not be a goal in itself, but only if it is a tool to protect consumers from harm.

Consumer welfare has been, and should continue to be, the lodestar guiding the Commission's efforts to preserve the Open Internet. The Commission may be correct that there is a risk of anticompetitive foreclosure in broadband markets. And that risk may be sufficiently large to warrant a regulatory response. But any effort to promote the Open Internet should allow for companies to experiment with innovative new ways to bring Internet content and applications to consumers, because this experimentation is likely to give rise to consumer-beneficial alternatives to traditional broadband access models. The Commission should seek to promote innovation that enhances consumers' ability to access the content and services they desire—no matter where in the Internet ecosystem this innovation occurs.

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259. FCC, FCC 05-151, APPROPRIATE FRAMEWORK FOR BROADBAND ACCESS TO THE INTERNET OVER WIRELINE FACILITIES, para. 4 (Sept. 23, 2005) (emphasis added), available at <https://www.publicknowledge.org/pdf/FCC-05-151A1.pdf>.

260. *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 110 (1986) (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 320 (1962)) (internal quotation mark omitted).