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# *Wickard* for the Internet? Network Neutrality After *Verizon v. FCC*

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# *Wickard* for the Internet? Network Neutrality After *Verizon v. FCC*

Christopher S. Yoo \*

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## I. INTRODUCTION

The U.S. Court of Appeals for the District of Columbia Circuit's long-awaited decision in *Verizon v. FCC*<sup>1</sup> represents a major milestone in the debate over network neutrality that has dominated communications policy for the past decade. In upholding some parts while striking down other parts of the FCC's Open Internet Order,<sup>2</sup> the court reached two major conclusions that together represent both a partial victory and partial defeat for proponents and opponents of network neutrality alike. First, the court ruled that section 706 of the Telecommunications Act of 1996<sup>3</sup> affirmatively grants the FCC the authority to regulate broadband access providers' treatment of Internet traffic.<sup>4</sup> Second, the court ruled that the Order's nondiscrimination and anti-blocking rules represented an invalid exercise of that authority because they contravened other express statutory mandates.<sup>5</sup>

In striking down these rules, the court appeared to provide a roadmap showing a way to reconstitute nondiscrimination and anti-blocking rules that would withstand judicial scrutiny.<sup>6</sup> Wanting to avoid the risk of being rebuked on network neutrality a third time, FCC Chairman Tom Wheeler proposed rules that adhered closely to the path laid out by the court with respect to the nondiscrimination and anti-blocking rules, while beefing up the transparency rules that withstood judicial review.<sup>7</sup> Advocates of network neutrality criticized the proposal for its failure to reinstate a nondiscrimination mandate.<sup>8</sup> The resulting political pressure led Chairman Wheeler to include language in the proposed rule seeking comment on the more radical step of bringing broadband access within the regulatory regime that governs traditional telephone service.<sup>9</sup> Nondiscrimination has thus emerged as the focus of the network neutrality debate. Although the Open Internet Notice of Proposed Rulemaking that the FCC adopted on May 15, 2014, attempts to characterize nondiscrimination as part of a decade-long,

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1. 740 F.3d 623 (D.C. Cir. 2014).

2. Preserving the Open Internet, *Report and Order*, 25 FCC Rcd. 17905 (2010) [hereinafter *2010 Open Internet Order*], *aff'd in part, rev'd in part sub nom.* *Verizon v. FCC*, 740 F.3d 623, 636–42 (D.C. Cir. 2014).

3. 47 U.S.C. § 1302 (2006).

4. 740 F.3d at 635–49.

5. *Id.* at 649–59.

6. *Id.* at 657–58.

7. Protecting and Promoting the Open Internet, *Notice of Proposed Rulemaking*, 29 FCC Rcd. 5561, 5585–92 paras. 66–86, 5595–98 paras. 94–104, 5602–08 paras. 116–136 (2014) [hereinafter *2014 Open Internet NPRM*], available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-14-61A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-14-61A1.pdf).

8. See, e.g., Edward Wyatt, *F.C.C., in a Shift, Backs Fast Lanes for Web Traffic*, N.Y. TIMES, Apr. 24, 2014, at A1, available at [http://www.nytimes.com/2014/04/24/technology/fcc-new-net-neutrality-rules.html?\\_r=0](http://www.nytimes.com/2014/04/24/technology/fcc-new-net-neutrality-rules.html?_r=0).

9. 2014 Open Internet NPRM, *supra* note 7, at 5612–16 paras. 148–155.

bipartisan policy,<sup>10</sup> nondiscrimination did not appear in either Chairman Michael Powell's initial 2004 exposition of Internet freedoms<sup>11</sup> and from the FCC's 2005 Policy Statement.<sup>12</sup> Instead, nondiscrimination emerged as an issue somewhat later in the debate, when Commissioner Michael Copps began to call for it in a series of separate statements and speeches.<sup>13</sup> Moreover, the FCC attempts to characterize its actions in the SBC/AT&T, Verizon/MCI, and AT&T/BellSouth mergers and the Adelphia spinoff as supporting network neutrality.<sup>14</sup> As a formal matter, however, in each of those cases the FCC actually found competition to be sufficiently robust and the record sufficiently bare of evidence of discrimination to justify declining to mandate nondiscriminatory access to their last-mile broadband networks, although the FCC did accept voluntary commitments to abide by the 2005 Policy Statement as being in the public interest.<sup>15</sup>

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10. *Id.* at 5565–69 paras. 11–24.

11. Michael K. Powell, Chairman, FCC, Preserving Internet Freedom: Guiding Principles for the Industry, Remarks Delivered to the Silicon Flatirons Symposium (Feb. 8, 2004), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-243556A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf).

12. See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, *Policy Statement*, 20 FCC Rcd. 14986 (2005).

13. See, e.g., Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications, *Memorandum Opinion and Order*, 23 FCC Rcd. 13028, 13080 (2008) (statement of Copps, Comm'r); Broadband Industry Practices, *Notice of Inquiry*, 22 FCC Rcd. 7894, 7903 (2007) (Copps, Comm'r, concurring); Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corp., (and Subsidiaries, Debtors-in-Possession), Assignors, to Time Warner Cable Inc. (Subsidiaries), Assignees Adelphia, Communications Corp., (and Subsidiaries, Debtors-in-Possession), Assignors and Transferors, to Comcast Corp. (Subsidiaries), Assignees and Transferees, Comcast Corp., Transferor, to Time Warner Inc., Transferee, Time Warner Inc., Transferor, to Comcast Corp., Transferee, *Memorandum Opinion and Order*, 21 FCC Rcd. 8203, 8368 (2006) (Copps, Comm'r, dissenting); Michael J. Copps, Acting Chairman, Fed. Commc'ns Comm'n, Remarks at the Free Press Summit: Changing Media. (May 14, 2009), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-290735A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-290735A1.pdf); Michael J. Copps, Comm'r, Fed. Commc'ns Comm'n, Remarks at Pike & Fischer's Broadband Policy Summit IV (June 12, 2008), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-282890A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-282890A1.pdf); Michael J. Copps, Comm'r, Fed. Commc'ns Comm'n, Remarks at En Banc Hearing on Broadband Network Management Practices, Stanford University (Apr. 17, 2008), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-281625A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-281625A1.pdf); Michael J. Copps, Comm'r, Fed. Commc'ns Comm'n, Remarks at En Banc Hearing on Broadband Network Management Practices, Cambridge, Massachusetts (Feb. 25, 2008), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-280440A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-280440A1.pdf).

14. 2014 Open Internet NPRM, *supra* note 7, at 5566 para. 14.

15. AT&T Inc. and BellSouth Corporation Application for Transfer of Control, *Memorandum Opinion and Order*, 22 FCC Rcd. 5662, 5724–27 paras. 116–120, 5738–39 paras. 151–153 (2007); Applications for Consent to the Assignment and/or Transfer of Control of Licenses: Adelphia Commc'ns Corp., Assignors, to Time Warner Cable Inc., Assignees, Applications for Consent to the Assignment and/or Transfer of Control of Licenses: Adelphia Communications Corporation (and subsidiaries, debtors-in-possession), Assignors, to Time Warner Cable Inc. (subsidiaries), Assignees et al., *Memorandum Opinion and Order*, 21 FCC Rcd. 8203, 8296–99 paras. 217–223 (2006); Verizon Communications, Inc. and MCI, Inc. Applications for Approval of Transfer of Control, *Memorandum Opinion*

This essay explores both of these conclusions. Part I critiques the *Verizon* court's potentially expansive reading of section 706, examining how it may expand FCC's authority beyond broadband access providers to encompass content and application providers (dubbed "edge providers" by the court)<sup>16</sup> and showing how this reading runs counter to standard principles of statutory interpretation. Part II discusses the limitations the court placed on how the FCC can exercise its section 706 authority, concluding that these limits prevent the FCC from imposing the type of nondiscrimination mandate that many regard as the central focus of network neutrality. Part III explores the implications of the court's decision, examining the potential for state broadband regulation, the possibility of Title II reclassification, the future of the wireless exception, and the prospects for a regime based on case-by-case adjudication.

## II. SECTION 706 AS A GRANT OF AUTHORITY

The portion of the *Verizon* opinion with the most potentially sweeping implications for the future of the Internet is the court's expansive reading of section 706.<sup>17</sup> Understanding these implications requires some background on the federal communications statute, the Communications Act of 1934. When first enacted, the Act contained six titles, four of which were procedural, not substantive.<sup>18</sup> Title I laid out the general provisions regarding the number, qualifications, and terms of FCC Commissioners and defined a number of statutory terms.<sup>19</sup> Title IV contained provisions governing procedural and administrative matters.<sup>20</sup> Title V addressed penal enforcement and forfeitures.<sup>21</sup> Title VI dealt with miscellaneous housekeeping matters, such as abolishing the Federal Radio Commission—the precursor to the FCC—and transferring its property and personnel to the FCC.<sup>22</sup>

The Act's primary substantive provisions were contained in Title II, which governed common carriers,<sup>23</sup> and Title III, which governed radio

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*and Order*, 20 FCC Rcd. 18433, 18507–09 paras. 139–142 (2005); SBC Communications Inc. and AT&T Corp. Applications for Approval of Transfer of Control, *Memorandum Opinion and Order*, 20 FCC Rcd. 18290, 18366–67 paras. 140–143 (2005).

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

17. 47 U.S.C. § 1302 (2006).

18. Ch. 652, 48 Stat. 1064 (codified as amended at scattered sections of 47 U.S.C.).

19. *Id.* §§ 1–5, 48 Stat. at 1064–70 (codified as amended at 47 U.S.C. §§ 151–162 (2006)).

20. *Id.* §§ 401–416, 48 Stat. at 1092–1100 (codified as amended at 47 U.S.C. §§ 401–416 (2006)).

21. *Id.* §§ 501–505, 48 Stat. at 1100–01 (codified as amended at 47 U.S.C. §§ 501–505 (2006)).

22. *Id.* §§ 601–609, 48 Stat. at 1101–05 (codified as amended at 47 U.S.C. §§ 601–609 (2006)).

23. *Id.* §§ 201–221, 48 Stat. at 1070–81 (codified as amended at 47 U.S.C. §§ 201–231 (2006)).

communications.<sup>24</sup> In 1984, Congress replaced the old Title VI with a new substantive title to govern cable communications and renumbered the old procedural Title VI as Title VII.<sup>25</sup>

Three provisions of Title I are particularly relevant to the network neutrality debate. Section 1 recognizes that Congress created the Commission “[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”<sup>26</sup> Section 2(a) provides that “[t]he provisions of this chapter shall apply to all interstate and foreign communication by wire or radio and all interstate and foreign transmission of energy by radio, which originates and/or is received within the United States.”<sup>27</sup> Section 4(i) states that “[t]he Commission may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions.”<sup>28</sup>

The FCC has sometimes cited these provisions of Title I as if they represented substantive grants of authority.<sup>29</sup> The problem with this approach should be apparent to every law student and lawyer. The FCC has conceded that statements of purpose, like those contained in section 1, delegate no regulatory authority.<sup>30</sup> Moreover, courts and the FCC have analogized section 4(i) to the Necessary and Proper Clause of the Constitution,<sup>31</sup> which authorizes Congress “[t]o make all Laws which shall be necessary and proper for carrying into Execution” the federal government’s enumerated powers.<sup>32</sup> Although the Necessary and Proper

24. *Id.* §§ 301–329, 48 Stat. at 1081–92 (codified as amended at 47 U.S.C. §§ 301–329 (2006)).

25. Cable Communications Act of 1984, Pub. L. No. 98-549, 98 Stat. 2779 (codified as amended at 47 U.S.C. §§ 521–559 (2006)).

26. 47 U.S.C. § 151 (2006).

27. 47 U.S.C. § 152(a) (2006).

28. 47 U.S.C. § 154(i) (2006). A similar provision in Title III (governing broadcasting) similarly provides that “the Commission from time to time, as public convenience, interest, or necessity require shall . . . [m]ake such rules and regulations and prescribe such restrictions and conditions not inconsistent with law, as may be necessary to carry out the provisions of this Act.” *Id.* § 303(r).

29. *See, e.g.*, Implementation of Video Description of Video Programming, *Report and Order*, 15 FCC Rcd. 15230, 1525–53 para. 54 (2000), *rev’d sub nom.* Motion Picture Ass’n of Am. v. FCC, 309 F.3d 796, 802, 803–06 (D.C. Cir. 2001).

30. Comcast Corp. v. FCC, 600 F.3d 642, 652 (D.C. Cir. 2010).

31. *See, e.g.*, N. Am. Telecomm. Ass’n v. FCC, 772 F.2d 1282, 1292 (7th Cir. 1985); Stale or Moot Docketed Proceedings, 1993 Annual Access Tariff Filing Phase I, *Order*, 19 FCC Rcd. 2527, 2531 para. 12 (2004); Adoption of a Mandatory FCC Registration Number, *Notice of Proposed Rulemaking*, 15 FCC Rcd. 24370, 24378 n.31 (2000); Review of the Pioneer’s Preference Rules, *Memorandum Opinion and Order on Remand*, 9 FCC Rcd. 4055, 4062 para. 29 & n.70 (1994); Application of Nationwide Wireless Corp., *Memorandum Opinion and Order*, 9 FCC Rcd. 3635, 3641 para. 26 & n.75(1994).

32. U.S. CONST. art. I, § 8, cl. 18.

Clause extends Congress' authority beyond the strict letter of the enumerated powers, it is not itself a separate grant of authority. It still must be exercised with respect to some enumerated power granted to Congress by Article I, Section 8, or some other explicit provision of the Constitution.<sup>33</sup>

Nonetheless, the FCC has repeatedly invoked these provisions as if they were independent grants of authority to regulate Internet access. For example, in the *Second Computer Inquiry*, the FCC ruled that the enhanced services that were the direct antecedent to the Internet<sup>34</sup> were not subject to Title II.<sup>35</sup> Instead, the FCC relied on its Title I jurisdiction, explicitly rejecting the argument that the provisions of Titles II or III in any way limited its authority.<sup>36</sup> The D.C. Circuit affirmed both conclusions on judicial review.<sup>37</sup> Over two decades later, dicta in the Supreme Court's decision in *National Cable & Telecommunications Association v. Brand X Internet Services* similarly suggested that the FCC possessed ancillary authority under Title I to impose access requirements on broadband access providers.<sup>38</sup> However, the D.C. Circuit's 2005 decision in *American Library Association v. FCC* made clear that the FCC must do more than simply cite the general provisions from Title I to justify regulating under its ancillary jurisdiction.<sup>39</sup> Ancillary jurisdiction must be invoked with respect to one of the specific statutory responsibilities Congress delegated to the FCC in the substantive titles of the Communications Act.<sup>40</sup> In 2010, the D.C. Circuit reaffirmed this principle in *Comcast v. FCC*, which overturned the FCC's attempt to sanction Comcast for rate-limiting certain peer-to-peer applications.<sup>41</sup> Together, these decisions stand for the very reasonable proposition that Title I ancillary jurisdiction is not an independent grant of authority. Instead, it must be asserted in conjunction with some explicit substantive grant of

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33. For the classic citation, see *McCulloch v. Maryland*, 17 U.S. (4 Wheat.) 316, 421 (1819). For a more recent restatement of this principle, see *Kinsella v. U.S. ex rel. Singleton*, 361 U.S. 234, 247 (1960) (“[T]he Necessary and Proper Clause . . . is not itself a grant of power, but a caveat that the Congress possesses all the means necessary to carry out the specifically granted foregoing powers of [section] 8 and all other Powers vested by this Constitution.” (citations and internal quotation marks omitted)).

34. *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 976–77 (2005); *Verizon v. FCC*, 740 F.3d 623, 629–30 (D.C. Cir. 2014).

35. Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry), *Final Decision*, 77 384, 428–32 paras. 115–123 (1980), *aff'd sub nom.* *Computer & Commc'ns Indus. Ass'n v. FCC*, 693 F.2d 198 (D.C. Cir. 1982) (*CCIA*).

36. 77 F.C.C.2d at 432 paras. 124–125.

37. *CCIA*, 693 F.2d at 209–11, 213–14.

38. 545 U.S. 967, 976, 996, 1002 (2005), *aff'g* *Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking*, 17 FCC Rcd. 4798, 4841–42 paras. 75–79 (2002) [hereinafter *Cable Modem Declaratory Ruling*].

39. 406 F.3d 689, 691–93, 699–700 (D.C. Cir. 2005).

40. *Id.*

41. 600 F.3d 642, 654–56 (D.C. Cir. 2010).



authority from Congress in Titles II, III, or VI.<sup>42</sup> Simply put, Title I jurisdiction cannot be “ancillary to nothing.”<sup>43</sup>

The *Comcast* court then reviewed the statutory provisions that the FCC offered to support its exercise of ancillary jurisdiction, only to find them wanting.<sup>44</sup> Most importantly for this essay’s purposes, the court rejected the FCC’s attempt to tie its ancillary jurisdiction to section 706, reasoning that the FCC had ruled in an earlier order that section 706 did not represent an independent grant of authority.<sup>45</sup> The opinion implied that the FCC remained free to revisit this conclusion so long as it did so through official agency action and offered a sufficient explanation of its decision to change policies.<sup>46</sup>

The FCC took the D.C. Circuit up on this invitation in issuing the 2010 Open Internet Order, in which the agency explicitly disavowed its earlier conclusion that section 706 was not an affirmative grant of authority.<sup>47</sup> Instead, the FCC concluded that section 706 indeed gave it the authority to regulate broadband service providers’ network management practices, such as blocking Voice over Internet Protocol (“VoIP”) communications or degrading online video.<sup>48</sup> The D.C. Circuit affirmed this conclusion in *Verizon* on judicial review.<sup>49</sup>

### A. *The Text of Section 706*

Given that section 706 represented the sole basis for the *Verizon* court’s conclusion that the FCC has the authority to regulate network management practices,<sup>50</sup> the text of that provision merits close examination. The full statutory provision is as follows:

(a) The Commission and each State commission with regulatory jurisdiction over telecommunications services shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans

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42. See *id.* at 654; *Am. Library Ass’n*, 406 F.3d at 699–700.

43. *Am. Library Ass’n*, 406 F.3d at 702.

44. *Comcast*, 600 F.3d at 651–61.

45. *Id.* at 658–59.

46. See *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005) (“Agency inconsistency is not a basis for declining to analyze the agency’s interpretation under the *Chevron* framework . . . . For if the agency adequately explains the reasons for a reversal of policy, change is not invalidating, since the whole point of *Chevron* is to leave the discretion provided by the ambiguities of a statute with the implementing agency.”) (citations and internal quotation marks omitted); *Chevron USA Inc. v. NRDC*, 467 U.S. 837, 863 (1984) (“An initial agency interpretation is not instantly carved in stone.”); *Motor Vehicle Mfrs. Ass’n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42 (1983) (“[R]egulatory agencies . . . must be given ample latitude to adapt their rules and policies to the demands of changing circumstances.”) (citations and internal quotation marks omitted).

47. 2010 *Open Internet Order*, *supra* note 2, at 17969 n.370.

48. *Id.* at 17969 para. 120.

49. *Verizon v. FCC*, 740 F.3d 623, 636–42 (D.C. Cir. 2014).

50. *Id.*

(including, in particular, elementary and secondary schools and classrooms) by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.

(b) The Commission shall, within 30 months after February 8, 1996, and annually thereafter, initiate a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms) and shall complete the inquiry within 180 days after its initiation. In the inquiry, the Commission shall determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion. If the Commission's determination is negative, it shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.<sup>51</sup>

The *Verizon* court deferred to the FCC's conclusion that subsections (a) and (b) of section 706 each represent affirmative grants of authority.<sup>52</sup> Subsection (a) explicitly authorizes the FCC to use four types of regulatory measures: (1) price cap regulation,<sup>53</sup> (2) regulatory forbearance, (3) measures that promote competition in the local telecommunications market, and (4) other regulating methods that remove barriers to infrastructure.<sup>54</sup> The court held that, although subsection (a) could be read as simply setting forth a statement of congressional policy, it "could just as easily be read to vest the Commission with actual authority to utilize such 'regulating methods' to meet this stated goal."<sup>55</sup> The fact that the court's discussion of subsection (a) focuses exclusively on the scope of "regulating methods" indicates that the court saw (4) as the basis for the FCC's jurisdiction.<sup>56</sup>

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51. 47 U.S.C. § 1302 (2006).

52. *Verizon*, 740 F.3d at 637–42.

53. Price cap regulation is an alternative approach to setting rates that differed from traditional cost-of-service ratemaking. The traditional approach based rates on the costs incurred by the provider plus a rate of return. Price caps set rates by calculating a base year and then adjusting the rates for inflation and increases in productivity. Because rates were no longer determined by costs, it was hoped that price caps would provide stronger incentives to innovate and reduce costs and eliminate any biases towards capital-intensive solutions. Price caps are generally characterized as a less intrusive approach to setting rates. See Christopher S. Yoo, *Is There a Role for Common Carriage in an Internet-Based World?*, 51 Hous. L. Rev. 545, 595–600 (2013).

54. 47 U.S.C. § 1302(a) (2006).

55. *Verizon*, 740 F.3d at 637–38.

56. *Id.*

By its own terms, subsection (b) serves as a grant of authority only if the FCC finds that advanced telecommunications capability is not being deployed in a “reasonable and timely fashion.”<sup>57</sup> If so, the FCC is authorized to employ two remedies: (1) removing barriers to infrastructure investment and (2) promoting competition in the telecommunications market.<sup>58</sup> These are essentially identical to the fourth and third measures, respectively, authorized by subsection (a),<sup>59</sup> making the analysis of the scope of the two subsections essentially parallel.

The *Verizon* court held that section 706(b) also gives the FCC statutory authority to regulate broadband providers.<sup>60</sup> Under this provision, if the FCC concludes that “advanced telecommunications capability is [not] being deployed to all Americans in a reasonable and timely fashion,” it “shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”<sup>61</sup> Again, the specified means of “removing barriers to infrastructure investment and . . . promoting competition in the telecommunications market” mirror the language of the third and fourth clauses of section 706(a).<sup>62</sup> Therefore, the same arguments advanced above apply.

More importantly, the FCC is authorized to act under section 706(b) only if it finds that advanced telecommunications capability—defined by the statute to include broadband<sup>63</sup>—is not “being deployed to all Americans in a reasonable and timely fashion.”<sup>64</sup> The first five annual reports the FCC issued pursuant to its section 706 inquiry each concluded that broadband deployment met the requisite standard.<sup>65</sup> Only in the FCC’s sixth section 706 report—the first one following the D.C. Circuit’s decision in *Comcast Corp. v. FCC* to reject the statutory provisions the FCC first proffered as bases for its jurisdiction and the last one issued prior to the *Open Internet Order*—did the FCC find broadband deployment to be inadequate.<sup>66</sup> The *Verizon* court recognized that “[t]he timing of the Commission’s determination is certainly

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57. 47 U.S.C. § 1302(b) (2006).

58. *Id.*

59. *Id.* § 1302(a).

60. *Verizon v. FCC*, 740 F.3d 623, 640–42 (D.C. Cir. 2014).

61. 47 U.S.C. § 1302(b) (2006).

62. *Id.*

63. *Id.* § 1302(d)(1) (“The term ‘advanced telecommunications capability’ is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.”).

64. *Id.* § 1302(b).

65. Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecomm. Act of 1996, as Amended by the Broadband Data Improvement Act, *Sixth Broadband Deployment Report*, 25 FCC Rcd. 9556, 9693–94 (2010) (McDowell, Comm’r, dissenting).

66. *Id.* at 9558 para. 2.

suspicious.”<sup>67</sup> The agency continued to find broadband deployment to be inadequate in its two subsequent section 706 reports.<sup>68</sup>

Under the Bush administration, the FCC was criticized for its tardiness in issuing annual reports.<sup>69</sup> Under the Obama administration, the agency has better adhered to statutory deadlines,<sup>70</sup> consistently issuing its annual section 706 reports somewhere between May and August each year from 2009 to 2012. Had the FCC adhered to this historical pattern, it should have issued its ninth section 706 report no later than August 2013. Instead, two years elapsed until August 2014 when the agency solicited input on its tenth annual section 706 report instead of issuing its ninth annual report despite the fact that two years had passed since the issuance of the eighth report.<sup>71</sup> One can only speculate as to why.

Interestingly, the primary basis for the FCC’s 2012 finding that broadband deployment was not reasonable and timely was the fact that, as of June 2011, 19 million Americans—or 6% of the population—lacked access to broadband, which the FCC defined as service providing download speeds of 4 Mbps or higher.<sup>72</sup> As Commissioner Pai pointed out in his dissent, however, if the report had taken into account mobile wireless broadband, it would have reduced the number of unserved Americans to 5.5 million—or 1.7% of the population.<sup>73</sup> Moreover, the 2012 report was based on data

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67. *Verizon*, 740 F.3d at 642.

68. Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecomms. Act of 1996, as Amended by the Broadband Data Improvement Act, *Eighth Broadband Progress Report*, 27 FCC Rcd. 10342, 10344 para. 1 (2012) [hereinafter *Eighth Broadband Progress Report*]; Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecomms. Act of 1996, As Amended by the Broadband Data Improvement Act, *Seventh Broadband Progress Report and Order on Reconsideration*, 26 FCC Rcd. 8008, 8009 para. 1 (2011).

69. MAJORITY STAFF OF H. COMM. ON ENERGY & COMMERCE, 110TH CONG., DECEPTION AND DISTRUST: THE FEDERAL COMMUNICATIONS COMMISSION UNDER CHAIRMAN KEVIN J. MARTIN 13–14 (Comm. Print 2008).

70. *But see* 2014 Quadrennial Regulatory Review — Review of the Commission’s Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996, *Notice of Proposed Rulemaking*, 29 FCC Rcd. 4371, 4583 (2014) (statement of Wheeler, Chairman) (acknowledging the FCC’s failure to complete its quadrennial review of media ownership rules by the 2010 statutory deadline and committing to complete the process by June 2016), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-14-28A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-14-28A1.pdf).

71. Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecomms. Act of 1996, as Amended by the Broadband Data Improvement Act, *Tenth Broadband Progress Notice of Inquiry*, 29 FCC Rcd. 9747 (2014), available at [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-14-113A1\\_Rcd.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-113A1_Rcd.pdf).

72. *Eighth Broadband Progress Report*, *supra* note 68, at 10344 para. 1, 10370 para. 46, 10400–01 para. 135.

73. *Id.* at 10519–20 (Pai, Comm’r, dissenting).

reflecting the earliest stages of the deployment of the fourth-generation wireless technology known as Long-Term Evolution (“LTE”).<sup>74</sup> Since that time, Verizon has completed its LTE buildout,<sup>75</sup> while AT&T’s LTE network now reaches 80% of the U.S. population and is scheduled for completion by the end of 2014.<sup>76</sup> Sprint and T-Mobile are racing to catch up: each carrier reached at least 200 million people by the end of 2013 and is projected to reach 80% of the country sometime during 2014.<sup>77</sup> In addition, recent studies indicate that Verizon’s, AT&T’s, and T-Mobile’s LTE offerings provide average download speeds of 12 to 19 Mbps and peak download speeds of 49 to 66 Mbps.<sup>78</sup> The near ubiquity of LTE suggests that the number of people who cannot access broadband that meets or exceeds the FCC’s 4 Mbps standard is now likely considerably less than the 1.7% reported as of June 2011.<sup>79</sup> And, again, if broadband deployment is reasonable and timely, section 706(b) provides the FCC no authority to act.

### *B. The Court’s Expansive Reading of Section 706*

The *Verizon* court made no claim that the nondiscrimination and anti-blocking rules fell within the first three measures authorized by section 706(a). Instead, the court explicitly invoked the fourth type of measure authorized by the statute, focusing its discussion entirely on “regulating methods.”<sup>80</sup>

At first glance, a regulation blocking broadband access providers from charging edge providers premium prices for premium services would seem more likely to create barriers to infrastructure investment than to remove

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74. *Id.* at 10347–48 para. 6.

75. Christopher S. Yoo, *Technological Determinism and Its Discontents*, 127 HARV. L. REV. 914, 923–24 (2014).

76. *Id.*

77. *Id.*

78. *Id.* at 923. Some commentators argue that even though LTE is able to delivery faster download speeds, monthly data caps prevent wireless broadband from being a true substitute for fixed broadband. See Hibah Hussain et al., New Am. Found. Open Technology Inst., *Capping the Nation’s Broadband Future?* 12 (2012), available at <http://newamerica.net/sites/newamerica.net/files/policydocs/CappingTheNationsBroadbandFuture.pdf>. This argument ignores the fact that while LTE providers initially focused on the broadest possible coverage, they have now turned towards densification, which increases the capacity of the network. These arguments are also undercut by the fact that two of the national providers (T-Mobile and Sprint) offer unlimited data plans.

79. *Eighth Broadband Progress Report*, *supra* note 68, at 10519–20 (Pai, Comm’r, dissenting).

80. *Verizon v. FCC*, 740 F.3d 623, 636–40 (D.C. Cir. 2014).

them.<sup>81</sup> Such a rule would, after all, benefit edge providers at the expense of broadband Internet access providers.<sup>82</sup>

Nevertheless, the court accepted the FCC's assertion that fostering and preserving edge providers represented an important indirect way to promote infrastructure investment.<sup>83</sup> The FCC reasoned that nondiscrimination and anti-blocking rules facilitate innovation by edge providers, thereby leading to increased demand for bandwidth by end users and spurring greater investment in infrastructure in turn.<sup>84</sup> Read in this manner, section 706 authorizes the FCC not only to adopt measures that promote investment in infrastructure directly, but also to promote activities that tangentially encourage infrastructure investment.

What is most striking about this reasoning is its potential expansiveness. Under this approach, the FCC would not only have the authority to institute measures that promote infrastructure investment directly, but also to regulate anything that indirectly affects infrastructure investment as well. In this sense, the court's reasoning is similar to the reasoning followed in a case well known to every first-year law student: *Wickard v. Filburn*.<sup>85</sup> The explicit terms of the Commerce Clause of the Constitution give Congress the power to regulate only commerce "with foreign Nations, and among the several States, and with the Indian Tribes."<sup>86</sup> Before *Wickard*, the Supreme Court forbade the federal government from asserting jurisdiction over commerce that was purely intrastate.<sup>87</sup> In *Wickard*, however, the Court abandoned this vision of dual sovereignty and extended federal jurisdiction to purely intrastate activities that had a tangential impact on interstate commerce.<sup>88</sup> Because almost everything has a putative tangential impact on commerce, *Wickard* opened the door to an expansion of the commerce power such that left few activities outside its scope.<sup>89</sup>

The *Verizon* court's reasoning about section 706 could potentially have a similar effect. Expanding the FCC's jurisdiction beyond activities that

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81. See Brief for Appellant at 30–31, *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014) (No. 11-1355) ("[T]he Commission's daisy chain of speculative inferences that the rules will encourage deployment is contradicted by the record and common sense: regulations that require providers to carry all traffic and prohibit compensation from edge providers for carriage will have precisely the opposite effect, as world-renowned economists explained below.").

82. *Id.*

83. 740 F.3d at 634, 643–45.

84. *Id.*

85. 317 U.S. 111 (1942).

86. U.S. CONST. art. I, § 8, cl. 3.

87. See, e.g., *Hammer v. Dagenhart*, 247 U.S. 251 (1918).

88. *Wickard*, 317 U.S. at 124.

89. See, e.g., *Gonzales v. Raich*, 545 U.S. 1 (2005); *Hodel v. Va. Surface Mining & Reclamation Ass'n*, 452 U.S. 264 (1981); *Perez v. United States*, 402 U.S. 146 (1971); *Katzenbach v. McClung*, 379 U.S. 294 (1964); *Heart of Atlanta Motel v. United States*, 379 U.S. 241 (1964). For the exceptions, which are notable primarily for their rarity, see *United States v. Morrison*, 529 U.S. 598 (2000); and *United States v. Lopez*, 514 U.S. 549 (1995).

have a *direct* impact on infrastructure investment to encompass those that have a *tangential* impact on infrastructure investment represents a significant extension of the FCC's power. Indeed, it potentially leaves the door open for the FCC to take measures aimed directly at the content and application industries—a prospect widely feared by advocates and critics of network neutrality alike.<sup>90</sup> The history of FCC regulation of broadcast television networks is instructive. After initially denying that it had the authority to regulate television networks directly, the FCC later invoked an expansive reading of ancillary jurisdiction to impose a wide range of restrictions on them.<sup>91</sup> The FCC could well follow the same course here and eventually regulate edge providers, although, as discussed below, the D.C. Circuit's precedents on ancillary jurisdiction do impose some limits on the FCC's authority.

### C. *The Impact of the Canons of Construction*

Proper application of well-established principles of administrative law and statutory construction indicate that the *Verizon* court should not have condoned the FCC's construction of section 706 so readily. As the *Verizon* court correctly observed,<sup>92</sup> the proper standard for reviewing an agency's construction of its statutory authority is the familiar two-step analysis established by the Supreme Court in *Chevron USA Inc. v. Natural Resources Defense Council, Inc.*<sup>93</sup> In step one, a reviewing court asks whether the statute's text "directly address[es] the precise question at issue."<sup>94</sup> If not, step two requires that the court defer to the agency's construction of the statute so long as it is reasonable or permissible.<sup>95</sup>

Arguably, the *Verizon* court's analysis of section 706 fails at step one. *Chevron* itself recognizes that in step one, a court should employ the "traditional tools of statutory construction."<sup>96</sup> These tools are generally recognized to include descriptive canons of construction that reflect the

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90. See, e.g., Comments of Public Knowledge and Common Cause at 28, Open Internet Remand, *Public Notice*, FCC GN Docket No. 14-28 (rel. Feb. 19, 2014), available at [https://www.publicknowledge.org/assets/uploads/documents/Public\\_Knowledge\\_Common\\_Cause\\_Open\\_Internet\\_706\\_Public\\_Notice\\_Comments.pdf](https://www.publicknowledge.org/assets/uploads/documents/Public_Knowledge_Common_Cause_Open_Internet_706_Public_Notice_Comments.pdf) ("The breadth of authority contained with these principles raises the possibility of the Commission having authority to promulgate rules of all sorts, so long as they could rationally be said to contribute to the deployment of broadband. For instance, the case could be made that the prevalence of adult content online was discouraging certain households from adopting broadband; therefore, decency regulations on online content could be promulgated under section 706.")

91. See Thomas G. Krattenmaker & A. Richard Metzger, Jr., *FCC Regulatory Authority Over Commercial Television Networks: The Role of Ancillary Jurisdiction*, 77 NW. U. L. REV. 403, 432-33, 440-45 (1982).

92. 740 F.3d at 635.

93. 467 U.S. 837 (1984).

94. *Id.* at 843.

95. *Id.* at 845.

96. *Id.* at 843 n.9.

normal rules of syntax and linguistics.<sup>97</sup> When applying *Chevron* step one, the Supreme Court has held that “under the established interpretative canons of *noscitur a sociis* and *ejusdem generis*, where general words follow specific words in a statutory enumeration, the general words are construed to embrace only objects similar in nature to those objects enumerated by the preceding specific words.”<sup>98</sup> Indeed, it is not even clear that these principles can be properly regarded as canons. The Supreme Court has noted that “[i]t is a familiar principle of statutory construction that words grouped in a list should be given related meaning” and that “[o]ne hardly need rely on such Latin phrases as *ejusdem generis* and *noscitur a sociis* to reach this obvious conclusion.”<sup>99</sup> Consequently, courts have routinely included *ejusdem generis* and *noscitur a sociis* in their *Chevron* step one analyses.<sup>100</sup>

The phrase on which the *Verizon* court relied, “other regulating methods that remove barriers to infrastructure investment,” is a classic “catchall” clause. *Ejusdem generis* thus requires that its scope be limited to the terms that precede it.<sup>101</sup> All of the items in the list preceding this catchall—“price cap regulation,” “regulatory forbearance,” and “measures that promote competition in the local telecommunications market”<sup>102</sup>—are deregulatory in focus. This renders problematic the court’s interpretation of the catchall to justify imposing more restrictive regulation.<sup>103</sup>

Despite the court’s emphasis on “regulatory methods,” a brief passage later in the opinion suggests that the court may have relied on the provision of section 706 authorizing the FCC to adopt “measures that promote

97. See Curtis A. Bradley, *Chevron Deference and Foreign Affairs*, 86 VA. L. REV. 649, 675 (2000); Nina A. Mendelson, *Chevron and Preemption*, 102 MICH. L. REV. 737, 745 (2004); Caleb Nelson, *Statutory Interpretation and Decision Theory*, 74 U. CHI. L. REV. 329, 348–49, 351 (2007) (reviewing ADRIAN VERMEULE, *JUDGING UNDER UNCERTAINTY: AN INSTITUTIONAL THEORY OF LEGAL INTERPRETATION* (2006)). Descriptive canons, which are textual and syntactical rules governing language and structure, stand in stark contrast to normative canons, which import substantive principles into statutory interpretation and thus are more controversial. Kenneth A. Bamberger, *Normative Canons in the Review of Administrative Policymaking*, 118 YALE L.J. 64, 71–72 (2008); Bradley, *supra*, at 675–76; Nelson, *supra*, at 348–50, 355–60; see also VERMEULE, *supra*, at 198–202 (criticizing allowing descriptive canons to trump *Chevron* deference, but acknowledging that normative canons are more problematic).

98. *Wash. State Dep’t. of Soc. & Health Servs. v. Guardianship Estate of Keffeler*, 537 U.S. 371, 384 (2003) (internal quotation marks and alterations omitted).

99. *Third Nat’l Bank in Nashville v. Impac Ltd.*, 432 U.S. 312, 322 & n.16 (1977) (internal quotation marks omitted).

100. See, e.g., *Guardianship Estate of Keffeler*, 537 U.S. at 384 (*noscitur a sociis* and *ejusdem generis*); *Dole v. United Steelworkers of Am.*, 494 U.S. 26, 36 (1990) (*noscitur a sociis*); *Cal. Indep. Sys. Operator Corp v. FERC*, 372 F.3d 395, 400 (D.C. Cir. 2004) (*noscitur a sociis*).

101. See, e.g., *Harrison v. PPG Indus., Inc.*, 446 U.S. 578, 601 (1980) (“The rule of *ejusdem generis* ordinarily ‘limits general terms which follow specific ones to matters similar to those specified.’” (citing *Gooch v. United States*, 297 U.S. 124, 128 (1936)).

102. 47 U.S.C. § 1302(a) (2006).

103. *Verizon v. FCC*, 740 F.3d 623, 636–40 (D.C. Cir. 2014).



competition in the local telecommunications market.”<sup>104</sup> This does not change the analysis, however. As the Supreme Court has explained, terms in an enumerated list are construed using “[t]he familiar canon of *noscitur a sociis*, the interpretive rule that words and people are known by their companions.”<sup>105</sup> Thus, just as *ejusdem generis* counsels in favor of construing a catchall term in light of the other terms in a list, *noscitur a sociis* leads to the same conclusion with respect to enumerated terms. The same logic would militate in favor of construing this term as being limited to deregulatory measures.

#### D. The Legislative History of Section 706

The legislative history of section 706 also casts doubt on the *Verizon* court’s construction of the statute. According to the conference report accompanying the Telecommunications Act of 1996, section 706 originated in a provision in the Senate bill that had no counterpart in the House version.<sup>106</sup> The Senate provision was part of a title of the bill entitled “An End to Regulation” and was preceded by provisions entitled “Transition to competitive pricing,” “Biennial review of regulations; elimination of unnecessary regulations and functions,” and “Regulatory forbearance.”<sup>107</sup> The overall sweep of these provisions was to lessen regulation, not increase it.

Moreover, during the preceding Congress, the Senate Commerce Committee reported a bill in 1994 containing a provision that appears to be the antecedent to section 706.<sup>108</sup> This provision, the final provision of the bill, stated:

(a) PROMOTION OF ADVANCED TELECOMMUNICATIONS NETWORK CAPABILITY – The Commission shall promote to all Americans, regardless of location or disability, the deployment of switched, broadband, telecommunications networks capable of enabling users to originate and receive affordable and accessible high quality voice, data, graphics, and video telecommunications services. In promoting the deployment of such networks, the Commission shall, to the maximum extent feasible, rely on competition among telecommunications providers. In the event the Commission determines that users are not gaining reasonable and timely access to switched, broadband, telecommunications network capabilities, the Commission shall have the authority to provide sufficient incentives such that this access is achieved.

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104. *Id.* at 642–43.

105. *Maracich v. Spears*, 133 S. Ct. 2191, 2201 (2013).

106. S. REP. NO. 104-230, at 210 (1996) (Conf. Rep.).

107. Telecommunications Competition and Deregulation Act of 1995, S. 652, 104th Cong. (1995), *reprinted in* 141 CONG. REC. 16346, 27846 (1995).

108. Communications Act of 1994, S. 1822, 103d Cong. (1994).

(b) RULEMAKING.-If the Commission finds in its inquiry proceedings or any other time that switched, broadband, telecommunications network capabilities are not being deployed to all Americans in a reasonable and timely fashion, it shall commence a rulemaking to prescribe regulations using incentives to promote, to the maximum extent technically feasible and economically reasonable, the availability of switched, broadband, telecommunications network capabilities.<sup>109</sup>

This language clearly identifies “competition among telecommunications providers” as the preferred method for promoting broadband deployment. Indeed, as the Senate Commerce Committee’s report that accompanied the bill emphasized:

The Committee anticipates that this goal will be achieved through competition that is enhanced under the terms of this bill. But if this goal is not being achieved in a timely fashion, the FCC is authorized to act under this section to expedite deployment through the use of incentive regulation.<sup>110</sup>

The legislative history thus evinces a clear emphasis on deregulation and competition among broadband access providers as the preferred way to promote broadband deployment. Moreover, the legislative history contains no hints that Congress regarded promoting innovation in content and applications as an appropriate course of action.

#### *E. The Questionable Empirical Foundation for the Court’s Reasoning*

The natural reading and the legislative history of the provisions authorizing the FCC to “promote competition in the local telecommunications market” and “remove barriers to infrastructure investment”<sup>111</sup> suggest that these provisions are best construed as authorizing measures deregulating broadband access. The FCC nonetheless concluded that more intrusive regulation was justified because greater innovation in content and applications would create greater demand that would stimulate greater investment infrastructure.<sup>112</sup> The *Verizon* court held that this conclusion was backed by substantial evidence, citing two theoretical

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109. *Id.*

110. S. REP. NO. 103-367, at 103 (1994). Here, “incentive regulation” refers to price cap regulation. See Howard A. Shelanski, *Adjusting Regulation to Competition: Toward A New Model for U.S. Telecommunications Policy*, 24 YALE J. ON REG. 55, 59 (2007).

111. See 47 U.S.C. § 1302 (2006).

112. 2010 Open Internet Order, *supra* note 2, at 17910–11 para. 14, 18018 para. 4.

studies, one anecdote, and comments filed with the agency by two interested parties.<sup>113</sup>

A close examination of the FCC's 2010 order, however, reveals that its empirical record was quite thin. For example, the FCC based its conclusion in part on an empirical study that it claimed showed that consumers would be harmed if broadband access providers discriminated against particular edge providers on a single empirical study.<sup>114</sup> Problematically, this study focused on the cable television industry, not on broadband providers—and even then, the study found no clear evidence of discrimination.<sup>115</sup> Indeed, the peer reviewer for the FCC questioned whether the instrument on which this study relied could isolate the effect of the lack of openness.<sup>116</sup>

Both the FCC and the *Verizon* court cited a well-known article on general purpose technologies (“GPTs”) by Timothy Bresnahan and Manuel Trajtenberg for the proposition that openness promotes infrastructure investment.<sup>117</sup> But this paper actually concludes that GPTs create positive externalities and that the best way to mitigate the market failure created by these externalities would be to permit providers of GPTs to internalize those externalities through vertical integration or by entering into strategic alliances rather than forced openness.<sup>118</sup> Ironically, the FCC cited this paper as support for a proposition contrary to the conclusion the authors actually reached.

Arrayed against this claim is a growing corpus of empirical studies finding little evidence that access requirements promote investment and competition in broadband access networks.<sup>119</sup> The broader empirical literature on vertical restraints reveals that exclusivity or preferential contracts between suppliers and retail distributors are either neutral or welfare enhancing in the vast majority of cases.<sup>120</sup> That said, the fact that the

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113. 740 F.3d at 644–45.

114. 2010 *Open Internet Order*, *supra* note 2, at 17918 para. 23 n.60 (citing Austan Goolsbee, *Vertical Integration and the Market for Broadcast and Cable Television Programming*, Paper for the Federal Communications Commission 31–32 (Sept. 5, 2007)).

115. *Id.*

116. David Waterman, Peer Review of *Vertical Integration and the Market for Broadcast and Cable Television Programming*, by Austan Goolsbee (2007), [http://transition.fcc.gov/mb/peer\\_review/prstudy9.pdf](http://transition.fcc.gov/mb/peer_review/prstudy9.pdf).

117. *Id.* at 17909 n.12; *Verizon*, 740 F.3d at 644.

118. Timothy F. Bresnahan & M. Trajtenberg, *General Purpose Technologies: “Engines of Growth”?*, 65 J. ECONOMETRICS 83, 95 (1995).

119. CHRISTOPHER S. YOO, UNIV. OF PA. CTR. FOR TECH., INNOVATION, & COMPETITION, U.S. VS. EUROPEAN BROADBAND DEPLOYMENT: WHAT DO THE DATA SAY? 9 (2014), available at <https://www.law.upenn.edu/live/files/3352-us-vs-european-broadband-deployment> (surveying the literature and finding the overwhelming majority of studies found that access requirements failed to promote investment in next generation networks).

120. James C. Cooper et al., *Vertical Antitrust Policy as a Problem of Inference*, 23 INT’L J. INDUS. ORG. 639, 648–58 (2005); Francine Lafontaine & Margaret Slade, *Exclusive Contracts and Vertical Restraints: Empirical Evidence and Public Policy*, in HANDBOOK OF ANTITRUST ECONOMICS 391, 408–09 (Paolo Buccirossi ed., 2008).

D.C. Circuit has already upheld the conclusion that regulations mandating that broadband access providers give nondiscriminatory carriage to edge providers promotes infrastructure investment<sup>121</sup> means that the FCC is likely to adopt the same reasoning in the current NPRM and that the Court of Appeals reviewing the most recent Open Internet Order is likely to uphold this conclusion. If the conclusion is erroneous, any correction will have to come from the Supreme Court.

### III. LIMITS ON THE FCC'S SECTION 706 AUTHORITY

To say that section 706 grants the FCC affirmative authority to regulate broadband access is not to say that that authority is unbounded. The general subject matter limitations restrict the scope of the FCC's authority, as does the *Verizon* court's holding that section 706 cannot be used to impose common carriage. In addition, the jurisprudence on ancillary jurisdiction identifies other statutory provisions that limit the FCC's exercise of authority.

#### A. *Statutory Limits on the FCC's Jurisdiction*

The FCC and the *Verizon* court both recognized that the FCC's jurisdiction is limited to "interstate and foreign communication by wire and radio" and the fact that any measures enacted under section 706 must be designed to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."<sup>122</sup>

As noted in Part I.B, limiting an agency to interstate matters has long ceased to be a meaningful restriction on governmental power. Moreover, expanding section 706 authority to include all activities that have a tangential impact on infrastructure investment makes just about any measure affecting content and applications part of promoting broadband deployment.

There is one aspect of prior court decisions on ancillary jurisdiction that may provide a limit on the FCC's authority to regulate. In these decisions, once courts concluded that the authority asserted by the agency was reasonably ancillary to some authority enumerated in Titles II, III, or VI, they proceeded to evaluate whether the particular exercise of ancillary jurisdiction ran afoul of any other statutory provisions. In so doing, these courts undertook an inquiry that was precisely parallel to the one followed by *Verizon v. FCC* with respect to section 706.

In this respect, two cases on ancillary jurisdiction are particularly instructive. In *Illinois Citizens Committee for Broadcasting v. FCC*, the U.S. Court of Appeals for the Seventh Circuit rejected the argument that the FCC had jurisdiction over all matters "affecting communications," concluding instead that the agency's authority was limited to the actual transmission of

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121. *Verizon*, 740 F.3d at 643–49.

122. *Id.* at 640; 2010 *Open Internet Order*, *supra* note 258, at 17970 para. 121.

radio or television signals.<sup>123</sup> In other words, the FCC does not have regulatory authority over activities simply because they have a tangential impact on the transmission communications by wire or radio. In this sense, the FCC's authority is considerably narrower than Congress' commerce power, which has long been recognized to extend to activities that "affect" interstate commerce even when they are not themselves part of interstate commerce.<sup>124</sup>

Similarly, in *Motion Picture Association of America v. FCC*, the D.C. Circuit rejected arguments that the FCC possessed the authority to require that broadcasters include aural descriptions of a television program's key visual elements during pauses in the program dialogue.<sup>125</sup> The provision of the Communications Act giving the FCC jurisdiction over "all interstate and foreign communication by wire or radio" authorized the agency to impose regulations on transmissions that "incidentally and minimally affect[] program content."<sup>126</sup> It did not, however, give the agency authority to impose "a direct and significant regulation of program content" by requiring broadcasters to write scripts, select actors, decide what to describe and how, and choose the appropriate style and pace, all within "pauses that were not originally intended to be filled."<sup>127</sup> In short, the FCC's statutory authority over wire and radio communications does not give it the authority to regulate content directly.

The D.C. Circuit provided a more detailed discussion of this principle in *American Library Ass'n v. FCC*, in which the court ruled that the FCC lacked the authority to mandate that receivers recognize a code embedded in digital television programs that prevents their redistribution.<sup>128</sup> The statute gives the FCC authority over devices engaged in interstate "communication" by radio or wire; it does not give the agency authority over devices when they are not engaged in radio or wire transmission, including television receivers after the digital broadcast has been completed.<sup>129</sup>

Together, the courts' precedents establish a number of important limits on the FCC's ancillary authority. Although the FCC can impose regulations that have incidental and minimal effects on content, it lacks the authority to regulate content directly.<sup>130</sup> In addition, the FCC has the authority to regulate communications only when they are being transmitted by wire or radio; it lacks any authority to regulate those communications after they have arrived and presumably before they have been sent.<sup>131</sup>

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123. 467 F.2d 1397, 1400 (7th Cir. 1972).

124. *Wickard v. Filburn*, 317 U.S. 111, 124 (1942); *United States v. Wrightwood Dairy*, 315 U.S. 110, 119 (1942); *United States v. Darby*, 312 U.S. 100, 118 (1941).

125. 309 F.3d 796, 803-07 (D.C. Cir. 2002).

126. *Id.* at 803.

127. *Id.*

128. 406 F.3d 689, 707 (D.C. Cir. 2005).

129. *Id.* at 700.

130. *Motion Picture Ass'n of Am.*, 309 F.3d at 803.

131. *Am. Library Ass'n*, 406 F.3d at 700.

That said, the power to regulate communications while they are being transmitted does give the FCC considerable power over the economic relationships between content providers and network providers. For example, in *National Broadcasting Co. v. United States*, the Supreme Court held that even though the FCC lacked the authority to regulate content directly, the FCC could restrict the terms of the contracts between broadcast stations and content providers in ways designed to reallocate the relative bargaining power between these entities.<sup>132</sup> Thus, the FCC may be able to follow a similar path with respect to the Internet.

### B. Common Carriage as a Limit to Section 706 Authority

The statutory limitation that the *Verizon* court spent the most time analyzing was the prohibition of the imposition of common carriage obligations on information services—including broadband access providers.<sup>133</sup> The statute provides that “[a] telecommunications carrier shall be treated as a common carrier under this [Act] only to the extent that it is engaged in providing telecommunications services.”<sup>134</sup> On six separate occasions since 1998, the FCC has reiterated that broadband access is an “information service,” a category that is mutually exclusive with “telecommunications service.”<sup>135</sup> Unless the agency revisits this conclusion, this provision prevents the FCC from using section 706 to impose common carriage obligations on broadband access providers.<sup>136</sup> In other words, the FCC cannot use section 706 to impose backdoor common carriage regulation on providers that are not subject to Title II.<sup>137</sup>

This prohibition of common carriage represents the most significant obstacle to using section 706 to impose a blanket nondiscrimination

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132. 319 U.S. 190, 224 (1943); *see also* *Mt. Mansfield Television, Inc. v. FCC*, 442 F.2d 470 (2d Cir. 1971) (following similar reasoning to regulate the source of prime time programming and the financial terms of network programming).

133. *See Verizon v. FCC*, 740 F.3d 623, 649–60 (D.C. Cir. 2014).

134. 47 U.S.C. § 153(51) (2006).

135. Federal-State Joint Board on Universal Service, *Report to Congress*, 13 FCC Rcd. 11501, 11520–23 paras. 39–43, 11536–40 paras. 73–81 (1998); *see also* *Appropriate Regulatory Treatment for Broadband Access to the Internet over Wireless Networks, Declaratory Ruling*, 22 FCC Rcd. 5901, 5909–11 paras. 19–27 (2007); *United Power Line Council’s Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service, Memorandum Opinion and Order*, 21 FCC Rcd. 13281, 13285–86 paras. 8–10 (2006); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd. 14853, 14862–63 paras. 12–14, 14909–12 paras. 102–107 (2005); *Cable Modem Declaratory Ruling, supra* note 38, at 4820 para. 34, 4822–23 paras. 38–39, *aff’d sub nom.* *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 996–1000 (2005); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Notice of Proposed Rulemaking*, 17 FCC Rcd. 3019, 3029–33 paras. 17–25 (2002).

136. *See Verizon*, 740 F.3d at 650–52.

137. *See id.*

requirement. The court's decision in *Verizon* offers guidance as to what constitutes common carriage. As an initial matter, the court held that "requiring broadband providers to serve all edge providers without 'unreasonable discrimination'" is the same thing as the common carriage requirement "compel[ing] those providers to hold themselves out 'to serve the public indiscriminately.'"<sup>138</sup> Furthermore, as the *Verizon* court noted, the FCC explicitly equated common carriage and the nondiscrimination rule imposed by the 2010 order when it told commenters to look to its common carriage precedents for guidance as to what forms of discrimination were reasonable.<sup>139</sup> Moreover, the 2010 Open Internet Order's prohibition of unreasonable discrimination accommodated none of the flexibility and individualized bargaining needed to take the regulation outside of common carriage. Instead of signaling flexibility, the Order warned that "it is unlikely that pay for priority would satisfy the 'no unreasonable discrimination' standard."<sup>140</sup> Preventing "broadband providers from charging edge providers for using their service" in effect would have "forc[ed] them to sell service to all who ask at a price of \$0."<sup>141</sup> The prohibition of unreasonable discrimination would thus have admitted none of the individualized bargaining that the court had previously found necessary to take a restriction outside the realm of common carriage.<sup>142</sup>

In fact, even common carriers typically enjoy the ability to offer different classes of service and to charge different amounts for them. In one extreme case, AT&T created a separate class of service for a single customer; the FCC's attempt to prevent AT&T from doing so was overturned in the courts.<sup>143</sup> Ironically, in declaring prioritized service to be presumptively invalid, the nondiscrimination rule in the Open Internet Order would have forbidden a practice that common carriage would have explicitly permitted.<sup>144</sup>

At the same time, the *Verizon* court distinguished the Order's nondiscrimination rule from the data roaming rule that the D.C. Circuit upheld in *Cellco Partnership v. FCC*.<sup>145</sup> As the *Verizon* court noted, the rule at issue in *Cellco* required only that mobile telephone companies enter into data roaming agreements on "commercially reasonable" terms, with reasonableness determined by the "totality of the circumstances" governed

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138. See *id.* at 655–56.

139. *Id.* at 657 (citing 2010 Open Internet Order, *supra* note 2, at 17948–40 para. 77 & n.240).

140. *Id.*

141. *Id.*

142. *Id.*

143. AT&T Communications, Revisions to Tariff FCC No. 12, *Memorandum Opinion and Order*, 4 FCC Rcd. 4932, 4938 para. 57 (1989), *rev'd and remanded sub nom.* MCI Telecomms. Corp. v. FCC, 917 F.2d 30, 37 (D.C. Cir. 1990).

144. See Daniel A. Lyons, *Net Neutrality and Nondiscrimination Norms in Telecommunications*, 54 ARIZ. L. REV. 1029, 1058 (2012).

145. 700 F.3d 534 (D.C. Cir. 2012).

by sixteen nonexclusive factors.<sup>146</sup> These rules left “substantial room for individualized bargaining and discrimination in terms” and “expressly permit[ted] providers to adapt roaming agreements to ‘individualized circumstances without having to hold themselves out to serve all comers indiscriminately on the same or standardized terms.’”<sup>147</sup> Moreover, the order at issue in *Cellco* contained language expressly indicating that its standard differed from the nondiscrimination standard applied to common carriers.<sup>148</sup> The *Cellco* court warned that if the FCC were to apply the “commercially reasonable” standard in a way that was tantamount to common carriage, it would likely be invalidated in as-applied challenges.<sup>149</sup>

It is hard to see how the FCC could implement a blanket nondiscrimination rule and still provide the “substantial room for individualized bargaining and discrimination in terms” and the ability to “adapt roaming agreements to ‘individualized circumstances without having to hold themselves out to serve all comers indiscriminately on the same or standardized terms’” required to be a proper exercise of section 706 authority that does not constitute common carriage.<sup>150</sup> Both *Cellco* and the tradition of common carriage afford providers the latitude to create individualized bargains and different classes of service. But permitting different classes of service with different prices is precisely what the nondiscrimination rule was designed to foreclose.<sup>151</sup>

### C. Commercial Reasonableness as an Alternative Standard

That said, a nondiscrimination rule is not the only way for the FCC to address concerns that broadband access providers might restrict access to their networks in ways that would inhibit future broadband deployment. The D.C. Circuit’s *Cellco* decision, holding that the FCC’s data roaming rules did not constitute common carriage, and the court’s careful distinction of *Cellco* in *Verizon v. FCC* offered a clear blueprint for fashioning such a rule based on commercial reasonableness. Indeed, the law employs the commercial reasonableness standard in a wide range of contractual agreements.<sup>152</sup>

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146. *Verizon*, 740 F.3d at 652, 657.

147. *Id.* at 652 (alteration in original).

148. *Id.* at 656.

149. *Id.* at 652; *see Cellco*, 700 F.3d at 548–59.

150. *Cellco*, 700 F.3d at 548 (citing Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, *Second Report and Order*, 26 FCC Rcd. 5411, 5433 para. 45 (2011)).

151. *See 2010 Open Internet Order*, *supra* note 2, at 17947 para. 76.

152. *See, e.g., Heller v. TriEnergy, Inc.*, 877 F. Supp. 2d 414, 430 (N.D.W. Va. 2012) (applying a commercial reasonableness standard to the concept of unconscionability); David B. Pursell, *Commercial Reasonableness: The New Target*, J. HEALTH CARE COMPLIANCE, Mar.-Apr. 2011, at 69 (applying a commercial reasonableness standard within the context of health care contracts).



The FCC's new rules proposed in its 2014 Open Internet NPRM appear to accept that invitation by embracing commercial reasonableness as the basis for a rule and proposing a totality-of-the-circumstances test guided by six nonexclusive factors plus a catchall.<sup>153</sup>

- Impact on present and future competition;
- Impact on consumers;
- Impact on speech and civic engagement;
- Technical characteristics;
- “Good faith” negotiation;
- Industry practices; and
- Other factors.<sup>154</sup>

If properly applied, such a rule could address the FCC's desire to promote innovation, competition, free expression, and investment in infrastructure without imposing the type of mandatory obligations associated with common carriage.<sup>155</sup>

### 1. Impact on Competition

Consider, for example, the factor focusing on the impact on competition. As noted earlier, the literature on GPTs recognizes that strategic alliances between content and network providers can enhance competition.<sup>156</sup> This is consistent with one of the major findings of the modern academic literature on competition policy: that vertical integration and exclusivity contracts are often procompetitive in a broad range of circumstances<sup>157</sup> and that these practices can harm competition only when practiced by a firm with significant market share.<sup>158</sup>

This factor would permit firms to engage in individualized bargaining and prioritized service when the relevant firms are too small to plausibly harm competition or when strategic alliances are likely to promote competition. A prime example of when such practices are unlikely to harm competition is the MetroPCS case discussed at greater length below.<sup>159</sup> Simply put, at 3% market share, any practice adopted by MetroPCS was unlikely to harm competition, and any practice that enhanced its ability to compete with the market leaders despite its severe disadvantage in spectrum holdings could only enhance competition. Permitting similarly situated firms

153. See 2014 Open Internet NPRM, *supra* note 7, at 5600–08 paras. 113–135.

154. *Id.* at 5605–10 paras. 124–141.

155. *Cf.* Yoo, *supra* note 53, at 570–72 (identifying affirmative obligations imposed on common carriers by Title II of the Communications Act).

156. See Bresnahan & Trajtenberg, *supra* note 118, at 95.

157. Christopher S. Yoo, *Vertical Integration and Media Regulation in the New Economy*, 19 YALE J. ON REG. 171, 192–200, 260–64 (2002).

158. *Id.* at 188–92, 253–59.

159. See *infra* Part V.C.1.

not to carry the content of certain providers under these circumstances helps take this rule outside the realm of obligatory carriage associated with common carriage.

## 2. Impact on Consumers

Focusing on consumer welfare provides another way that the FCC's proposed rule may fall short of mandating carriage of all content on equal terms. For example, some consumers place a greater emphasis on cost than flexibility. Indeed, this cost sensitivity explains the continued popularity of feature phones, which support only a handful of highly popular functions through a proprietary operating system that supports only a narrow range of third-party applications.<sup>160</sup>

Moreover, as I noted nearly a decade ago, the fact that different customers use the network differently provides an opportunity to enhance consumer welfare through network diversity.<sup>161</sup> Most customers disproportionately frequent only a handful of locations.<sup>162</sup> Consequently, they may prefer a network that gives them prioritized access to the locations that they use the most frequently and on which they place the highest value, such as email servers, remote desktop access to their office computers, or their cloud service providers.<sup>163</sup>

Indeed, recent developments in the United Kingdom illustrate this dynamic nicely. Plusnet employs application-specific traffic management that prioritizes VoIP and gaming.<sup>164</sup> O2 prioritizes a different cluster of services, including streaming and gaming.<sup>165</sup> Sky offers an unmanaged network as a selling point.<sup>166</sup> Rather than offering me-too services, these ISPs offer differentiated services designed to deliver a high-value product to customers with strong preferences for particular applications. Indeed, the proof of the pudding is in the eating: the ISP that manages its network most heavily, Plusnet, enjoys the highest customer satisfaction ratings in the UK.<sup>167</sup>

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160. Christopher S. Yoo, *Network Neutrality and the Need for a Technological Turn in Internet Scholarship*, in ROUTLEDGE HANDBOOK OF MEDIA LAW 539, 552 (Monroe E. Price, Stefaan G. Verhulst & Libby Morgan eds., 2012).

161. Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARV. J.L. & TECH. 1 (2005).

162. Christopher S. Yoo, *When Antitrust Met Facebook*, 19 GEO. MASON L. REV. 1147, 1151–52 (2012).

163. Christopher S. Yoo, *Possible Paradigm Shifts in Broadband Policy*, 9 I/S: J.L. & POL'Y FOR INFO. SOC'Y 367, 371 (2014).

164. Alissa Cooper, *How Competition Drives Discrimination: An Analysis of Broadband Traffic Management in the UK* 10 (Aug. 2013) (paper presented at the 41st Research Conference on Communications, Information and Internet Policy (TPRC)), available at <http://ssrn.com/abstract=2241562>.

165. *Id.* at 22.

166. *Id.* at 25–26.

167. Plusnet, Which? Recommended Broadband Provider Plus Award-Winning Customer Service, <http://www.plus.net/home-broadband/awards/> (last visited September 20, 2014).

Focusing on consumer welfare thus provides another way that the commercial reasonableness standard can deviate from the nondiscrimination mandate associated with common carriage. These examples underscore how differentiation of traffic can provide consumer benefits by giving the increasingly heterogeneous universe of consumers a broader array of options from which to choose.

### 3. Industry Practices

Another way in which the commercial reasonableness standard can deviate from common carriage and still take horizontal fairness considerations into account is by examining industry practices. This factor requires an examination of similar transactions with other industry participants, while affording a degree of latitude for variations based on individualized considerations.

An examination of industry practices reveals that many basic services, including VoIP, IP video, and voice over LTE, depend on prioritization or reserved bandwidth to provide the quality of service that consumers demand. The prevalence of these industry practices should be taken into account when assessing the commercial reasonableness of similar arrangements and when implementing the proposed exception for specialized services. Any concerns about whether the growth of specialized services might starve the best-efforts Internet of bandwidth are best addressed through the minimum quality standards established by the anti-blocking rule.

## IV. TITLE II RECLASSIFICATION

Many network neutrality proponents regard the *Verizon* court's prohibition on using section 706 to impose common carriage obligations as an insuperable barrier to the type of nondiscrimination mandate that they regard as the most critical.<sup>168</sup> These advocates believe that the only way to achieve a blanket nondiscrimination mandate would be to reclassify broadband access services under Title II, thereby enabling the FCC to impose common carriage regulation.<sup>169</sup> However, the FCC has repeatedly ruled that broadband access services are information services that are exempt from common carriage regulation, rather than telecommunications services that are subject to common carriage regulations.<sup>170</sup> The Supreme Court upheld

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168. See, e.g., Press Release, Public Knowledge, FCC to Allow Commercial Discrimination on the Internet (Apr. 23, 2014) ("The very essence of a 'commercial reasonableness' standard is discrimination. And the core of net neutrality is non discrimination"), available at <http://www.publicknowledge.org/news-blog/press-release/public-knowledge-statement-on-updated-net-neutrality-rules>.

169. See, e.g., Lance Ulanoff, *Is Making Broadband a Utility the Key to Saving the Internet?*, MASHABLE (May 15, 2014), <http://mashable.com/2014/05/15/fcc-broadband-utility-net-neutrality/>.

170. See *supra* note 135 and accompanying text.

this determination as a reasonable interpretation of the Communications Act in *Brand X*.<sup>171</sup> The FCC floated the possibility of reclassifying broadband access as a Title II service while considering the Open Internet Order, relying exclusively on Justice Scalia's dissent in *Brand X*.<sup>172</sup> The agency ultimately declined to pursue reclassification, but made it a point to leave the Title II option open.<sup>173</sup>

### A. Legal Barriers to Reclassification

I have addressed at length the problems with Title II reclassification elsewhere and will only sketch my objections here. The FCC's construction of the statute is subject to *Chevron* deference. As *Brand X* made clear, *Chevron* does not preclude the FCC from changing its mind so long as it justifies its change in position.<sup>174</sup> The fact that the FCC has ruled on six separate occasions that broadband access is an information service and not a telecommunications service does not prevent it from revisiting that decision.

To say that the agency may reevaluate its construction, however, does not relieve it from satisfying *Chevron*'s standard of review. *Chevron* Step one requires that the statute's text not foreclose the proffered construction of the statute.<sup>175</sup> If Congress has directly addressed the issue, congressional intent controls.<sup>176</sup> The language of the statute forecloses classifying broadband access as a telecommunications service. The statute defines a "telecommunications service" as a provider that offers for a fee directly to the public "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."<sup>177</sup> The FCC has characterized this as "pure" transmission that does not involve computer processing or storage.<sup>178</sup>

The problem is that much of the world's web content is served by content delivery networks ("CDNs"), which store popular web content in thousands of locations around the world. For example, market leader Akamai

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171. *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 968–69 (2005).

172. JULIUS GENACHOWSKI, *THE THIRD WAY: A NARROWLY TAILORED BROADBAND FRAMEWORK* 4 (2010), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-297944A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-297944A1.pdf); AUSTIN SCHLICK, *A THIRD-WAY LEGAL FRAMEWORK FOR ADDRESSING THE COMCAST DILEMMA* 3 (2010), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-297945A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-297945A1.pdf); see also *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 1005 (2005) (Scalia, J., dissenting).

173. See *Framework for Broadband Internet Service, Notice of Inquiry*, 25 FCC Rcd. 7866, 7867 para. 2, 7919 (2010) (statement of Michael Copps, Comm'r).

174. *Brand X*, 545 U.S. at 981.

175. *Id.* at 982.

176. *Id.*

177. 47 U.S.C. § 153(46) (2006).

178. *Verizon*, 740 F.3d at 630.

uses nearly 150,000 servers throughout the network to serve 30% of the world's web content and rely on the domain name system ("DNS") to determine from which cache it should serve any particular request.<sup>179</sup> The Supreme Court has upheld the conclusion that the DNS and caching functions associated with the typical broadband access service inevitably involve both computer processing and storage and thus take broadband access outside the scope of Title II.<sup>180</sup>

The statutory requirement that the transmission take place between points specified by the end user is even more problematic. On the Internet, physical locations are addressed by the numbers of an Internet Protocol (IP) address, which in the case of IP version 4 is usually represented by four numbers between 0 and 255 separated by dots (such as 128.91.34.233, which is one of the IP addresses assigned to the University of Pennsylvania).<sup>181</sup> Although the National Science Foundation is currently studying a proposal to restructure Internet addresses so that they refer to particular content rather than particular locations,<sup>182</sup> until such a proposal is adopted, the address architecture will continue to focus on physical addresses. End users and applications typically do not rely on IP addresses, however. Instead, they generally use domain names (such as upenn.edu) to access Internet resources, relying on the DNS to map domain names onto IP addresses.<sup>183</sup> When this is the case, the points of communication are specified by DNS, not the end user.<sup>184</sup> Moreover, as anyone who has attempted to access Google's website from another country recognizes, the mapping of domain names onto IP addresses is not simply mechanical.<sup>185</sup> On the contrary, the DNS often routes the same domain name to different locations based on its inference of which location is most likely to be the one the end user wants. In addition, content is frequently not stored in a single location.<sup>186</sup> CDNs, for instance, depend on the DNS to determine from which of their thousands of caches that any particular request should be served.<sup>187</sup> Thus, unless the user employs IP addresses instead of domain names or maintains his or her own DNS, it is a third-party DNS provider that selects the points of transmission, not the end user. As a result, it is impossible to see how broadband access can fit within the statutory definition of telecommunications service governed by Title II.

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179. Press Release, NanoTech Entertainment, NanoTech's Nuvola NP-1 4K Streaming Media Player Demonstrated with Akamai Media & Delivery Solutions at NAB 2014 (Mar. 19, 2014), available at <http://finance.yahoo.com/news/nanotech-nuvola-np-1-4k-204400686.html>.

180. *Brand X*, 545 U.S. at 998–1000.

181. Yoo, *supra* note 53, at 565.

182. NAMED DATA NETWORKING, <http://named-data.net/> (last visited May 23, 2014).

183. Yoo, *supra* note 53, at 565.

184. *Id.* at 564.

185. *Id.* at 567.

186. *Id.* at 566.

187. *Id.* at 567.

## B. Overlooked Implications of Reclassification

Interestingly, many network neutrality proponents seem to be unfamiliar with the way that Title II regulation works in practice. Specifically, it has generally not been applied to benefit actors occupying the position of content and service providers, it has never barred prioritized service, and it has long been plagued by a series of implementation difficulties.

### 1. Common Carriage's Inapplicability to Complementary Services

Supporters of Title II reclassification believe it will enable rules that give edge providers nondiscriminatory access to broadband networks. The history of common carriage is to the contrary. The seminal decision is *Memphis & Little Rock Railroad Co. v Southern Express Co. (The Express Package Cases)*, in which the Supreme Court held that the nondiscrimination obligations of common carriers applied only to end users and did not apply to express package companies who wanted to use the railroad as a conduit for delivering another service.<sup>188</sup> This is because the specialized needs of such services “must necessarily be a matter of bargain,” the Court reasoned, and thus cannot always be provided to all express package companies.<sup>189</sup> The fact that express package services had become a “public necessity,” was “used in almost every conceivable way, and for almost every conceivable purpose,” and that “[a]ll have become accustomed to it, and it cannot be taken away without breaking up many of the long-settled habits of business, and interfering materially with the conveniences of social life” did not change the Court’s analysis.<sup>190</sup> The courts have applied similar principles to the telecommunications industry.<sup>191</sup>

The *Verizon* court elided this distinction somewhat when it rejected the FCC’s argument that the nondiscrimination rule’s requirement that broadband access providers carry edge providers did not impose common carriage obligations because broadband access providers only served as carriers for end users, not for edge providers.<sup>192</sup> The issue presents the converse of the question presented in the *Express Package Cases*. In those cases, the question was whether common carriage entailed nondiscrimination towards edge providers.<sup>193</sup> In *Verizon*, the issue was whether nondiscrimination towards edge providers entailed common carriage.

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188. 117 U.S. 1, 27 (1885).

189. *Id.* at 24.

190. *Id.* at 20.

191. PETER W. HUBER ET AL., FEDERAL TELECOMMUNICATIONS LAW § 1.3.1, at 14–16, § 5.1.1, at 407–08 (2d ed. 1999).

192. *Verizon*, 740 F.3d at 653.

193. 117 U.S. at 20.

In any event, the history of common carriage raises questions whether common carriage would give edge providers the benefit of a nondiscrimination mandate. If not, Title II reclassification would not create the benefits that many network neutrality proponents envisage.

## 2. The Permissibility of Prioritized Service

As noted above, common carriage does not restrict from creating different classes of service so long as it provides each class of service to all comers.<sup>194</sup> Thus, notwithstanding the claims of some network neutrality proponents, Title II reclassification would not necessarily prevent broadband access providers from offering premium services at premium prices.<sup>195</sup>

## 3. Difficulties Implementing Common Carriage

Finally, advocates of Title II reclassification must come to grips with how difficult nondiscrimination mandates have historically been to implement in practice. Any decision-maker confronted with a nondiscrimination claim would have to determine whether the price differentials were the result of differences in quality or cost or the desire to implement schemes such a Ramsey pricing that can make the allocation of high fixed costs goods more efficient.<sup>196</sup>

Title II would also require decision-makers to ensure that rates are just and reasonable.<sup>197</sup> The methodologies for evaluating the reasonableness of rates have long been criticized for providing insufficient incentives to economize on costs, discouraging innovation, and leading to interminable controversies over how to determine the proper rate base and rate of return, how to allocate common costs, and over the reasonableness of non-price terms and conditions.<sup>198</sup> Rate regulation also facilitates collusion by creating entry barriers, standardizing products and pricing, pooling information, providing advance notice of changes, and allowing the government to serve as the means for forcing parties to adhere to the agreed upon prices.<sup>199</sup> Moreover, with respect to traditional telephony, the increasingly specialized needs of business customers led them to request an ever-growing number of special access tariffs and waivers designed to tailor services to individual customers' particular needs. In light of the growing diversity of Internet applications, imposition of Title II regulation would likely deluge regulators with a similar range of requests.

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194. See *supra* notes 194–207 and accompanying text.

195. Yoo, *supra* note 53, at 574 n.183.

196. *Id.* at 573–81.

197. 47 U.S.C. § 201(b) (2006).

198. Yoo, *supra* note 53, at 581–95.

199. *Id.* at 602–05.

#### 4. Difficulties Implementing Forbearance

Finally, any solution based on Title II reclassification would require the FCC to forbear from a number of statutory provisions, as both the Commission<sup>200</sup> and several advocates of reclassification have noted.<sup>201</sup> Section 10 of the Communications Act requires the FCC to forbear from “applying any regulation or any provision of [Title II] to a telecommunications carrier” if the agency finds that a regulation is not needed to protect consumers or ensure just and reasonable practices and that forbearing from such regulation is “consistent with the public interest.”<sup>202</sup> In practice, however, the agency’s experience with forbearance has not been a happy one. Scholars have criticized the agency for failing to establish clear evidentiary standards,<sup>203</sup> for establishing a market power test based on marginal cost pricing that is impossible for any telecommunications network to satisfy,<sup>204</sup> and for ignoring intermodal competition.<sup>205</sup> Indeed, the courts have found the FCC’s forbearance decisions to be so internally inconsistent as to be arbitrary and capricious.<sup>206</sup>

The net result of these considerations is that Title II reclassification may not prohibit the types of practices that concern network neutrality proponents the most. In addition, the looming implementation difficulties suggest that even if common carriage regulation were somehow directed towards those exact practices, it may not create the benefits that they envisage. And the prospect of relying on forbearance to ensure that regulation remains light may be illusory.

#### V. OTHER IMPLICATIONS OF THE VERIZON DECISION

Both Verizon and the FCC declined to appeal the *Verizon* court’s decision to the Supreme Court, and the FCC has already published a new notice of proposed rulemaking that proposes rules that comport with the

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200. 2014 *Open Internet NPRM*, *supra* note 7, at 5615–16 paras. 153–155.

201. See Comments of the Open Tech. Inst. at the New Am. Found. and Benton Found. at 26, Protecting and Promoting the Open Internet, FCC GN Docket No. 14-28 (rel. May 15, 2014), available at [http://newamerica.net/sites/newamerica.net/files/profiles/attachments/OTI\\_NN\\_Comments\\_FINAL.pdf](http://newamerica.net/sites/newamerica.net/files/profiles/attachments/OTI_NN_Comments_FINAL.pdf).

202. 47 U.S.C. § 160(a) (2006).

203. Rob Frieden, *Case Studies in Abandoned Empiricism and the Lack of Peer Review at the Federal Communications Commission*, 8 J. ON TELECOMM. & HIGH TECH. L. 277, 292 (2010).

204. George S. Ford & Lawrence J. Spiwak, *The Impossible Dream: Forbearance After the Phoenix Order* (Phx. Ctr. for Advanced Legal & Econ. Pub. Pol’y Studs., Paper No. 10-08, 2010), available at <http://ssrn.com/abstract=1740558>.

205. Seth L. Cooper, *Forbearance Follies: What the FCC’s New Framework Portends for the “Third Way”* 3–4 (Free State Found., Perspectives from FSF Scholars Vol. 5 No. 18, 2010), available at [http://www.freestatefoundation.org/images/Forbearance\\_Follies\\_070810.pdf](http://www.freestatefoundation.org/images/Forbearance_Follies_070810.pdf).

206. *Verizon Tel. Cos. v. FCC*, 570 F.3d 294, 301–05 (2009).



*Verizon* decision.<sup>207</sup> Nonetheless, the text of the *Verizon* decision and the early debates surrounding the FCC's proposed rules raise some tantalizing possibilities as to what might transpire next.

### A. State Regulation

Section 706 applies equally to “[t]he Commission and each State commission with regulatory jurisdiction over telecommunications services.”<sup>208</sup> The statute thus seems to accord to state public utility commissions (PUCs) the same regulatory authority that it accords to the FCC. Concerns that inconsistent state regulation would disrupt the deployment of the newly emerging information services led the FCC to preempt state regulation in both its Second and Third Computer Inquiries.<sup>209</sup> History has shown that state and local authorities might well be eager to exercise this authority. Prior to 2002, when the FCC refused to address the regulatory status of broadband access services,<sup>210</sup> state and local governments rushed to the void.<sup>211</sup> The resulting regulation and litigation threatened the broadband industry with a welter of inconsistent and burdensome regulatory mandates. The FCC's 2002 assertion of exclusive federal jurisdiction over broadband largely eliminated these disputes.<sup>212</sup>

The obvious way to avoid the inconsistency of concurrent state-federal regulation is for the FCC to preempt state action, but it is questionable whether preemption is permissible when section 706(a) also gives authority to the state PUCs *in pari materia*.<sup>213</sup> Indeed, the *Verizon* court saw nothing untoward in concurrent federal-state jurisdiction.<sup>214</sup>

Language included in both the Senate and Conference Reports accompanying the 1996 Act may provide sufficient basis to avoid this problem. The Senate report clearly provides that “[t]he FCC may pre-empt State commissions if they fail to act to ensure reasonable and timely

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207. See Open Internet Remand, *Public Notice*, FCC GN Docket No. 14-28 (rel. Feb. 19, 2014); see also 2014 Open Internet NPRM, *supra* note 7.

208. 47 U.S.C. § 1302(a) (2006).

209. Amendment of Section 64.702 of the Commission's Rules & Regulations (Third Computer Inquiry), *Report and Order*, 104 F.C.C.2d 958, 1127-28 paras. 347-348 (1986), *vacated sub nom.* California v. FCC, 905 F.2d 1217 (9th Cir. 1990); Amendment of Section 64.702 of the Commission's Rules & Regulations (Second Computer Inquiry), *Memorandum Opinion and Order*, 84 F.C.C.2d 50, 103 para. 154 (1980), *aff'd sub nom.* Computer & Comm'ns Indus. Ass'n v. FCC, 693 F.2d 198, 214-18 (D.C. Cir. 1982).

210. See Nat'l Cable & Telecomms. Ass'n v. Gulf Power Co., 534 U.S. 327, 349-51 (2002) (Thomas, J., concurring in part and dissenting in part) (rebuking the FCC for failing to address the regulatory status of broadband).

211. See, e.g., MediaOne Group, Inc. v. County of Henrico, 257 F.3d 356 (4th Cir. 2001); AT&T Corp. v. City of Portland, 216 F.3d 871 (9th Cir. 2000).

212. See *Cable Modem Declaratory Ruling*, *supra* note 38, at 4800-02 paras. 2-7.

213. See 2B SUTHERLAND ON STATUTORY CONSTRUCTION § 51:2 (7th ed. & Supp. 2014) (“Courts try to construe apparently conflicting statutes on the same subject harmoniously, and, if possible, give effect to every provision in both.”).

214. *Verizon v. FCC*, 740 F.3d 623, 638 (D.C. Cir. 2014).

access.”<sup>215</sup> The Conference Report includes identical language.<sup>216</sup> The legislative history thus clearly suggests that the federal government should be able to preempt state regulation notwithstanding the language of section 706(a).

### *B. The Applicability of Network Neutrality to Interconnection Agreements*

Both the 2010 Open Internet Order and the 2014 Open Internet Notice of Proposed Rulemaking made clear that the rules were designed to ensure equal treatment of traffic *within* a broadband access provider’s network. The rules were not meant to equalize the terms under which traffic *arrives* at a broadband provider’s network.

As a result, the FCC has repeatedly clarified that the Open Internet rules do not apply to interconnection agreements between Internet service providers (ISPs).<sup>217</sup> Some voices have begun to call for bringing interconnection agreements within the scope of the network neutrality debate.

Attempting to equilibrate interconnection agreements would turn every bilateral negotiation between two ISPs into a regulatory matter. Indeed, in a network comprised of more than 30,000 networks interconnected through bilateral agreements, variations in price and latency are endemic.

#### 1. The Mischaracterization of Peering as Zero-Price Interconnection

It is often said that the Internet is a network of networks.<sup>218</sup> What this means in practice is that traffic that originates on one network often terminates on another network.<sup>219</sup> To make this possible, ISPs enter into contracts with other Internet service providers (“ISPs”) to exchange traffic. Because the terminating ISP also incurs costs,<sup>220</sup> the traditional rule was that the originating ISP would make what is known as a transit payment to

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215. S. REP. NO. 104-23, at 50 (1995).

216. S. REP. NO. 104-230, at 210 (1996) (Conf. Rep.).

217. See *infra* notes 257-258 and accompanying text.

218. The discussion that follows is adapted from my testimony before the Senate Judiciary Committee on April 9, 2014. *Examining the Comcast-Time Warner Cable Merger and the Impact on Consumers: Hearing Before the S. Comm. on the Judiciary*, 113th Congress (2014), available at <http://www.judiciary.senate.gov/imo/media/doc/04-09-14YooTestimony.pdf>.

219. Michael Kende, *The Digital Handshake: Connecting Internet Backbones*, 11 COMM.LAW CONSP. 45, 51 & n.60 (2003) (“In a settlement arrangement . . . the carrier on which the traffic originates pays the other carrier to terminate the traffic.”).

220. *Id.* at 47–52.

compensate the terminating ISP for providing services to the originating ISP's customers.<sup>221</sup>

If traffic is roughly symmetrical, ISPs can reduce costs by foregoing monitoring and billing for the exchange of traffic and instead calling it a wash, a practice commonly known as settlement-free peering.<sup>222</sup> Such arrangements make economic sense only if the traffic exchanged is symmetrical in terms of cost and value. If traffic becomes out of ratio, peering contracts typically call for transit-style payments.<sup>223</sup>

The fact that peering agreements include a symmetry requirement underscores that they are more properly regarded as a form of barter that is conditional on an even exchange.<sup>224</sup> Consider what would happen if one of the parties to a peering contract that was roughly in balance suddenly signed up a customer that caused a significant increase in the amount of traffic that it was handing off to the other party for termination. At this point, the traffic would likely be out of ratio, in which case the terminating ISP would have to incur significant costs to terminate the traffic and the peering contract would typically call for the originating ISP to make a payment to the terminating ISP. Insisting that all interconnection occur at a zero price regardless of the amount of traffic is inconsistent with the barter-based justification underlying peering arrangements.

Certainly, the originating ISP would like the terminating ISP to bear all of the costs of doing so. Conversely, the terminating ISP would like the originating ISP to pay for the costs, as required by the typical peering contract. Both parties benefit from delivering greater value to the end users. The usual solution would be for both parties to bear part of the costs based on their relative elasticities of demand.<sup>225</sup> Mandating zero-price interconnection would prevent this from occurring.

## 2. The Multiple Functions Performed by Prices

Insisting that interconnection always occur at a zero price would also ignore the important role that prices play in any market economy. In terms of Internet interconnection, prices perform three key functions.

First, prices allocate scarce resources and allow markets to clear while helping to ensure that those resources are employed only when the benefits

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221. CHRISTOPHER S. YOO, *THE DYNAMIC INTERNET* 64, 94 (2012).

222. Kende, *supra* note 219, at 49.

223. YOO, *supra* note 221, at 64, 95–96.

224. Kende, *supra* note 219, at 52 (“[P]eering agreements are the result of commercial negotiations; each backbone bases its decisions on whether, how and where to peer by weighing the benefits and costs of entering into a particular interconnection agreement with another backbone.”).

225. For a detailed discussion of Internet backbone competition in light of end user demand elasticity, see Jean-Jacques Laffont et al., *Internet Interconnection and the Off-Net-Cost Pricing Principle*, 34 *RAND J. ECON.* 370 (2003).

of doing so exceed the costs.<sup>226</sup> Second, they provide an incentive for interconnection partners to conserve on bandwidth. Third, if supracompetitive prices emerge, they signal to other actors that the market is in short-run disequilibrium and provide the incentive for others to enter the market. Entry by other players shifts the supply curve out until the market is once again in long-run equilibrium.<sup>227</sup>

Imagine what would happen if all interconnection prices were required to equal zero. First, because prices could not rise, markets could not clear, so they would end up in persistent shortage.<sup>228</sup> Second, interconnection partners would have no incentive to rationalize their consumption or to invest in technologies that consume less bandwidth.<sup>229</sup> Third, and worst of all, zero-price interconnection would prevent those who invest in value-creating activities from earning a return and thus risk inhibiting innovation.<sup>230</sup>

Internet companies are investing in their businesses in an attempt to gain an edge on the competition, and any advantage gained only serves to force competitors to make new investments of their own. Consider the impact that the cable industry's deployment of DOCSIS 3.0<sup>231</sup> and the advent of Google Fiber<sup>232</sup> have had on telephone companies. The higher investments by these companies are forcing AT&T to respond in kind.<sup>233</sup> Faced with competitors able to deliver significantly higher bandwidth, AT&T has begun deploying more advanced DSL technologies capable of delivering between 45–100 Mbps service.<sup>234</sup> Where these services have been

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226. Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEO. L.J. 1847, 1864 (2006).

227. Christopher S. Yoo, *Rethinking the Commitment to Free, Local Television*, 52 EMORY L.J. 1579, 1590–91 (2003).

228. See, e.g., DANIEL F. SPULBER & CHRISTOPHER S. YOO, NETWORKS IN TELECOMMUNICATIONS: ECONOMICS AND LAW 78–83 (2009) (discussing the harmful economic consequences of price controls).

229. See Yoo, *supra* note 226, at 1864–65.

230. See Yoo, *supra* note 161, at 48–53; Christopher S. Yoo, *Network Neutrality, Consumers, and Innovation*, 2008 U. CHI. LEGAL F. 179, 235–37 [hereinafter Yoo, *Consumers*].

231. See *Eighth Broadband Progress Report*, *supra* note 68, at 10385 para. 92.

232. See John Brodtkin, *Google Fiber Chooses Nine Metro Areas for Possible Expansion*, ARS TECHNICA (Feb. 19, 2014, 1:00 PM), <http://arstechnica.com/business/2014/02/google-fiber-chooses-nine-metro-areas-for-possible-expansion/>.

233. See, e.g., Applications and Public Interest Statement of Comcast Corp. and Time Warner Cable Inc. at 42–52, Applications of Comcast Corp. and Time Warner Cable Inc. for Consent to Assign and Transfer Control of Licenses and Other Authorizations, FCC MB Docket No. 14-57 (rel. July 10, 2014), available at <http://corporate.comcast.com/images/Comcast-Public-Interest-Statement-April-8.pdf> (chronicling the virtuous cycle of investment by cable and telco broadband providers in infrastructure upgrades including FTTN and VDSL2 with pair bonding).

234. Press Release, AT&T, AT&T to Invest \$14 Billion to Significantly Expand Wireless and Wireline Broadband Networks, Support Future IP Data Growth and New Services (Nov. 7, 2012), available at <http://www.att.com/gen/press-room?pid=23506&cdvn=news&newsarticleid=35661&mapcode=>.

deployed, AT&T is successfully taking customers from the cable companies with which it competes.<sup>235</sup>

This type of dynamic is not limited to horizontal competition. Service providers are providing high-value content and services with strong customer appeal. The desirability of these products in turn strengthens these companies' hand when negotiating interconnection agreements.

Indeed, this is exactly what appears to be occurring with Netflix. Netflix has been a spectacular success, largely because of the billions of dollars in forward contracts in content that it has undertaken.<sup>236</sup> These risks have paid off spectacularly, and Netflix has grown to more than one-third of all primetime Internet traffic in the U.S.<sup>237</sup> Like any for-profit company, Netflix would prefer it if the ISPs bore as much of the burden of the additional costs of carrying this traffic as possible. Indeed, that is the gist of its Open Connect program, which requires ISPs to terminate Netflix traffic for free.<sup>238</sup> The strong bargaining leverage created by Netflix's investments has led many ISPs to embrace Open Connect.<sup>239</sup>

Netflix must be permitted to exercise the bargaining power created by its investments if it is to be expected to continue to invest in the future. Other ISPs have resisted and have made investments of their own in an attempt to gain bargaining leverage.<sup>240</sup> This pattern of move and countermove in an attempt to reap economic benefit is what drives investment and innovation. This is the true virtuous circle of innovation.

All of this is a natural part of healthy bargaining process. As in the typical case, both sides reached an interconnection agreement that divides the costs. Applying network neutrality to such disputes would turn every garden-variety bargain over price that characterizes every arms-length economic transaction into a regulatory matter. To the extent that it deprives firms of returns that are the result of the entrepreneurial risks they have taken, it threatens to cause the virtuous circle to stall. Determining the price that appropriately divides the costs is greatly complicated by the fact that the

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235. See Mark A. Israel, *Econ. Analysis of the Effect of the Comcast-TWC Transaction on Broadband: Reply to Commenters at 71 para. 80, Applications of Comcast Corp. and Time Warner Cable Inc. for Consent to Assign and Transfer Control of Licenses and Other Authorizations*, FCC MB Docket No. 14-57 (rel. July 10, 2014), available at <http://corporate.comcast.com/images/2014-09-23-REDACTED-Comcast-TWC-Opposition-and-Response-Exhibit-1-Israel.pdf>.

236. See, e.g., Mark Sweney, *Netflix to Spend \$3bn on TV and Film Content in 2014*, THE GUARDIAN (Feb. 5, 2014, 11:07 AM), <http://www.theguardian.com/media/2014/feb/05/netflix-spend-3-billion-tv-film-content-2014>.

237. SANDVINE, *GLOBAL INTERNET PHENOMENA 1H2014*, at 5–6(2014), available at <https://www.sandvine.com/downloads/general/global-internet-phenomena/2014/1h-2014-global-internet-phenomena-report.pdf>.

238. See Jon Brodtkin, *Netflix's Many-Pronged Plan to Eliminate Video Playback Problems*, ARS TECHNICA (May 13, 2014, 11:15 AM), <http://arstechnica.com/information-technology/2014/05/netflixs-many-pronged-plan-to-eliminate-video-playback-problems/>.

239. *Id.*

240. *Id.*

Internet constitutes a two-sided market.<sup>241</sup> The economics of two-sided markets are somewhat complex.<sup>242</sup> Conventional economics has long recognized the existence of “network economic effects,” which cause a network to increase in value as the number of users connected to it increases.<sup>243</sup> To use a classic example, the value of a telephone network to consumers is thus determined by more than just the price charged and the services provided, as is the case with most goods. It also depends on the number of other subscribers connected to the network. The more people each user can reach through the network, the more valuable it becomes to all users.

The telephone system is an example of a one-sided market, as the value to any particular caller is determined in no small part by the number of similarly situated callers. When a market is two-sided, instead of bringing together a single class of similarly situated users, networks bring together two completely different classes of users.<sup>244</sup> In those cases, the value is determined not by the number of users of the same class, but rather the number of users of the other class. To put it in terms of a concrete example, consider the economics of broadcast television, which generates revenue from advertisers based on the number of viewers the industry can deliver.<sup>245</sup> The value of the network for advertisers is not determined by the number of other advertisers. Instead, the value of the network increases with the number of a different class of network participants (i.e., television viewers).

The economics of two-sided markets indicate that it may be socially beneficial for content and application providers to subsidize the prices paid by end users.<sup>246</sup> The fact that the Internet has become increasingly dominated by advertising revenue paid to content and application providers rather than network providers makes this particularly likely to be true. An advertiser’s willingness to pay for an ad on any particular website depends on the number of end users viewing that website. Under these circumstances, the optimal solution may be for the website owner to subsidize the total number of end users by making payments to the network provider to help defray their costs

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241. The discussion that follows is adapted from Christopher S. Yoo, *Network Neutrality After Comcast: Toward a Case-by-Case Approach to Reasonable Network Management*, in *NEW DIRECTIONS IN COMMUNICATIONS POLICY* 55, 71–76 (Randolph J. May ed., 2009). For a more extended discussion of the implications of the economics of two-sided markets for network neutrality, see Yoo, *Consumers*, *supra* note 230, at 222–27.

242. For overviews of the economics of two-sided markets, see David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms*, 3 *COMP. POL’Y INT’L* 151 (2007), available at [https://www.law.berkeley.edu/files/Evans\\_and\\_Schmalensee\\_-\\_Two\\_Sided\\_Markets.pdf](https://www.law.berkeley.edu/files/Evans_and_Schmalensee_-_Two_Sided_Markets.pdf); Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report*, 37 *RAND J. ECON.* 645 (2006); Roberto Roson, *Two-Sided Markets: A Tentative Survey*, 4 *REV. NETWORK ECON.* 142 (2005), <http://www.bepress.com/rne/vol4/iss2/3>.

243. See Yoo, *supra* note 161, at 33.

244. See Yoo, *Consumers*, *supra* note 230, at 223.

245. *Id.* at 237

246. *Id.* at 237–38.

of connection.<sup>247</sup> The costs of subsidizing more users would be more than offset by the additional revenue generated by the fact that advertisers can now reach more potential customers.<sup>248</sup>

These revenue-side pressures are reinforced by cost-side considerations. The cost of connecting content and application providers to the Internet is quite low, typically only requiring a single high-speed line to a small number of business locations.<sup>249</sup> The cost of connecting end users to the Internet is much higher, requiring the wiring and upgrading of equipment in entire neighborhoods. In an industry in which the primary revenue is flowing to content and application providers and the costs involved in connecting content and application providers are much smaller than the costs of connecting end users, one would expect some cash to flow from content and application providers to those who are providing connections to end users.<sup>250</sup>

These dynamics are again well-illustrated by broadcast television. In many ways, broadcast television and the Internet are analogous. The movie studios that create television programs play a similar role to content and application providers. Television networks aggregate programs and deliver them nationally in much the same manner as server-side network providers and backbone providers.<sup>251</sup> Local broadcast stations provide last-mile connectivity that is quite similar to the role played by DSL and cable modem providers. In addition, the revenue structure is quite comparable, in that television networks receive advertising revenue in much the same manner as content and application providers. Furthermore, the cost structure is somewhat similar in that connecting individual homes is much more costly than distributing programming nationally.

For decades, the standard business arrangement has been for television networks to subsidize the operations of local broadcast stations by paying them to be members of their television networks.<sup>252</sup> The industry's revenue and cost structure make such arrangements quite logical. The cost of paying these broadcast stations to affiliate with a network is more than offset by the increase in advertising revenue made possible by the fact that the network is now able to reach a larger audience.<sup>253</sup> Broadcast television thus represents a prime example of when firms operating on one side of the market find it

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247. *Id.*

248. *Id.* at 225–26.

249. *Id.* at 237.

250. Peyman Faratin et al., *The Growing Complexity of Internet Interconnection*, COMM. & STRATEGIES, 4th Quarter 2008, at 51, 59.

251. JEFF ULIN, *THE BUSINESS OF MEDIA DISTRIBUTION: MONETIZING FILM, TV, AND VIDEO CONTENT* 224–25 (1st ed. 2010).

252. Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, *Fifteenth Report*, 28 FCC Rcd. 10496, 10599 para. 208 (2013) [hereinafter *Fifteenth Video Competition Report*], available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-13-99A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-13-99A1.pdf).

253. See Yoo, *Consumers*, *supra* note 230, at 237.

economically beneficial to subsidize end users on the other side of the market.

Furthermore, the magnitude of the affiliation fees that the networks pay to broadcast stations is anything but uniform. The precise amount paid varies with the relative strength of the network and the relative strength of the broadcast station.<sup>254</sup> Stronger broadcast stations receive more, while weaker ones receive less. Equally interesting is the fact that in recent years, the cash flow has begun to vary in its direction as well as magnitude, with weaker stations having to pay rather than be paid to be part of the television network.<sup>255</sup> The dynamic nature of this pricing regime benefits consumers by providing incentives for networks to invest in better quality programming and by providing an incentive for stations to provide better carriage.

The core insight of two-sided market is that prices can vary widely in magnitude and direction. Sometimes money flows from content providers to network providers, and sometimes it naturally flows the other way. All of this underscores the difficulty of identifying the optimal price as well as the fact that requiring all interconnection occur at a zero price would be an economic anomaly. Prices are how market-based economies allocate goods, provide incentives to minimize costs, and signal producers that the market is in disequilibrium. Freezing those prices would dampen those signals and risk forestalling the quest for bargaining leverage that is the engine that drives the virtuous circle of innovation forward.

### 3. The Danger of Regulating Interconnection Agreements

Although some have suggested that such interconnection agreements represent network neutrality violations,<sup>256</sup> network neutrality only applies to how traffic is handled *within* an ISP's network. It does not apply to how the traffic arrives at an ISP, which inevitably travels by paths of different lengths and incurs different costs as it traverses a system composed of 47,000 separate networks tied together through arms-length interconnection agreements. Indeed, this is why the Open Internet Order specified that it does

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254. *Id.*

255. *Fifteenth Video Competition Report*, *supra* note 252, at 10599–600 paras. 208–209 (“Network compensation to television broadcast stations has all but disappeared, and today, television stations instead commonly pay compensation to networks in order to air their programming.” (citations omitted)).

256. *See, e.g.*, Reed Hastings, *Internet Tolls and the Case for Strong Net Neutrality*, NETFLIX US & CANADA BLOG (Mar. 20, 2014, 2:00 PM), <http://blog.netflix.com/2014/03/internet-tolls-and-case-for-strong-net.html>; Stacey Higginbotham, *Paid Peering Is Not a Net Neutrality Issue But Level 3 Wants to Make It One*, GIGAOM (Mar. 18, 2014, 9:26 AM), <https://gigaom.com/2014/03/18/level-3-gets-the-problems-of-peering-fights-so-right-and-then-so-wrong/>; Mark Rogovsky, *Comcast-Netflix Didn't Violate Net Neutrality But It Wasn't Benevolent, It Was Business*, FORBES (Feb. 24, 2014, 9:07 AM), <http://www.forbes.com/sites/markrogowsky/2014/02/24/comcast-netflix-didnt-violate-net-neutrality-but-it-wasnt-benevolent-it-was-business/>



not apply to interconnection agreements,<sup>257</sup> why FCC Chairman Julius Genachowski made clear that the Open Internet Order does not apply to interconnection disputes,<sup>258</sup> and why Chairman Wheeler has indicated the same.<sup>259</sup> The proposed rule that the FCC adopted on May 15, 2014, tentatively reiterated the conclusion that the rules would apply only to a broadband access provider's own network and not to traffic exchanged between networks.<sup>260</sup>

The Comcast-Netflix interconnection agreement appears to be nothing more than a typical case of such bargaining. One advantage is that because it now is a direct customer of Comcast, it gains the benefit of the guaranteed service levels in Comcast's standard service-level agreement. Indeed, media reports indicate that Comcast customers are experiencing a quality enhancement in their Netflix experience.<sup>261</sup>

The agreement reduces Comcast's costs, while the impact on Netflix is ambiguous: while it now must pay Comcast to terminate its traffic, it no longer needs to pay the third-party ISP on which it previously relied to reach Comcast in a classic case of efficiencies through cutting out the middleman. Although some have suggested that this might lead to a net reduction in Netflix's costs, that information is confidential and cannot be verified. In any event, interconnection represents a trivial revenue stream for Comcast and a tiny portion of Netflix's cost structure, which is dominated by program acquisition costs, which means that the transaction is unlikely to have any material effect on Netflix subscription prices.<sup>262</sup>

In addition, interconnection in the Internet space is fundamentally different from carriage agreements in cable television. In cable television, the failure to come to an agreement means that subscribers cannot receive

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257. *2010 Open Internet Order*, *supra* note 2, at 17933 para. 47 (noting the Open Internet Order's inapplicability to "Internet backbone services"); *id.* at 17944 n.209 (noting the Open Internet Order's inapplicability to interconnection).

258. *Network Neutrality and Internet Regulation: Warranted or More Economic Harm than Good?*, Hearing before the Subcomm. on Communications and Technology, H. Comm. on Energy and Commerce, 102d Cong., 1st Sess. 102 (2011), available at <http://www.gpo.gov/fdsys/pkg/CHRG-112hrg65940/pdf/CHRG-112hrg65940.pdf>.

259. Brendan Sasso, *Netflix's Net-Neutrality Plea Gets Rejected by the FCC*, NAT'L J. (Apr. 1, 2014), <http://www.nationaljournal.com/tech/netflix-s-net-neutrality-plea-gets-rejected-by-the-fcc-20140401>.

260. *2014 Open Internet NPRM*, *supra* note 7, at 5617 para. 59.

261. See, e.g., Chloe Albanesius, *Netflix Speeds Jump 65 Percent on Comcast After Deal*, PC MAG. (Apr. 14, 2014, 5:37 PM), <http://www.pcmag.com/article2/0,2817,2456553,00.asp>.

262. Dan Rayburn, *Here's How the Comcast & Netflix Deal Is Structured, with Data & Numbers*, STREAMING MEDIA BLOG (Feb. 27, 2014, 12:14 PM), <http://blog.streamingmedia.com/2014/02/heres-comcast-netflix-deal-structured-numbers.html>; Joan E. Solsman, *Netflix vs. the Comcast-TWC Merger: Nothing to Lose*, CNET (Apr. 22, 2014, 5:54 AM), <http://www.cnet.com/news/netflix-a-comcast-merger-nemesis-of-convenience/>.

particular content.<sup>263</sup> With respect to the Internet, multiple ways to reach consumers always exist. In fact, Comcast maintains 40 settlement-free peering relationships and over 8,000 paid transit relationships.<sup>264</sup> That means that edge providers will always have some way to reach Comcast customers even if they are unable to reach a direct interconnection agreement.<sup>265</sup> The only bargaining advantage that Comcast would enjoy is the difference between the interconnection terms and the cost of Netflix's next-best interconnection option.<sup>266</sup> Although some have speculated that Comcast might still be able to discriminate against Netflix traffic flowing over other paths, that traffic is mixed with the traffic of other end users, which would require Comcast to inspect all of the traffic coming through that connection,<sup>267</sup> which would be unrealistic and prohibited by Comcast's commitment to abide by the terms of the Open Internet Order.<sup>268</sup>

As an added benefit, absent the interconnection agreement, all of Comcast's customers would have had to bear the costs of Netflix's increase in traffic regardless if they used the service or not. The interconnection agreement promotes fairness by ensuring that those who derive the benefits are the ones who bear the costs. The elimination of zero-cost pricing also avoids the problems that arise when edge providers have no incentive to economize on the volume of traffic they send, as well as address the legal concerns raised by Judge David Tatel in his decision in *Verizon v. FCC*.<sup>269</sup>

Any remaining concerns should be eliminated by the fact that Comcast has committed to abide by the terms of the FCC's Open Internet Order even

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263. For instance, in early 2014, after Viacom failed to reach a deal with Cable One, a small cable company, subscribers lost access to all Viacom channels, including Comedy Central and MTV. Alex Ben Block, *Viacom Blackout Continues as Small Cable Company Takes Stand in Retrans Fight*, HOLLYWOOD REPORTER (Apr. 2, 2014, 5:06 PM), <http://www.hollywoodreporter.com/news/viacom-blackout-continues-as-small-693143>.

264. *Competition in the Video and Broadband Markets: The Proposed Merger of Comcast and Time Warner Cable: Oversight Hearing Before the Subcomm. on Regulatory Reform, Commercial and Antitrust Law of the H. Comm. on the Judiciary*, 113th Cong. (May 8, 2014) (Joint Written Statement of David L. Cohen, Executive Vice President, Comcast Corp., and Robert D. Marcus, Chairman and Chief Executive Officer, Time Warner Cable), available at [http://judiciary.house.gov/?a=Files.Serve&File\\_id=E55CD2D5-C965-4D7B-84E0-BFD386769F2C](http://judiciary.house.gov/?a=Files.Serve&File_id=E55CD2D5-C965-4D7B-84E0-BFD386769F2C).

265. Christopher S. Yoo, *Innovations in the Internet's Architecture That Challenge the Status Quo*, 8 J. ON TELECOMM. & HIGH TECH. L. 79, 86 (2010).

266. Stanley M. Besen et al., *Advances in Routing Technologies and Internet Peering Agreements*, 91 AM. ECON. REV. (PAPERS & PROC.) 292, 295 (2001).

267. Cf. Timothy B. Lee, *The Durable Internet: Preserving Network Neutrality Without Regulation* 15–23 (Cato Inst., Policy Analysis No. 626, 2008), available at <http://object.cato.org/sites/cato.org/files/pubs/pdf/pa-626.pdf> (arguing that ISP efforts to degrade or discriminate against disfavored Internet traffic are unlikely to succeed for technical and economic reasons).

268. Applications of Comcast Corp., Gen. Elec. Co. & NBC Universal, Inc., *Memorandum Opinion and Order*, 26 FCC Rcd. 4238, 4275 para. 94 (2011) [hereinafter *Comcast-NBCU Order*] (barring Comcast from discriminating against unaffiliated Internet traffic and requiring Comcast to abide by the rules contained in the 2010 Open Internet Order).

269. *Verizon v. FCC*, 740 F.3d 623, 658 (D.C. Cir. 2014).

though it was struck down by the courts.<sup>270</sup> In fact, the merger would extend this benefit to all of Time Warner Cable's customers as well.

### C. Case-by-Case Adjudication

The *Verizon* court's discussion of *Cellco* leaves open the possibility that the FCC could implement a regime based on case-by-case adjudication. *Cellco* upheld a requirement of commercial reasonableness in data roaming agreements as distinct from common carriage. There is much to recommend such an approach; indeed, I have advocated it for a long time.<sup>271</sup>

There are some legal constraints to adjudication. Under *Cellco*, if the FCC imposes a nondiscrimination mandate on a case-by-case basis, it would be invalid.<sup>272</sup> *Verizon* echoed this concern.<sup>273</sup> So although case-by-case adjudication is a viable option, the FCC cannot use it as a backdoor means for mandating nondiscrimination.

Ex post, case-by-case adjudication has a long legacy, with roots in the debate between rules and standards as well as the rejection of the codification movement during the Nineteenth Century.<sup>274</sup> Indeed, the distinction between ex ante rules and ex post adjudication may be somewhat overstated, in that rules are never as clear and standards are never as vague as people suggest. Both have their place, with standards being the preferred form of the legal rule when the nature of the problem is contextual and variegated.

As a policy matter, this regime should be exercised with great restraint. Content and applications are complements to broadband access. As such, contracts between content and applications providers and broadband access providers are properly regarded as vertical restraints. As a theoretical matter, the welfare implications of vertical restraints are ambiguous, as they may either benefit or harm consumers.<sup>275</sup> Economic theory suggests that consumer harm can arise only if the relevant markets are concentrated and protected by entry barriers; that is, if the participants have market power.<sup>276</sup> As noted above, the empirical literature indicates that vertical restraints are

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270. *Comcast-NBCU Order*, *supra* note 268, 268, at 4275 para. 94 ("Comcast and Comcast-NBCU shall also comply with all relevant FCC rules . . . and, in the event of any judicial challenge affecting the latter, Comcast-NBCU's voluntary commitments concerning adherence to those rules will be in effect." (citations omitted)).

271. See Yoo, *supra* note 221; Christopher S. Yoo, *Product Life Cycle Theory and the Maturation of the Internet*, 104 NW. U. L. REV. 641, 644, 669–70 (2010); Yoo, *supra* note 241, at 71–76; Yoo, *Consumers*, *supra* note 230, at 186; Yoo, *supra* note 226, at 1854–55, 1900, 1908; Yoo, *supra* note 161, at 7–8, 24, 75; Christopher S. Yoo, *Would Mandating Network Neutrality Help or Hurt Broadband Competition?: A Comment on the End-to-End Debate*, 3 J. ON TELECOMM. & HIGH TECH. L. 23, 44–47, 58–59 (2004).

272. *Cellco P'ship v. FCC*, 700 F.3d 534, 548–49 (D.C. Cir. 2012).

273. *Verizon*, 740 F.3d at 652.

274. See Andrew P. Morris, *Codification and Right Answers*, 74 CHI.-KENT L. REV. 355 (1999) (chronicling the rise of the codification movement and the opposition to it).

275. Yoo, *supra* note 157, at 180, 190, 282–85.

276. *Id.* at 196.

either neutral or welfare enhancing in the vast majority of cases.<sup>277</sup> Most importantly, case-by-case adjudication should be conducted based on empirical evidenced in the context of a concrete theory. Placing the burden of proof on the party challenging the practice will help promote experimentation with new products, services, and business models.

### 1. MetroPCS/YouTube

These facts counsel in favor of certain guidelines for case-by-case adjudication. First, we should impose a market-power screen to filter out cases unlikely to cause consumer harm. Contrary to the suggestion of the dissent in *Verizon*,<sup>278</sup> this would be a significant deviation from common carriage, which has historically not required market power.<sup>279</sup>

The point is illustrated by MetroPCS, which was the target of one of the first network neutrality complaints. MetroPCS is a regional wireless provider in the U.S.<sup>280</sup> Its 8.1 million subscribers as of the end of 2010 made it the fifth-largest provider in the U.S., although its customer base was less than one-tenth that of market leaders Verizon and AT&T.<sup>281</sup> It specializes in offering unlimited voice and text plans without long-term contracts and at monthly rates that are significantly lower than the prices charged by the top-four national providers.<sup>282</sup>

In the markets in which it operates, MetroPCS controls significantly less spectrum than its national rivals. In addition, unlike its national rivals, which provide broadband services through 3G platforms such as EV-DO and HSPA+, until September 2010 MetroPCS operated exclusively through a second-generation (“2G”) technology known as 1xRTT CDMA.<sup>283</sup> Given its 2G roots, its network is based on the Binary Runtime Environment for

277. See *supra* notes 118–120 and accompanying text.

278. 740 F.3d at 664–66 (Silberman, J., dissenting).

279. Yoo, *supra* note 75, at 560; Herbert Hovenkamp, *Regulatory Conflict in the Gilded Age: Federalism and the Railroad Problem*, 97 YALE L.J. 1017, 1045 (1988) (“As early as the 17th century, the common law had derived the duty to charge reasonable rates from the common carrier’s obligation to serve everyone . . . .”); Susan P. Crawford, *Transporting Communications*, 89 B.U. L. REV. 871, 882–84 (2009); Thomas B. Nachbar, *The Public Network*, 17 COMMLAW CONSPECTUS 67, 97–100 (2008).

280. MetroPCS has since been acquired by T-Mobile, although MetroPCS continues to do business under its own brand, pending the eventual migration of its customers onto T-Mobile’s network. Marguerite Reardon, *T-Mobile to Shut Off MetroPCS Network in Three Cities in 2014*, CNET (Feb. 25, 2014 11:08 AM), <http://www.cnet.com/news/t-mobile-to-shut-off-metropcs-network-in-three-cities-in-2014/>.

281. Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, *Fifteenth Report*, 26 FCC Rcd. 9664, 9697 tbl.3 (2011) [hereinafter *Fifteenth CMRS Report*].

282. Scott Woolley, *The Upstart Company That Made the AT&T-Mobile Merger Possible*, FORTUNE (Mar. 22, 2011, 5:24 PM), <http://fortune.com/2011/03/22/the-upstart-company-that-made-the-att-mobile-merger-possible/>.

283. Mike Dano, *MetroPCS to Skip 3G With LTE Rollout?*, FIERCEWIRELESS (Aug. 3, 2010), <http://www.fiercewireless.com/story/metropcs-skip-3g-lte-rollout/2010-08-03>.

Wireless (BREW) platform, which was designed primarily for text rather than multimedia.<sup>284</sup> The inability to support popular video applications such as YouTube put MetroPCS at a competitive disadvantage. Because video delivered to mobile devices do not require the same resolution as full-sized television screens, MetroPCS was able to reduce the bandwidth needed by using Real Time Streaming Protocol (RTSP) to compress the video signal so that it would work effectively on its 2G network.<sup>285</sup> Its core 2G data plan was priced at \$50 per month.<sup>286</sup>

On September 21, 2010, MetroPCS skipped deploying 3G altogether and became the first provider to offer service using the 4G technology known as Long Term Evolution (LTE).<sup>287</sup> Unable to offer service through a true smartphone, MetroPCS opted to deploy LTE through the Samsung Craft, a less expensive, but more limited device known as a feature phone that was able to support BREW.<sup>288</sup> Providers of many popular applications, including Flash and other web plug-ins, did not regard the platform as sufficiently widespread to create BREW-compatible versions.<sup>289</sup> MetroPCS was able to augment BREW to provide full-track music downloads and premium video content from NBC Universal, Black Entertainment Television, and Univision through its MetroSTUDIO service.<sup>290</sup> In this way, MetroPCS was able to offer limited data offerings in markets in which it possessed only 10 MHz of spectrum.<sup>291</sup> MetroPCS's initial LTE deployments offered two service plans: \$55 per month for unlimited voice text and data access and \$60 per month for the same services plus MetroSTUDIO.<sup>292</sup> The terms of service defining data access specified that it "may include, for example, multimedia steaming and video on demand services, as well as certain multimedia uploads, downloads and gaming services and applications" and

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284. Mike Dano, *MetroPCS to Allow VoIP Over LTE*, FIERCEWIRELESS (Feb. 15, 2011), <http://www.fiercewireless.com/story/metropcs-allow-voip-over-lte/2011-02-15>.

285. *See id.*

286. *See, e.g.,* Chris Knappe, *Metropcs Begins Offering Flat-Rate, Unlimited Calling Wireless Phone Service In West Michigan*, GRAND RAPIDS PRESS (May 8, 2009, 5:56 PM), [http://www.mlive.com/news/grand-rapids/index.ssf/2009/05/metropcs\\_begins\\_offering\\_flat.html](http://www.mlive.com/news/grand-rapids/index.ssf/2009/05/metropcs_begins_offering_flat.html).

287. *See Fifteenth CMRS Report, supra* note 281, at 9720 para. 70.

288. Chris Foresman, *Samsung Craft First LTE Handset, Launches on MetroPCS*, ARS TECHNICA (Sep. 21, 2010, 2:19 PM), <http://arstechnica.com/gadgets/2010/09/samsung-craft-first-lte-handset-launches-on-metropcs/>.

289. Paul Kapustka, *Samsung Craft: Hands On the First LTE 4G Phone*, PC WORLD (Sep. 22, 2010, 10:24 AM), <http://www.pcworld.com/article/205988/ss.html>.

290. Simon Chester, *MetroPCS Launches LTE in San Francisco, Still Only One Compatible Featurephone*, TECHCRUNCH (Dec. 1, 2010), <http://techcrunch.com/2010/12/01/metropcs-launches-lte-in-san-francisco-still-only-one-compatible-featurephone/>.

291. Letter from Carl W. Northrop, Paul Hastings, to Julius Genachowski, Chairman, FCC at 3 (Feb. 14, 2011) [hereinafter Northrop Letter], *available at* <http://fjallfoss.fcc.gov/ecfs/document/view.action?id=7021029361>.

292. *Id.*

may exclude data sessions from MetroSTUDIO, with MetroPCS retaining the sole discretion to determine what constitutes data access.<sup>293</sup>

On January 3, 2011, MetroPCS revised its 4G LTE service plans. It maintained its previous \$60-per-month plan, while adding two lower-priced plans.<sup>294</sup> Its \$40-per-month plan offered unlimited talk, text, and 4G Web browsing with unlimited YouTube access.<sup>295</sup> Its \$50-per-month plan added additional features (international and premium text messaging, GPS, mobile instant messaging, corporate e-mail, caller identity screening, and MetroSTUDIO service via WiFi) as well as 1 GB of additional “data access.”<sup>296</sup> Its \$60-per-month plan offered unlimited data access and MetroSTUDIO through any connection.<sup>297</sup>

One week later, a group of advocacy groups—Free Press, Center for Media Justice, Media Access Project, New America Foundation, and Presente.org—submitted a letter calling for the FCC to investigate whether MetroPCS’s proposed service plans violated the FCC’s Open Internet Order.<sup>298</sup> Their primary complaint was that MetroPCS’s \$40 and \$50 per month plans permitted unlimited access to YouTube, while potentially categorizing other voice and video services, such as Skype and Netflix, as data access subject to bandwidth limits.<sup>299</sup> Consumers Union followed eleven days later with a similar letter.<sup>300</sup>

MetroPCS responded on February 14, 2011. It emphasized its long legacy of being the only provider to offer low cost, unlimited service plans without long-term contracts or requiring deposits or credit checks. It also noted that it has access to significantly less spectrum than its leading competitors: “As a consequence, MetroPCS had to innovate to make maximum use of its relatively limited spectrum resources.”<sup>301</sup> In addition, device manufacturers were focused on more spectrum-intensive deployments planned by Verizon and AT&T, which typically used 20 MHz

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293. See John Bergmayer, *Not Unlimited. Unlimitedish.*, PUB. KNOWLEDGE BLOG (Jan. 3, 2011), <https://www.publicknowledge.org/news-blog/blogs/not-unlimited-unlimitedish>.

294. Northrop Letter, *supra* note 291, at 9–10.

295. *Id.*

296. *Id.*

297. Press Release, MetroPCS, MetroPCS’ New 4G LTE Plans Offer Unprecedented Value and Choice with Prices Starting at Just \$40 (Jan. 3, 2011), *available at* <https://www.metropcs.com/press/news-releases/2011/mpcs-news-20110103.html>.

298. Letter from M. Chris Riley, Counsel, Free Press, to Julius Genachowski, Chairman, FCC (Jan. 10, 2011), *available at* <http://fjallfoss.fcc.gov/ecfs/document/view?id=7021025490>.

299. *Id.*

300. Letter from Parul P. Desai, Policy Counsel, Consumers Union, and Mark Cooper, Director of Research, Consumer Federation of America, to Julius Genachowski, Chairman, FCC (Jan. 21, 2011), *available at* <http://apps.fcc.gov/ecfs/document/view?id=7021026387>. Some of these organizations also complained that MetroPCS’s initial LTE deployments did not support VoIP because no VoIP clients were available for BREW. The arrival of an Android-based handset in early February 2011 allowed all MetroPCS 4G LTE customers to access VoIP so long as their handset was technically capable of doing so.

301. Northrop Letter, *supra* note 291, at 3.

of spectrum, whereas MetroPCS needed to develop LTE service on as little as 1.4 MHz of spectrum.<sup>302</sup>

Moreover, LTE adoptions were slowed by the fact that its initial \$55-per-month and \$60-per-month LTE plans were priced higher than its 2G data plans. At the same time, the arrival of Android handsets was causing data traffic in its 2G network to increase. MetroPCS's revised LTE plans were carefully designed to avoid having to invest capital to upgrade a 2G data network that was already in the process of becoming obsolete by encouraging wireless data users to migrate to the more spectrum-efficient LTE network without overburdening it in the process.<sup>303</sup> The primary mechanism for doing so was the \$40-per-month LTE plan, which was cheaper than its \$50-per-month 2G data plan.<sup>304</sup> Because subscribers to the \$50-per-month 2G data plan already had access to unlimited YouTube downloads, MetroPCS felt it had to include this functionality in its \$40-per-month LTE plan if it was to be able to encourage subscribers to migrate from 2G to LTE. The fact that the \$50-per-month LTE plan allowed subscribers to download up to 1 GB of multimedia streaming also made it more attractive than the identically priced 2G plan. MetroPCS emphasized that it facilitated access to YouTube in response to customer demand. It lacked any financial arrangements that provide it with any incentive to favor YouTube, and that no other YouTube competitors had ever sought access to the MetroPCS network.<sup>305</sup>

As an initial matter, it is hard to see how any policy implemented by a firm of MetroPCS's size could hurt consumers or competition. It had less than 3% of all U.S. wireless subscribers as of the end of 2010.<sup>306</sup> In an era where creating greater competition in wireless networks remains a major policy goal,<sup>307</sup> network management remains an important tool for firms like MetroPCS to deploy competitive services notwithstanding the dearth of spectrum under their control. MetroPCS also clearly states that it specializes in offering low-cost plans that provide more limited features than its competitors. As Tom Keys, MetroPCS's chief operating officer, stated, "We didn't build this network or this device to be all things to all people."<sup>308</sup> Requiring that all of MetroPCS's service plans support all applications on

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302. *Id.* at 7.

303. *Id.* at 10.

304. *See id.* at 8–9; Phil Goldstein, *MetroPCS Slashes Base LTE Smartphone Plan By \$10, To \$40/Month*, FIERCEWIRELESS (Feb. 2, 2012), <http://www.fiercewireless.com/story/metropcs-slashes-base-lte-smartphone-plan-10-40month/2012-02-02>.

305. Northrop Letter, *supra* note 291, at 11–12.

306. *Fifteenth CMRS Report*, *supra* note 281, at 9697 tbl.3.

307. *See, e.g.*, Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless*, 28 FCC Rcd. 3700, 3729 para. 3 (2013).

308. Kevin Fitchard, *LTE Launches in the U.S.—MetroPCS Style*, CONNECTED PLANET (Sept. 21, 2010, 10:08 AM), <http://connectedplanetonline.com/3g4g/news/metropcs-launches-lte-092110/>.

equal basis would have made it impossible for them to compete in this manner.

## 2. AT&T/Apple FaceTime

Apple's video chat application FaceTime initially operated only over WiFi connections. In late 2012, FaceTime began supporting video calls over cellular networks in late 2012. AT&T initially required users to pay for a "Mobile Share Plan" in order to use FaceTime over the carrier's 3G or 4G LTE data networks, although FaceTime over WiFi remained available to all AT&T customers.<sup>309</sup> The policy required consumers to pay for a more expensive data plan in order to access FaceTime over 3G or 4G LTE networks. The policy applied to mobile devices, including tablets with broadband access capabilities. Soon after announcing the policy, however, AT&T granted 3G and 4G FaceTime access to consumers who upgraded to the newest iPhone and switched to any metered data usage plan.<sup>310</sup>

AT&T's FaceTime policy drew criticism from network neutrality proponents, including public interest groups Free Press, Public Knowledge, and the New America Foundation's Open Technology Institute. Free Press claims that the network neutrality issues stem from AT&T's determination to block 3G and 4G accessible FaceTime "unless customers pay for a more expensive voice and data plan."<sup>311</sup> Critics of AT&T's FaceTime policy contend that it violates network neutrality rules because it differentiates FaceTime from similar, rival applications. They contend that AT&T's treatment of FaceTime is "a direct contradiction of the Commission's open internet rules for mobile providers" because it interferes with consumer choice between similar mobile applications.<sup>312</sup>

AT&T has defended its policy on its consumer blog by arguing that (1) its FaceTime policy is "fully transparent to all consumers" and (2) there is no blocking issue because the FCC's network neutrality rules do not regulate applications that are preloaded on the mobile device. AT&T has since revised its policy to make it more permissive, although it still restricts

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309. Lynn La, *Only AT&T Mobile Share Plan Users Can FaceTime Over Its Cellular Network*, CNET (Aug. 17, 2012, 3:03 PM), [http://www.cnet.com/8301-17918\\_1-57495717-85/only-at-t-mobile-share-plan-users-can-FaceTime-over-its-cellular-network/](http://www.cnet.com/8301-17918_1-57495717-85/only-at-t-mobile-share-plan-users-can-FaceTime-over-its-cellular-network/).

310. Amy Schatz, *AT&T Limits on Video-Chat App Spurs Complaint*, WALL ST. J. (Sept. 12, 2012, 1:27 PM), [http://online.wsj.com/article/SB10000872396390443816804578004302003765548.html?mod=googlenews\\_wsj](http://online.wsj.com/article/SB10000872396390443816804578004302003765548.html?mod=googlenews_wsj).

311. Josh Levy, *AT&T's FaceTime Blocking: There's a Complaint for That*, FREE PRESS (Sept. 18, 2012), <http://www.freepress.net/blog/2012/09/18/atts-FaceTime-blocking-theres-complaint>.

312. *AT&T's Plan to Restrict FaceTime Violates FCC Rules*, PUB. KNOWLEDGE (Aug. 17, 2012) <http://web.archive.org/web/20120821204806/http://publicknowledge.org/att-facetime> (accessed via Internet Archive).



usage by those subscribing to grandfathered unlimited data plans that the company no longer offers.<sup>313</sup>

Because Apple FaceTime is a feature of the Apple iOS operating system, not a user-installed application, it is unclear whether the Open Internet Order applies.<sup>314</sup> Indeed, applying the Order would effectively require network providers to provide open access to all operating systems as well as applications. In addition, because the relevant broadband network is a wireless network, the nondiscrimination mandate does not apply.<sup>315</sup> Moreover, the prohibition against blocking applies only to wireless applications that compete with AT&T's offerings.<sup>316</sup> Because AT&T does not offer video chat, a decisionmaker would have to conclude that voice services compete with video chat services.

Moreover, the practice may be upheld if it constitutes reasonable network management.<sup>317</sup> A leading member of the FCC's Open Internet Advisory Committee has shown that a single FaceTime user can consume between one third and one half of all of the bandwidth available on a single node.<sup>318</sup> FaceTime thus appears to be more likely to cause congestion or disrupt its network traffic than downloadable video chat applications. Moreover, the fact that FaceTime is preloaded to the most popular devices owned by AT&T customers may make it a bigger threat to network traffic management than other video chat applications.

### 3. Verizon/Google Tethering Apps

Tethering applications permit users to use mobile devices as wireless access points for connecting additional devices to the initial device's network.<sup>319</sup> Until recently, providers have been able to justify blocking tethering applications by citing the providers' right to reasonable network management.<sup>320</sup> Providers justify charging consumers an additional fee for

313. Adi Robertson, *AT&T Says "Any" Mobile Video Chat App Will Work on its Network by the End of 2013*, THE VERGE (May 20, 2013, 2:12 PM), <http://www.theverge.com/2013/5/20/4348672/att-will-allow-all-video-chat-apps-on-its-network-by-end-of-2013>.

314. Salvador Rodriguez, *AT&T Says Charging for FaceTime Doesn't Violate Net Neutrality*, L.A. TIMES (Aug. 22, 2012), available at <http://articles.latimes.com/2012/aug/22/business/la-fi-tn-att-facetime-net-neutrality-20120822>.

315. See *2010 Open Internet Order*, *supra* note 2, at 17960 para. 99 (barring mobile broadband providers "from degrading a particular website or an application that competes with the provider's voice or video telephony services so as to render the website or application effectively unusable").

316. *Id.*

317. *Id.* at 17961 para. 103 ("[C]onditions in mobile broadband networks may necessitate network management practices that would not be necessary in most fixed networks.").

318. FCC Open Internet Advisory Comm., *AT&T/FaceTime Case Study* (Aug. 20, 2013), available at <http://transition.fcc.gov/cgb/oiac/Mobile-Broadband-FaceTime.pdf>.

319. Preserving the Open Internet, *Notice of Proposed Rulemaking*, 24 FCC Rcd. 13064, 13121 para. 164 (2009).

320. See *id.*

tethering because tethering enables consumers to attach multiple devices, many of which have higher data capacities than phones, which in turn increases data usage.<sup>321</sup> Google has granted mobile carriers' request to block wireless subscribers from accessing tethering applications unless they subscribe to a premium data service.<sup>322</sup> Google inadvertently made fourteen tethering apps available to all customers.<sup>323</sup> When Verizon reportedly asked that they be removed from the Google app store, Google complied without complaint.<sup>324</sup> An end user filed an informal complaint against Verizon claiming that this policy violated open access requirements imposed on C Block licensee holders.<sup>325</sup>

Verizon justified its additional tethering fee by arguing that tethered devices, such as laptops and tablets, have higher data capacities than phones, so customers who tethered use more data than customer who do not tether.<sup>326</sup> Under its tethering policy, Verizon charged both unlimited data plan subscribers as well as usage-based data subscribers an additional fee for tethering their Verizon mobile device to third party devices. Because of its determination to charge the latter, the additional fee seemed like an unnecessary distinction between the Verizon device and the third party device.

In July of 2012, Verizon entered a consent decree with the FCC, in which the company agreed to pay \$1.25 million to the FCC for its failure to comply with C-Block conditions requiring the company to maintain open access to its network for all applications and devices.<sup>327</sup> Verizon failed to comply with this requirement by forcing customers to pay an additional cost in order to use tethering applications that connect third party devices to Verizon's network.<sup>328</sup> In addition to the fine, which amounts to little more than a slap on the wrist, Verizon agreed to implement a company-wide system to ensure compliance with the C-Block requirements of their LTE

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321. See, e.g., James Kendrick, *The Truth About Tethering: Pay Up or You Are a Thief*, ZDNET (Apr. 4, 2011, 4:30 AM), <http://www.zdnet.com/blog/mobile-news/the-truth-about-tethering-pay-up-or-you-are-a-thief/1749>.

322. Brian Chen, *F.C.C. Forces Verizon to Allow Android Tethering Apps*, N.Y. TIMES BITS BLOG (July 31, 2012, 6:01 PM), [http://bits.blogs.nytimes.com/2012/07/31/fcc-verizon-tethering/?\\_php=true&\\_type=blogs&\\_r=0](http://bits.blogs.nytimes.com/2012/07/31/fcc-verizon-tethering/?_php=true&_type=blogs&_r=0).

323. Ellis Hamburger, *Google Caves: Bans Free Wi-Fi Hotspots on Your Android Phone*, BUS. INSIDER (May 3, 2011, 11:07 AM), <http://www.businessinsider.com/google-gives-in-kills-android-tethering-apps-at-carrier-request-2011-5>.

324. See Chen, *supra* note 322.

325. Stephen Shankland, *Complaint to FCC: Verizon Mustn't Bar 4G Tethering*, CNET (June 7, 2011 2:46 AM), <http://www.cnet.com/news/complaint-to-fcc-verizon-mustnt-bar-4g-tethering/>.

326. Steven J. Vaughan-Nichols, *Verizon: No Free Tethering for Unlimited Data Plan Customers*, ZDNET (Aug. 1, 2012, 11:00 AM), <http://www.zdnet.com/verizon-no-free-tethering-for-unlimited-data-plan-customers-7000001987/>.

327. Cellco Partnership d/b/a Verizon Wireless, *Order*, 27 FCC Rcd. 8932, 8937-41 (2012).

328. *Id.*

network.<sup>329</sup> The system includes (1) training for employees on the requirements for licensees of C-Block spectrum, (2) legal review of all communications between Verizon and application store operators regarding availability of the application to Verizon customers, and (3) disclosure of all instances of noncompliance during the two-year implementation of the plan.<sup>330</sup> The fact that Verizon has now shifted all of its plans to usage-based billing has eliminated any incentive it may have to restrict tethering apps.

#### 4. Verizon/Google Wallet

Google has developed a mobile payment application called Google Wallet, which it has built into the proprietary chip installed in certain phones.<sup>331</sup> Google Wallet permits consumers to secure digital transactions over a short distance using phones with a near field communication (NFC) chip.<sup>332</sup> NFC payment systems enable users to pay for items in physical retail stores by tapping an NFC-enabled device on a payment reader. In 2011, Verizon determined that it would not preload Google Wallet on its mobile devices and may prevent users from downloading the application to devices after-the-fact.<sup>333</sup> Verizon has expressed hesitance to embrace the application because it must ensure it is appropriately “integrated into a new, secure and proprietary hardware element” in the devices.<sup>334</sup>

Critics of Verizon’s treatment of Google Wallet suggest that Verizon’s decision on the issue is related to its potential to partner with other mobile carriers, AT&T and T-Mobile, to launch a mobile payment application called “Softcard.”<sup>335</sup> Competition among mobile payment applications has increased as the application and e-commerce industry become more lucrative, as evidenced by the recent launch of Apple Pay.<sup>336</sup> Though it is “still unclear whether many consumers will want to use electronic wallets,”

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329. *Id.*

330. *Id.*

331. Jason Del Rey, *New Google Wallet App Moves Past NFC and to All Major Carriers. iPhone Version on Tap?*, ALL THINGS D (Sep, 17, 2013, 7:35 AM), <http://allthingsd.com/20130917/with-ios-version-on-tap-new-google-wallet-for-android-moves-past-nfc/>.

332. *Id.*

333. Amir Efrati & Anton Troianovski, *War Over the Digital Wallet: Google, Verizon Wireless Spar in Race to Build Mobile-Payment Services*, WALL ST. J., Dec. 7, 2011, at B1, available at <http://online.wsj.com/news/articles/SB10001424052970204770404577081610232043208>.

334. *Id.*

335. Softcard was previously known as Isis, but changed its name in September 2014 to “avoid any potential association with the Islamic militant group bearing the same name.” Brett Molina, *Wallet App Isis Changing Name to Softcard*, USA TODAY (Sep. 3, 2014, 12:29 PM), <http://www.usatoday.com/story/tech/2014/09/03/isis-softcard/15018035/>.

336. Mike Isaac, *As PayPal Spins Off, Apple Pay Signals New Era at Cash Register*, N.Y. TIMES, Oct. 1, 2014, at A1, available at <http://www.nytimes.com/2014/10/01/technology/apple-pay-signals-new-era-at-cash-register.html>.

carriers and developers hope “mobile-payment platforms create new revenue streams by training customers to use their phones to shop.”<sup>337</sup>

Verizon may be able to overcome complaints regarding its potentially discriminatory treatment of Google Wallet if it can adequately show that Google Wallet may jeopardize security on its network. According to some sources, Google Wallet may raise security concerns. A security firm called Zvelo contended, “the Google Wallet PIN, which is required of users to confirm purchases made with their phones, can be cracked via an exhaustive numerical search.”<sup>338</sup> In addition, some critics contend that NFC systems will compromise consumer privacy. Though Google “plans to require users to opt into any service that would use or store their purchase data,” and even though “the current version of Google Wallet doesn’t allow data to be stored,” critics contend that NFC systems will not be consistent and anticipate breaches of consumer privacy.<sup>339</sup> Both of these concerns apply to all NFC systems and are not unique to Google Wallet.

A bigger threshold question is whether the fact that Google Wallet is a built-in feature of the chip instead of an application arguably takes it outside the purview of the Open Internet Order. As such, applying the Open Internet Order to Google Wallet would extend the Order’s scope beyond content, services, and applications to hardware features as well.

## 5. Amazon Kindle/Zero Rating

Amazon’s Kindle has raised a host of interesting issues as well. Originally, the Kindle was shipped with a proprietary network known as Whispernet that gave prioritized treatment to Amazon services.<sup>340</sup> More recently, the Kindle Fire accelerates content that accesses Amazon’s cloud services through the Silk browser.<sup>341</sup>

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337. Efrati & Troianovski, *supra* note 333.

338. Sarah Jacobsson Purewal, *Update: Google Wallet Security Concerns Raised*, TECHHIVE (Feb. 9, 2012, 12:30 PM), [http://www.techhive.com/article/249599/google\\_wallet\\_security\\_concerns\\_raised.html](http://www.techhive.com/article/249599/google_wallet_security_concerns_raised.html).

339. Eliza Krigman, *Amazon’s Fire May Rekindle Net Neutrality Debate*, POLITICO (Oct. 26, 2011, 11:22 PM), <http://www.politico.com/news/stories/1011/66936.html>; Michael Morisy, *Does the Amazon Kindle Violate Network Neutrality Principles?*, IT KNOWLEDGE EXCH. (Feb. 25, 2008, 4:48 PM), <http://itknowledgeexchange.techtarget.com/networkhub/does-the-amazon-kindle-violate-network-neutrality-principles/>.

340. See Suzanne Choney, *Amazon May Be Building a Wireless Network of its Own*, NBC NEWS (Aug. 23, 2013, 4:26 PM), <http://www.nbcnews.com/tech/internet/amazon-may-be-building-wireless-network-its-own-f8C10989062>.

341. Roslyn Layton, *IGF Highlights How Developing Countries Use Zero Rating Programs to Drive Internet Adoption*, TECHPOLICYDAILY.COM (Sept. 4, 2014, 6:00 AM), <http://www.techpolicydaily.com/communications/igf-zero-rating-programs/>; Alicia Levine, *Facebook and Google’s Race to Zero: And the Real Opportunity for the Next 5 Billion*, MEDIUM (Mar. 22, 2014), <https://medium.com/@alicialev/facebook-and-googles-race-to-zero-7136fc3e5925>; Rob Pegoraro, “Zero Rating”: *The Pros and Cons of Free Online Access*, YAHOO! TECH (Aug. 26, 2014), <https://www.yahoo.com/tech/zero-rating-the-pros-and-cons-of-free-online-access-95775730069.html>.

In addition, a growing number of content providers are partnering with network providers to ensure that their content does not count against mobile subscribers' bandwidth caps. Leading examples include T-Mobile's Music Freedom partnership with music streaming services, Facebook Zero, Twitter Zero, Wikipedia Zero, and the now defunct Google Free Zone, which are helping wireless broadband deploy in the developing world.<sup>342</sup> All of these practices raise interesting questions that are hard to anticipate in advance. They provide a strong justification for adopting a case-by-case approach.

## VI. CONCLUSION

The pendency of court's decision in *Verizon* created a lull in which everyone was on good behavior and the focus shifted away from policy and towards law. The lull is over, and the renewed attention to network neutrality has just begun. What remains to be seen is how expansively the FCC will interpret its authority under section 706 and whether it will attempt to reclassify broadband access as a Title II service. Other issues to be resolved include the role of the states, the applicability of network neutrality to interconnection between ISPs, and how case-by-case adjudication will be conducted. What recent events have made clearest is that the *Verizon* decision was simply a way station in the debate over network neutrality and that the controversy is likely to continue for the foreseeable future.

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342. Miriam Gottfried, *Mobile Banking Gets Riskier*, WALL ST. J., June 9, 2011, at B9, available at <http://online.wsj.com/news/articles/SB10001424052702304887904576398220617110318>.