

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
International Comparison and Consumer	)	GN Docket No. 09-47
Survey Requirements in the Broadband Data	)	
Improvement Act	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Inquiry Concerning the Deployment of	)	GN Docket No. 09-137
Advanced Telecommunications Capability to	)	
All Americans in a Reasonable and Timely	)	
Fashion	)	

**NATIONAL BROADBAND PLAN PUBLIC NOTICE #13  
COMMENTS OF AT&T INC. ON BERKMAN CENTER REPORT**

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November 16, 2009

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ATTACHMENT: Declaration of Dr. Robert W. Hahn

## INTRODUCTION AND SUMMARY

AT&T firmly believes the Commission can learn valuable lessons from the broadband experiences of other countries, and it commends the Commission for seeking “an independent expert review of existing literature and studies about broadband deployment and usage throughout the world.”<sup>1</sup> Such a review, if undertaken in a comprehensive and competent manner, would provide lessons regarding the myriad factors that drive broadband deployment and penetration around the world and lend guidance to the Commission as it formulates a National Broadband Plan. Unfortunately, the Report delivered by the Berkman Center<sup>2</sup> is neither comprehensive nor competent. It ignores or summarily dismisses a wealth of literature and analysis that directly contradicts its conclusions; it relies on data sets regarding broadband performance that are unreliable on their face and even more so when subjected to expert review; it makes bald misstatements regarding the United States’ experience with “open access” regulation; and it attempts to disguise its subjective bias by employing an econometric model that experts in the field have condemned as unprofessional and lacking in objectivity. In light of these many failings, the Commission cannot rationally rely upon the Report’s analysis or conclusions in formulating the National Broadband Plan.

*First*, although the Commission conceived the Report as a survey of *existing* literature on international broadband deployment and penetration, the Report gives short shrift to that assignment and instead performs its *own* analysis of the subject matter. In doing so, the Report relies on data that have been soundly criticized by experts, while flatly ignoring or dismissing an

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<sup>1</sup> FCC News Release, *Harvard’s Berkman Center to Conduct Independent Review of Broadband Studies to Assist FCC* (July 14, 2009) (“FCC News Release”), available at [http://www.fcc.gov/Daily\\_Releases/Daily\\_Business/2009/db0714/DOC-291986A1.pdf](http://www.fcc.gov/Daily_Releases/Daily_Business/2009/db0714/DOC-291986A1.pdf).

<sup>2</sup> See Berkman Center for Internet & Society, *Next Generation Connectivity: A Review of Broadband Transitions and Policy From Around the World* (Oct. 2009) (“Report”), available at [http://www.fcc.gov/stage/pdf/Berkman\\_Center\\_Broadband\\_Study\\_13Oct09.pdf](http://www.fcc.gov/stage/pdf/Berkman_Center_Broadband_Study_13Oct09.pdf).

array of studies that are directly contrary to its core conclusions. Indeed, as noted in the attached declaration of Robert W. Hahn, the Report ignores at least a dozen studies that are directly relevant to the subject matter and that either refute the Report's hypothesis that "open access" regulation is correlated with broadband deployment and penetration or establish that such regulation diminishes broadband investment (or both). The Report, in short, is not and does not purport to be a *review* of "existing literature and studies." Its apparent objective, rather, is to provide a counterpoint to that literature.

*Second*, the centerpiece of the Report's analysis – its ranking of individual countries' broadband performance in price, speed, and penetration – is analytically flawed. For example, as Dr. Hahn demonstrates, the Report's broadband price rankings are based on data that systematically overstate the price of broadband in the United States and appear to ignore that broadband is typically purchased as part of a bundle. Similarly, its speed rankings rely predominantly on "advertised" speed, despite the fact that independent data reveal both that "advertised" speeds are vastly overstated in some countries and that the degree of overstatement tends to be particularly large in the countries that the Report lionizes as superior broadband performers. And the Report's primary source of broadband penetration data – "per capita" data that tracks broadband subscriptions per 100 people – fails to recognize that broadband is typically purchased by households (not individuals), and that household size varies widely across countries. The Report acknowledges this last point but brushes it aside because, it claims, household penetration data tracked by the Organisation for Economic Co-operation and Development ("OECD") largely confirms its per-capita approach. But, as even the Report recognizes, the OECD household penetration data are simply recitals of raw data reported by individual countries, without any independent verification and without standardization to reflect

a consistent understanding of what does and does not count as broadband. That the Report relies on these data anyway, without discounting them on the basis of this widely understood point, speaks volumes about its lack of analytical rigor.

*Third*, the Report's *ad hoc* attempt to explain why some countries "succeed" and some "fail" in broadband borders on the frivolous. The Report relies on a self-described "qualitative" assessment of the experiences of various countries – in other words, on the admittedly subjective intuition of the Report's authors regarding which factors in which countries resulted in broadband success or failure. But that intuition is in many respects obviously flawed – as, for example, when it draws conclusions based on the demonstrably incorrect assertion that the United States does not require DSL-capable loop unbundling. More fundamentally, the Report's own analysis of various country experiences, even assuming it is accurate, is chock full of evidence that the Report itself acknowledges is either "ambiguous" or directly contrary to its thesis. Indeed, whereas the Report bluntly claims there to be "extensive evidence" to support its conclusion that "open access" regulation is the primary factor driving broadband deployment and penetration, even a casual review of the facts – including those set forth elsewhere in the very same Report – reveals that to be untrue. What *is* true is that there are a wide range of factors that can lead to success or failure – including poverty and income levels, geography, urbanicity, direct government subsidies, and more – and the Report makes no balanced attempt to sift through those factors and determine which ones mattered and by how much. In view of the Report's failure to conduct such an analysis and its frank acknowledgement that many of its data points are at best ambiguous, its boldly stated conclusion – that "open access" is the talisman for success in broadband – is nothing short of astonishing.

*Fourth*, the Report’s effort to bolster its conclusion with econometrics – by re-engineering a previously conducted OECD analysis of the effects of “open access” regulation in various countries – serves only to underscore its pervasive bias. In this respect, the Report begins with what it concedes is a data set that is too narrow to permit robust and reliable results, and then makes it even narrower by *excluding* data points that most directly contradict its thesis. With respect to other data points, as Dr. Hahn demonstrates in detail, the Report doctors the values assigned to numerous variables in a manner that is contrary to historical fact but more conducive to the Report’s pre-ordained conclusion. The result is an embarrassingly slanted econometric analysis that violates professional statistical standards and is insufficiently reliable to provide meaningful guidance.

*Finally*, the Report’s methodology is so flawed, and its results are so one-sided, that questions naturally arise about its process. Those questions, however, are left entirely unanswered. Thus, for example, the Report does not explain the precise task assigned to it. Ordinarily, a federal-government-commissioned report would include a detailed discussion, perhaps in the form of an engagement letter, of what precisely it was asked to do. Here, there is no record of the communications between the Commission and the Berkman Center regarding its assignment, leaving unanswered the question of what precisely the Report’s authors set out to accomplish. Nor does the Report acknowledge, much less answer, questions surrounding its objectivity. The Report includes no acknowledgment, for example, that its primary author has in past writings endorsed “open access” regulation.<sup>3</sup> Nor does it note that one of the sources of data

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<sup>3</sup> See, e.g., Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* 402 (Yale Univ. Press 2006) (“Benkler, *Wealth of Networks*”).

for the Report works for Free Press,<sup>4</sup> an organization that is among the most aggressive proponents of “open access” regulation in the country, or that its critique of United States regulatory policy draws on prior published analysis by that same organization.<sup>5</sup> The Report also fails to acknowledge that the Berkman Center is funded by several proponents of “open access” regulation, including Google, PayPal (a division of eBay), and Mozilla,<sup>6</sup> or explain the steps it took to guard against the obvious conflict of interest that results from that uncomfortable fact.

These failures of process are of particular concern in light of the failures of substance, noted above and discussed further below, that AT&T focuses on in these Comments. The Report labels its central conclusion – that “open access” regulation is the driving force behind broadband deployment and penetration and is a policy that has gained currency worldwide – as “surprising.” That is not so. The Report’s Principal Investigator is an author who has previously denounced broadband deregulation as bad policy; it relied upon literature and analysis (and obtained data) from sources that share that view; and it failed to meaningfully address the body of literature, evidence, and data that contradicts that view. What is “surprising” is not that the Report reaches the conclusion it did – given how the deck was stacked, that appears to have been inevitable. What is “surprising,” rather, is that the Report does so purportedly under the auspices of a Commission that has emphasized its commitment to principles of openness, transparency,

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<sup>4</sup> Compare Report at 3 (acknowledging Derek Turner as a source for “data for replicating urbanicity study”) with S. Derek Turner, Free Press, *Dismantling Digital Deregulation: Toward a National Broadband Strategy* (“Turner, *Dismantling Digital Deregulation*”), available at [http://www.freepress.net/files/Dismantling\\_Digital\\_Deregulation.pdf](http://www.freepress.net/files/Dismantling_Digital_Deregulation.pdf).

<sup>5</sup> Compare Report at 82-83 with Turner, *Dismantling Digital Deregulation* at 9; see *infra* at 30.

<sup>6</sup> See Berkman Center for Internet & Society, *Funding and Support Policies*, at <http://cyber.law.harvard.edu/about/support>. Although the Report states that it was funded by the Ford and the John D. and Catherine T. MacArthur Foundations, the Berkman Center’s website expressly states that *all* funding – including that provided by advocates of “open access” regulation – is unrestricted.

pragmatism, and decisions grounded in *all* of the available evidence and data. The Report fails to live up to these standards and thus cannot serve as a basis for Commission action.

## **I. THE REPORT DISREGARDS EXISTING LITERATURE AND STUDIES ABOUT INTERNATIONAL BROADBAND DEPLOYMENT AND USAGE**

The Public Notice asks commenters to address, first, whether the Report “accomplish[es] its intended purposes.”<sup>7</sup> That is a tall order. As noted, the Report fails to explain what precisely it was asked to “accomplish,” and its “intended purposes” are therefore cryptic. But to the extent the Berkman Center’s assignment was to “conduct an expert review of existing literature and studies about broadband deployment and usage throughout the world,”<sup>8</sup> the Report fails. Rather than review existing analyses of broadband deployment and usage, the Report purports to conduct its own such analysis, and in doing so it fails to account for a wide range of literature and critical facts that run counter to its central thesis. And, to the limited extent the Report engages the extensive work that has been done in this field, it sweeps it aside for reasons that do not hold up under scrutiny.

As a threshold matter, it is clear that the Report did not undertake a serious “review of existing literature and studies about broadband deployment and usage,”<sup>9</sup> nor did it set out to document “what has already been learned.”<sup>10</sup> Instead, as explained in its opening paragraph, the Report set out to conduct its *own* study of broadband deployment and usage:

By observing the experiences of a range of market-oriented democracies . . . , we hope to learn from the successes and failures of others about what practices and policies best promote that goal. By previewing current plans or policy efforts, we hope to learn what

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<sup>7</sup> Public Notice at 1.

<sup>8</sup> *Id.*

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

<sup>10</sup> FCC News Release (“We don’t want to reinvent the wheel. Knowing what has already been learned will improve our ability to deliver the best possible National Broadband Plan.”) (quoting Blair Levin, Executive Director of the Omnibus Broadband Initiative).

others see as challenges in the next generation transition, and to learn about the range of possible solutions to these challenges.<sup>11</sup>

The Report, in other words, does not purport to survey what experts studying the field have to say about international broadband; rather, it purports to decide for itself – based primarily on data collected by the OECD and the Report’s self-described “qualitative assessment” of the various factors driving broadband successes and failures in various countries – what does and does not lead to broadband deployment and penetration.

Had the Report done what the Commission’s own press release suggested it would do, however – *i.e.*, had it taken the time to “survey . . . the existing literature and studies” on the subject – it would have found a wealth of relevant material. Indeed, as catalogued by Dr. Hahn, the Report fails to account for no fewer than eight comprehensive studies that have analyzed the effects of “open access” regulation and that have found, in direct conflict with the Report’s central conclusion, that such regulation does not correlate with increases in broadband penetration.<sup>12</sup> Likewise, the Report – while grudgingly conceding that the “theory” that unbundling could diminish investment incentives is “not unreasonable”<sup>13</sup> – makes no attempt to determine whether it is in fact true, and it ignores the substantial efforts of the many experts who have attempted to do so (and who have found that “open access” regulation negatively affects investment).<sup>14</sup>

Thus, for example, among the wide range of literature and analysis that the Report brushes aside is that of Scott Wallsten, formerly of the Technology Policy Institute and the current Economics Director for the FCC’s National Broadband Task Force. Wallsten has

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<sup>11</sup> Report at 9.

<sup>12</sup> See Hahn Decl. ¶ 59.

<sup>13</sup> Report at 82.

<sup>14</sup> See Hahn Decl. ¶ 60 (collecting sources).

published multiple studies addressing trends in international broadband that bear directly on the Report's conclusions regarding the state of broadband adoption in the United States and the effects of unbundling and other "open access" regulation.<sup>15</sup> These studies show that broadband adoption continues to increase dramatically in all OECD countries and that the United States is situated far better than many claim in terms of penetration, speed, and infrastructure investment.<sup>16</sup> They further emphasize that, rather than focusing on international rankings and attempting to mimic the broadband policies of other nations, the United States should identify specific attributes in the domestic market that hinder competition, investment, and adoption by consumers. Of particular importance in this respect – and in direct conflict with the Report's hypothesis – these studies analyze the effects of open access regulation and find that it does not have a positive impact on broadband penetration.<sup>17</sup>

These studies are instructive, moreover, not only because they address international broadband and thus fall directly within the scope of what the Report was supposed to review, but also because they critically examine the OECD data that forms the linchpin of the Report's analysis. As noted at the outset, the Report relies heavily on OECD per-capita data – *i.e.*, on the

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<sup>15</sup> See, e.g., Scott Wallsten & Stephanie Hausladen, *Net Neutrality, Unbundling, and their Effects on International Investment in Next-Generation Networks*, 8 Rev. Network Econ. 90 (2009) ("Wallsten & Hausladen, *Net Neutrality*"), available at [http://www.techpolicyinstitute.org/files/wallsten\\_unbundling\\_march\\_2009.pdf](http://www.techpolicyinstitute.org/files/wallsten_unbundling_march_2009.pdf); Scott Wallsten, *Understanding International Broadband Comparisons, 2009 Update*, Tech. Pol'y Inst. (June 2009) ("Wallsten, *Understanding International Broadband Comparisons, 2009 Update*"), available at <http://www.techpolicyinstitute.org/files/understanding%20international%20broadband%20comparisons%202009%20update%207-9.pdf>.; Scott Wallsten, *Understanding International Broadband Comparisons*, Tech. Pol'y Inst. (May 2008) ("Wallsten, *Understanding International Broadband Comparisons*"), available at [http://www.techpolicyinstitute.org/files/wallsten\\_international\\_broadband\\_comparisons.pdf](http://www.techpolicyinstitute.org/files/wallsten_international_broadband_comparisons.pdf); Scott Wallsten, *Everything You Hear About Broadband in the U.S. is Wrong*, Progress & Freedom Found. (June 2007), available at <http://pff.org/issues-pubs/pops/pop14.13wallstenOECDbroadband.pdf>; Scott Wallsten, *Broadband and Unbundling Regulations in OECD Countries*, AEI-Brookings Joint Ctr. for Reg. Stud., Working Paper 06-16 (June 2006) ("Wallsten, *Broadband and Unbundling Regulations*"), available at <http://aei-brookings.org/admin/authorpdfs/redirect-safely.php?fname=../pdffiles/phpSV.pdf>.

<sup>16</sup> See, e.g., Wallsten, *Understanding International Broadband Comparisons, 2009 Update* at 18.

<sup>17</sup> See Wallsten, *Broadband and Unbundling Regulations* at 1.

number of subscriptions in a given country per 100 citizens. According to numerous experts, however, the OECD's per-capita broadband data is an inaccurate measure of broadband penetration because it ignores the fact that broadband connections are generally purchased by households and businesses, not individuals, and often shared among multiple users.<sup>18</sup> Because the OECD's data measures per-capita penetration, rather than household and/or business penetration, countries such as the United States that have relatively large households are penalized in per-capita rankings.

To be sure, the Report acknowledges this problem and seeks to minimize it by observing that the OECD's own household penetration data confirms the results of its per-capita data.<sup>19</sup> But the Report fails to take into account widespread criticism of the very household data it uses to validate the OECD's per capita data. The OECD's European household numbers are drawn from a Eurostat Community Survey on information and communications technology usage.<sup>20</sup> In order to measure household broadband usage, the survey asks each household what type of broadband it uses to connect to the Internet: DSL or "other." "Other" is defined to include, among other things, cable and 3G wireless technology, permitting European countries to include wireless technology as a broadband subscription; because other country data typically does not include broadband wireless, the use of these data skews the results, artificially "increasing measured household adoption" in Europe.<sup>21</sup> To make matters worse, Eurostat does not reveal

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<sup>18</sup> See, e.g., Wallsten, *Understanding International Broadband Comparisons, 2009 Update* at 1-2; George S. Ford, *Normalizing Broadband Connections*, Phoenix Ctr. Perspectives 9-01, at 1-3 (May 12, 2009) ("Ford, *Normalizing Broadband Connections*"), available at <http://www.phoenix-center.org/perspectives/Perspective09-01Final.pdf>.

<sup>19</sup> See Report at 31.

<sup>20</sup> See Wallsten, *Understanding International Broadband Comparisons, 2009 Update* at 3 n.3; see also OECD Information Technology Outlook 197, Figure 4.3 (2008), available at [http://ec.europa.eu/enterprise/newsroom/cf/document.cfm?action=display&doc\\_id=1259&userservice\\_id=1](http://ec.europa.eu/enterprise/newsroom/cf/document.cfm?action=display&doc_id=1259&userservice_id=1).

<sup>21</sup> Wallsten, *Understanding International Broadband Comparisons, 2009 Update* at 2 n.3.

which countries include wireless and which do not. Japan likewise included 3G wireless subscriptions in its broadband data, which, as the Report acknowledges, “potentially pollute[s]” its household penetration numbers.<sup>22</sup>

Although it is generally recognized that finding accurate household penetration data is difficult,<sup>23</sup> it can be done correctly – and, done correctly, it makes a significant difference in the rankings. As Wallsten observes based on such a calculation, “[t]he declining U.S. penetration rank in the OECD [per-capita] numbers is a statistical anomaly resulting from the relatively large U.S. household size and changes in the way OECD sources have counted broadband connections in different countries over time.”<sup>24</sup> Using data on residential broadband connections from a variety of sources, such as the European Commission’s E-Communications Household Survey and the Pew Internet and American Life Project,<sup>25</sup> Wallsten found that the United States ranks between 8th and 10th place in household penetration among OECD countries<sup>26</sup> – a 7-9 spot improvement over the results reflected in the Report.<sup>27</sup> This analyst also concluded that domestic broadband penetration is growing quickly and that, to the extent the United States trails other countries, the data show that the United States trails only by months.<sup>28</sup> These conclusions, which stand in stark contrast to the Report’s assertion that the United States is a “middling” performer at best, go entirely unmentioned in the Report.

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<sup>22</sup> Report at 32.

<sup>23</sup> See, e.g., Wallsten, *Understanding International Broadband Comparisons, 2009 Update* at 2; Daniel K. Correa, *Assessing Broadband in America: OECD and ITIF Broadband Rankings*, Info. Tech. & Innovation Found. at 3 n.7 (Apr. 24, 2007).

<sup>24</sup> Wallsten, *Understanding International Broadband Comparisons* at 3.

<sup>25</sup> For a complete list of Wallsten’s sources, see Wallsten, *Understanding International Broadband Comparisons, 2009 Update* at 3-4 n.4.

<sup>26</sup> *Id.* at 2-3.

<sup>27</sup> See Report at 46.

<sup>28</sup> Wallsten, *Understanding International Broadband Comparisons, 2009 Update* at 18.

The Report also fails to address studies that directly contradict the Report’s conclusion that unbundling has a “positive and significant effect on levels of penetration,” and that this effect is “somewhat larger, more statistically significant, and more robust than previously thought.”<sup>29</sup> In a comprehensive 2006 study on behalf of the American Enterprise Institute and Brookings, Wallsten reached the opposite conclusion.<sup>30</sup> After empirically testing the impact of different types of unbundling regulation on broadband development, Wallsten concluded that local loop unbundling has no significant impact on broadband penetration.<sup>31</sup> He also found that “subloop” unbundling is negatively correlated with penetration, and that, although “on-site collocation is positively correlated with penetration, . . . regulating collocation charges is negatively correlated with penetration.”<sup>32</sup> The Report briefly notes Wallsten’s conclusions, along with those of several other econometric studies,<sup>33</sup> but it does not discuss them in any detail. Instead, it brushes that work aside because it does not rely on “the kind of qualitative market and regulatory analysis” employed in the Report.<sup>34</sup> We discuss below the nature of that “qualitative market and regulatory analysis,” which, in essence, amounts to the Report’s authors’ intuition (or preconceived notion) of what does and does not work in seeking to foster broadband deployment and penetration. For present purposes, it is enough to observe that the Report makes no meaningful effort to “review” this directly relevant analysis of the effect of unbundling and collocation on broadband penetration.

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<sup>29</sup> Report at 115.

<sup>30</sup> See Wallsten, *Broadband and Unbundling Regulations*.

<sup>31</sup> See *id.* at 16.

<sup>32</sup> *Id.* at *i.*

<sup>33</sup> See Report at 115.

<sup>34</sup> *Id.*

Furthermore, the Report ignores outright Wallsten’s studies concerning the adverse effects of unbundling on investment in next generation broadband infrastructure.<sup>35</sup> Examining data from 27 European countries, Wallsten found that, while different types of unbundling can have different effects, as a general matter “countries that rely more on unbundled lines to provide broadband see less investment by incumbents in fiber than countries that rely less on unbundled lines and more on facilities-based entry.”<sup>36</sup> The same data also revealed a positive correlation between the number of DSL connections provided over entrants’ own facilities and the number of fiber connections provided by entrants. In other words, “when entrants provide DSL over their own facilities – rather than over unbundled lines – they are more likely to build their own fiber facilities.”<sup>37</sup> Thus, the more facilities-based competition there is in a country, the more investment there is in fiber. The Report ignores both of these findings, indicating either an ignorance of these contributions or an unwillingness to discuss studies that do not support its central thesis regarding the effectiveness of open access. Whatever the case, the omission of this work renders the Report an incomplete and misleading survey of the applicable literature.

The refusal to acknowledge analyses such as these might be better understood if their conclusions were aberrational. But that is not the case. Wallsten’s criticism of the OECD per-capita rankings, for example, has been echoed by others, and his conclusions regarding the effects of unbundling on broadband investment are widely shared. The Phoenix Center, for example, has issued several papers discussing the OECD’s per-capita rankings, none of which are mentioned in the Report. Like Wallsten’s studies, the papers explain that the rankings are

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<sup>35</sup> See Wallsten & Hausladen, *Net Neutrality*.

<sup>36</sup> *Id.* at 102.

<sup>37</sup> *Id.* at 106.

“often misleading and incomplete.”<sup>38</sup> Again, this is due primarily to the fact that counting broadband connections at the individual level as opposed to the household or business level makes little sense. “[P]eople do not buy broadband subscriptions, households and businesses do.”<sup>39</sup> According to the Phoenix Center, this disconnect renders the OECD per-capita data “conceptually defective and produces an incorrect index of relative adoption rates.”<sup>40</sup>

Phoenix Center papers have also advocated alternate approaches for measuring the optimal level of broadband adoption, which, unlike the Report, do not simply focus on improving the U.S. position among the OECD per-capita rankings. According to the Phoenix Center, cross-country comparisons like the OECD’s are of little relevance for policy decisions, even if the penetration data are accurate. Phoenix Center research shows that “demographic and economic conditions play a significant role [in] broadband adoption and deployment – far more than public policy”<sup>41</sup> – and that most differences in broadband adoption rates can be explained by differences in “income, education, population age, and other demographic factors that bear little relationship to broadband or telecommunications policy.”<sup>42</sup>

To address these deficiencies in the OECD data, Phoenix Center experts have authored a number of papers developing a new method for evaluating broadband deployment and adoption.

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<sup>38</sup> T. Randolph Beard *et al.*, *The Broadband Adoption Index: Improving Measurements and Comparisons of Broadband Deployment and Adoption*, Phoenix Ctr. Pol’y Paper Series No. 36, at 1 (July 2009) (“Beard, *Broadband Adoption Index*”), available at <http://www.phoenix-center.org/pcpp/PCPP36Final.pdf>.

<sup>39</sup> Ford, *Normalizing Broadband Connections* at 1.

<sup>40</sup> Beard, *Broadband Adoption Index* at 4.

<sup>41</sup> *Applicability of Phoenix Center Research to the FCC’s National Broadband Plan Notice of Inquiry*, June 2, 2009, at 2, available at <http://phoenix-center.org/BroadbandNOIFinal.pdf>; see also George S. Ford *et al.*, *The Broadband Performance Index: A Policy-Relevant Method of Comparing Broadband Adoption Among Countries*, Phoenix Ctr. Pol’y Paper Series No. 29 (July 2007) (“Ford, *Broadband Performance Index*”), available at <http://phoenix-center.org/pcpp/PCPP29Final.pdf>.

<sup>42</sup> Beard, *Broadband Adoption Index* at 4.

The method focuses on factors that drive broadband adoption across industrialized countries and aims to “take[] into account all technologies in a way that measures the value that each broadband technology offers their societies.”<sup>43</sup> This work has culminated in the creation of a value-based Broadband Adoption Index, which compares the actual value of adoption to the welfare-maximizing value of adoption, which varies from country to country. The index is intended to allow policymakers in individual countries to establish optimal deployment and adoption targets based on their demographic and economic conditions, such as population, age, education level, and density, rather than merely aiming to improve their position in the OECD rankings. The Broadband Adoption Index grew out of numerous studies published by the Phoenix Center.<sup>44</sup> The Report does not mention one of them.

The Report similarly dismisses the Connectivity Scorecard developed by Leonard Waverman and the consulting firm LECG and the Networked Readiness Index created by the World Economic Forum.<sup>45</sup> Although the United States ranks in the top three in both indices, the Report downplays their significance, claiming that they have little insight for policymakers because they emphasize factors relevant for businesses – for example, tax and regulatory burdens, efficiency of markets, and research and development activity – instead of factors

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<sup>43</sup> *Id.* at 6.

<sup>44</sup> See, e.g., *id.*; George S. Ford *et al.*, *The Broadband Efficiency Index: What Really Drives Broadband Adoption Across the OECD?*, Phoenix Ctr. Pol’y Paper Series No. 33 (May 2008), available at <http://phoenix-center.org/pcpp/PCPP33Final.pdf>; George S. Ford *et al.*, *The Demographic and Economic Drivers of Broadband Adoption in the United States*, Phoenix Ctr. Pol’y Paper Series No. 31, (Nov. 2007) available at <http://www.phoenix-center.org/pcpp/PCPP31Final.pdf>; Ford, *Broadband Performance Index*.

<sup>45</sup> See Leonard Waverman *et al.*, *Connectivity Scorecard 2009*, LECG, available at <http://www.connectivityscorecard.org/images/uploads/media/TheConnectivityReport2009.pdf>; *The Global Information Technology Report 2008–2009: Mobility in a Networked World*, World Economic Forum, available at <http://www.mcit.gov.sg/General/Global%20IT%20Report%202008-092009331155142.pdf>.

relevant to residential broadband development.<sup>46</sup> According to the Report, business-oriented factors do not provide meaningful guidance for the structuring of U.S. broadband policy.<sup>47</sup> The Report, however, identifies no basis for that limitation. The Commission requested that the Berkman Center review the existing literature, not decide for itself what is and is not relevant for policymakers to consider.

Nor does the Report mention several other significant contributions to the literature that are directly relevant to its conclusions. For example, Michal Grajek and Lars-Hendrik Röller of the European School of Management recently studied the effects of access regulation on investment incentives.<sup>48</sup> Using a dataset covering over 70 fixed-line operators in 20 countries over 10 years, the authors use empirical evidence – not subjective “qualitative assessments” – to measure the tradeoff between access regulation and investment incentives. They find that access regulation of the sort endorsed in the Report negatively affects both industry and individual carrier investment and conclude that open access policies undermine incumbents’ incentives to invest in new broadband infrastructure.<sup>49</sup> And they find that open access policies adversely impact not only incumbents’ investment decisions but also discourage investment by new entrants as well.<sup>50</sup> These conclusions likewise are never mentioned in the Report.

Nor is the Information Technology and Innovation Foundation’s recent study, led by Dr. Robert Atkinson, which concludes that nonpolicy factors such as demographics and geography explain about three-quarters of the difference between the varying levels of broadband

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<sup>46</sup> See Report at 27-28.

<sup>47</sup> See *id.* at 28.

<sup>48</sup> See Michal Grajek & Lars-Hendrik Röller, *Regulation and Investment in Network Industries: Evidence from European Telecoms*, ESMT Discussion Paper (June 15, 2009), available at <http://sfb649.wiwi.hu-berlin.de/papers/pdf/SFB649DP2009-039.pdf>.

<sup>49</sup> See *id.* at 2-3, 18.

<sup>50</sup> See *id.* at 18.

deployment in OECD nations.<sup>51</sup> For example, the study emphasizes that the demographics of South Korea, where over 50 percent of people live in large apartment buildings, make it significantly cheaper to roll out fast broadband as compared to the United States.<sup>52</sup> The study concludes that Japan's success in high-speed fiber-optic deployment is mainly the result of its capital markets (its companies apparently face lower pressure for short-term profits), not its open access policies.<sup>53</sup> In light of the significant differences in economic, social, geographic, and political factors across OECD countries, the study concludes that the experiences of other countries cannot easily be duplicated and that importing the "open access" policies of others will not necessarily result in improved broadband performance in the United States. The study also advocates "mov[ing] beyond the divisive and unproductive debate over broadband policy that revolves around arguments about whether [the United States is] behind or ahead."<sup>54</sup> Instead, the United States should focus on crafting policies aimed at achieving an optimal level of broadband penetration given its unique broadband environment and, to this end, should encourage investment in broadband networks. Neither this recommendation nor the extensive work that supports it is mentioned in the Report.<sup>55</sup>

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<sup>51</sup> See Robert D. Atkinson *et al.*, *Explaining International Broadband Leadership*, Info. Tech. & Innovation Found. (May 2008) ("Atkinson, *Explaining International Broadband Leadership*"), available at <http://www.itif.org/files/ExplainingBBLeadership.pdf>.

<sup>52</sup> See *id.* at 10.

<sup>53</sup> See *id.* at 2.

<sup>54</sup> *Id.* at 3.

<sup>55</sup> In the few weeks since the Report was issued, still more studies have been released that must be taken into account in any properly conducted "survey" of the existing literature on international broadband deployment and penetration. A recent paper written by Professors Janice Hauge and James E. Prieger examines the degree to which demand-side programs can stimulate broadband adoption. See Janice Hauge & James E. Prieger, *Demand-Side Programs to Stimulate Adoption of Broadband: What Works?*, Oct. 2009. Hauge and Prieger review the existing literature on the success of demand-side programs and evaluate the different initiatives countries have undertaken. In addition, Bain & Company recently published a paper discussing the interaction between competition and infrastructure investment in Europe. See Bain & Co., *Next Generation Competition: Driving Innovation in Telecommunications*,

In short, to the extent the Report was intended to survey existing literature on international broadband deployment and penetration, it falls well short. It ignores (or summarily dismisses) substantial contributions that run counter to its central thesis regarding the wisdom of open access regulation, calling into question either the Report’s expertise in the subject area or its objectivity, or both, and rendering its analysis and conclusions unreliable.

## **II. THE REPORT’S ANALYSIS AND CONCLUSIONS ARE NEITHER “COMPLETE” NOR “OBJECTIVE”**

The Public Notice also asks commenters to address whether the Report “provide[s] a complete and objective” treatment of the subject matter.<sup>56</sup> It does not. The Report’s methodology is to rank countries according to their performance across three broadband metrics – speed, penetration, and price – and then to use a self-described “qualitative assessment” of individual country experiences to ferret out why some countries are ranked above others. Both aspects of the Report’s analysis, however, are profoundly flawed. The Report’s country rankings are based on flawed data and are as a result unreliable, and the Report’s “qualitative” assessment draws conclusions that have no basis in the Report’s own description of individual country experiences.

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Liberty Global Pol’y Series (Oct. 2009). Bain concludes, among other things, that competition between cable and wireline providers in Europe is a key driver in broadband investment and innovation. According to Bain, infrastructure competition provides strong incentives for providers to continuously upgrade their networks and invest in next generation technology. The paper states, moreover, that substantial revenue opportunities are necessary to incent providers to make the substantial investments in next generation infrastructure necessary to reach extremely high broadband speeds, and observes that providers will not invest in new technologies unless they can expect to receive a minimum return on investment. Bain further contends that the experience of certain European countries suggests that a market in which two competing fixed-access infrastructures exist is ideal to spur innovation and innovation. These findings plainly have significant implications for the United States.

<sup>56</sup> Public Notice at 1.

**A. The Country “Rankings” that Form the Backbone of the Report’s Conclusions Rely on Flawed Data and Are Unreliable**

The core teaching of the Report is that countries that rank high relative to others in three broadband metrics – speed, penetration, and price – are to be emulated. But, even assuming these three metrics represents a comprehensive picture of broadband related “success” – a proposition which, as noted above, is sharply disputed by leading analysts<sup>57</sup> – the factual data on which the Report relies for its country rankings are incomplete and unreliable. Because those data are unreliable, so too are the rankings.

*Speed.* The Report’s effort to rank countries by speed suffers from numerous flaws. Most fundamentally, the Report relies principally on “advertised speeds” – *i.e.*, the maximum upload and download speeds advertised by broadband providers in each country, as tracked by the OECD.<sup>58</sup> Although the Report acknowledges that advertised speed is a “coarse”<sup>59</sup> measure of broadband speed, it fails to take into account the fact that advertised speeds are overstated in many countries when compared to observed or actual speeds, and that countries vary widely in the degree to which their broadband providers overstate speed, with some of the greatest overstatements occurring in the highest ranked countries.

Figure 3.18 of the Report, which compares “[a]verage advertised speed versus actual download speed” – with the actual speed data consisting of self-reported, non-scientific data obtained from Speedtest.net – makes this point demonstrably clear.<sup>60</sup> For example, providers in Japan, which the Report touts as “currently enjoy[ing] the fastest speeds among OECD

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<sup>57</sup> *See supra* at 8-10, 13.

<sup>58</sup> *See* Report at 47-49.

<sup>59</sup> *Id.* at 48.

<sup>60</sup> *Id.* at 51.

countries,”<sup>61</sup> appear to overstate broadband speed by approximately *a factor of 10*. South Korean providers, which are likewise lauded as a model for the world,<sup>62</sup> appear to overstate actual speed by approximately 400%, and advertised speeds in France, the Netherlands, and other countries that fare well in the speed rankings appear to likewise overstate actual speed – and do so by a far greater measure than other countries that fare less well in the rankings.<sup>63</sup> Yet instead of addressing – indeed, instead of marveling at – this remarkable disconnect between advertised and actual speeds in the highest-ranked countries, the Report brushes it aside, and instead states that “[t]he actual speed test data confirms, in broad terms, the findings of the average advertised speeds.”<sup>64</sup> The Report then ranks countries using *both* advertised speed (which constitutes 50% of a country’s speed ranking) *and* actual speed (which constitutes 10%). Where two metrics that both purport to measure the same attribute (here, speed) produce such wildly divergent results, it is inconceivable that both metrics are correct. Yet the Report uses both of them in the speed rankings that form a core basis for the policy recommendations it makes.

Indeed, it appears that the Report was unable to identify *any* reliable speed data that could form the basis of a meaningful comparison across countries. The fact that data on advertised speeds are undercut by observations of actual speed should not be surprising, given that advertised speed data are collected in a slipshod fashion. The OECD collects data on advertised speed by surveying offers published on operators’ websites and, as the OECD readily admits,

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<sup>61</sup> *Id.* at 48.

<sup>62</sup> *See id.*

<sup>63</sup> *Compare id.* at 51, Figure 3.18 (comparing average advertised speed with actual download speed) *with id.* at 57, Table 3.4 (country rankings on various speed measures).

<sup>64</sup> *Id.* at 50.

advertised speeds “likely do not correspond to typical throughput.”<sup>65</sup> “[S]peeds advertised by operators . . . can be significantly higher than the actual speeds users encounter,” meaning “pricing data is representative of what operators are stating their lines should be capable of, not necessarily what speeds users actually receive.”<sup>66</sup> In addition, the OECD only publishes data on minimum, average, and maximum advertised speeds. It does not “weight offers according to [the] number of subscribers taking the different offers since these data are usually commercially confidential.”<sup>67</sup> The OECD thus does not provide information on the extent to which an offered speed is available to a broad range of customers. At the same time, as to the actual speed data on which the Report relies, the Report itself acknowledges the existence of “[s]everal confounding factors” that “require that we interpret the data with caution.”<sup>68</sup> In light of the apparent absence of reliable data on speed, the responsible approach would have been to identify that absence, to explain the inherent difficulties in obtaining reliable data, and perhaps to propose mechanisms for filling that void. The Report’s approach – to press ahead blindly and fashion policy recommendations on the basis of data that are obviously flawed – is a recipe for disastrous decisionmaking.

The Report is also misguided in its assertion that so-called “contention ratios” – which attempt to measure the number of users served by a single shared portion of the network connection – can be “a plausible measurement for benchmarking” countries.<sup>69</sup> As AT&T has

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<sup>65</sup> Criteria for the OECD Broadband Price Collections, [http://www.oecd.org/document/1/0,3343,en\\_2649\\_34225\\_39575489\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/1/0,3343,en_2649_34225_39575489_1_1_1_1,00.html).

<sup>66</sup> Prices and Speeds: Frequently Asked Questions (FAQ), [http://www.oecd.org/document/31/0,3343,en\\_2649\\_34225\\_43926495\\_1\\_1\\_1\\_1,00.html#Q7](http://www.oecd.org/document/31/0,3343,en_2649_34225_43926495_1_1_1_1,00.html#Q7).

<sup>67</sup> *Id.*

<sup>68</sup> Report at 50.

<sup>69</sup> *Id.* 56.

explained in more detail elsewhere,<sup>70</sup> the observed “speed” that a subscriber experiences depends on numerous factors such as the quality of the wiring at the consumer’s premises, the computer and networking equipment used by the consumer, the software and applications being run by the consumer, general Internet congestion and the responsiveness of the particular servers and networks the customer seeks to access, as well as many technology-specific factors, including how many other subscribers are actually using the same shared facilities at the same time (*e.g.*, cable modem), the consumer’s distance from the provider’s facilities (*e.g.*, DSL), atmospheric conditions (*e.g.*, satellite) and the capabilities of subscriber-purchased devices (*e.g.*, wireless devices). Even apart from those factors, relative contention ratios provide little information about relative speeds: a broadband link operating with a given amount of bandwidth and a relatively high contention ratio (*e.g.*, 100:1) that serves a group of subscribers who consume limited bandwidth (*e.g.*, residents of a senior citizen community sending email and browsing the web) may offer those subscribers higher information transfer speeds than another broadband link with the same amount of bandwidth but a much lower contention ratio (*e.g.*, 10:1) that serves a group of subscribers who constantly consume large amounts of bandwidth (*e.g.*, residents of a college dormitory using P2P applications and streaming video). In view of these considerations – coupled with the enormously burdensome task of attempting to obtain reliable data on contention ratios – it is clear that this is not a promising avenue for the Commission to explore in attempting to address the absence of reliable speed data exhibited in the Report.

*Penetration.* The Report’s rankings of broadband penetration are likewise flawed. As explained above, the Report relies on a measure of per capita broadband subscription data – *i.e.*,

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<sup>70</sup> See Reply Comments of AT&T Inc., *In re Development of Nationwide Broadband Data To Evaluate Reasonable and Timely Deployment of Advanced Services*, WC Dkt. No. 07-38, at 4-10 (FCC filed Sept. 2, 2008).

the number of broadband subscriptions per 100 inhabitants – that has been widely and roundly criticized, most obviously because it fails to account for the fact that in most cases consumer broadband is purchased by households, and because average household size varies widely across countries. As also explained above, the Report’s rejoinder to this criticism – that broadband penetration by household “does not fundamentally change the picture”<sup>71</sup> – relies on OECD household data that are flawed. Where more reliable and accurate household data are used, adjusting the OECD’s per capita penetration data does in fact “fundamentally change the picture,” by substantially improving the rankings of countries with large households (such as the United States).<sup>72</sup>

*Pricing.* The Report’s rankings of countries on price are also flawed. Indeed, the Report acknowledges that OECD pricing data “are incomplete,” and yet it relies on them anyway.<sup>73</sup> The Report also acknowledges that its own “independent” analysis of broadband price was impeded by “the difficulty of getting good price estimates,”<sup>74</sup> and reveals that “determining available pricing is difficult and noisy, and requires further sustained study.”<sup>75</sup> By the Report’s own admission, then, the data on which its rankings are based are unreliable, further undercutting the reliability of its rankings.

That is particularly so with respect to its analysis of U.S. pricing. As Dr. Hahn systematically demonstrates, the Report’s flagship analysis of U.S. pricing is comprised of one pricing observation (from Charter) that was only briefly available and was in fact far higher than

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<sup>71</sup> Report at 32.

<sup>72</sup> See *supra* at 10; see also Hahn Decl. ¶¶ 16-18 (describing Report’s per capita metrics as “a deeply flawed basis for making country-to-country comparisons.”).

<sup>73</sup> Report at 59.

<sup>74</sup> *Id.* at 64, 65.

<sup>75</sup> *Id.* at 63.

the provider's current offerings; a second observation (from Qwest) that is double what a simple online search reveals is the provider's current offering; and a third observation (from Verizon) that appears to be overstated by more than 50%.<sup>76</sup> Beyond that, the Report appears to ignore the price of broadband when purchased as part of a bundle – a glaring oversight in light of the fact that most broadband (in the United States at least) is sold in bundled service offerings.<sup>77</sup>

In addition to being unreliable, moreover, the Report's analysis of price is systematically skewed in favor of members of the European Union (and against the United States). The Report states price data using "Purchasing Power Parity," or "PPP," which is a synthetic exchange rate that values the Euro as equivalent to slightly more than one U.S. dollar.<sup>78</sup> Today's actual exchange rate values a Euro at approximately 1.5 U.S. dollars and has averaged 1.38 U.S. dollars over the course of 2009.<sup>79</sup> By relying on PPP, the Report, in effect, gives EU countries approximately a 21-28% discount as compared to the United States (and even larger discounts for the Nordic countries),<sup>80</sup> further undermining the value of the country rankings as an adequate basis for comparing countries (and their broadband policies).

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In short, the data that form the basis for the Report's country rankings are seriously flawed. Yet *all* of the Report's conclusions hinge on the Report's country rankings. In light of

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<sup>76</sup> See Hahn Decl. ¶¶ 34-36.

<sup>77</sup> See *id.* ¶¶ 37-38; see also *id.* ¶ 39 (noting that the Report fails to consider the trajectory of broadband prices in the U.S.).

<sup>78</sup> See [http://stats.oecd.org/Index.aspx?datasetcode=SNA\\_TABLE4](http://stats.oecd.org/Index.aspx?datasetcode=SNA_TABLE4).

<sup>79</sup> See <http://www.oanda.com/>.

<sup>80</sup> See generally Hahn Decl. n.73; Letter from Yale M. Braunstein at 2-3, Docket Nos. 09-47, 09-51, and 09-137 (FCC filed Nov. 16, 2009).

the many defects in the rankings that form the basis of the Report’s core conclusions, it would be foolhardy – and unlawful<sup>81</sup> – to formulate policy on the basis of those conclusions.

**B. The Report’s “Qualitative” Conclusion that “Open Access” Drives Broadband Deployment and Penetration Is Inaccurate and Unsupported**

The flaws that infect the Report’s country rankings are, if anything, exceeded by the flaws that characterize its effort to explain *why* various countries are ranked as they are. This effort is based on the Report’s self-described “qualitative” assessment of a number of individual countries. In essence, the Report sets out narratives that purport to describe how broadband developed in various countries, and then seeks to draw from those narratives lessons about what does and does not work with respect to broadband deployment and penetration. It is this “qualitative” assessment that forms the exclusive basis for the Report’s conclusion that “there is extensive evidence to support the position . . . that open access policies, where undertaken with serious regulatory engagement, contributed to broadband penetration, capacity, and affordability in the first generation of broadband.”<sup>82</sup> That conclusion, however, is based on assessments that are wrong on the facts and that provide *no* evidence, much less “extensive” evidence, that open access has driven broadband deployment and penetration.

**1. The Report Inaccurately Characterizes the United States’ Experience with Broadband Regulation**

First, and most fundamentally, the Report’s narrative assessment of the United States – which it holds up as the “baseline” demonstrating what happens *without* “open access” regulation<sup>83</sup> – is startlingly ignorant of the history of broadband regulation in this country. The Report identifies the United States, along with the Slovak Republic and Mexico, as the only

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<sup>81</sup> See *infra* at 39-40.

<sup>82</sup> Report at 75.

<sup>83</sup> *Id.* at 82.

countries in the OECD that have not adopted “open access regulation.”<sup>84</sup> But the Report defines “open access regulation” broadly to include *any one* of a range of policies, including “unbundling, bitstream access, collocation requirements, wholesaling, and/or functional separation.”<sup>85</sup> And, whereas the Report states that, “the FCC decided to abandon [open access]... regulation for broadband in . . . 2001 and 2002”<sup>86</sup> – the truth is far different.

In fact, since 1996, the FCC has required incumbent LECs to provide unbundled loops to their competitors, including loops that can be and often are used for broadband.<sup>87</sup> That did not change, as the Report claims, in 2001 and 2002; on the contrary, *these regulations are still in place today*.<sup>88</sup> Further, under the FCC’s rules, incumbents must also perform such functions as the removal of repeaters and bridge taps to ensure that loops provided on an unbundled basis will work for broadband.<sup>89</sup> And incumbents must permit competitors to collocate equipment in their central offices, including equipment (such as DSLAMs) that enable the provision of broadband to end users.<sup>90</sup> *All* of these facilities and services, moreover, must be offered at TELRIC rates, which the Supreme Court has described as resulting in rates that stop just “short of confiscating

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<sup>84</sup> *Id.* at 77.

<sup>85</sup> *Id.* at 11.

<sup>86</sup> *Id.*; *see id.* at 82 (“Between th[e] fall [of 2001] and the spring of 2002, the FCC passed [sic] a series of decisions that abandoned the effort to implement open access.”).

<sup>87</sup> *See* First Report and Order, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 11 FCC Rcd 15499, ¶ 377 (1996) (subsequent history omitted); Third Report and Order and Fourth Further Notice of Proposed Rulemaking, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 15 FCC Rcd 3696, ¶ 181 (1999), *vacated and remanded*, *USTA v. FCC*, 290 F.3d 415 (D.C. Cir. 2002); Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, 18 FCC Rcd 16978, ¶ 211 (2003) (“*Triennial Review Order*”), *vacated in part and remanded*, *USTA*, 359 F.3d 554.

<sup>88</sup> *See* 47 C.F.R. § 51.319.

<sup>89</sup> *See id.* § 51.319(a)(1)(iii).

<sup>90</sup> *See* 47 U.S.C. § 251(c)(6); 47 C.F.R. § 51.323.

the incumbents' property,"<sup>91</sup> and which the Report appears to acknowledge are lower than in other OECD countries.<sup>92</sup>

Indeed, it is presumably because of the favorable loop unbundling rates in the United States that, according to recent OECD data, the United States has historically had *more* unbundled loops than in any other OECD country in absolute terms, and more than most in percentage terms.<sup>93</sup> The data reported by the OECD are from 2002 to 2007 – in other words, during the five years immediately *after* the Commission, according to the Report, “abandoned” open access. In view of the access obligations imposed in the United States – and in light of the data showing the extent to which those obligations were used over the time period studied in the Report – the Report’s characterization of the United States as the “baseline” representing a country that “abandoned” open access regulation represents a gross mischaracterization of U.S. policy that seriously undermines the credibility of the Report.

Equally important, the Report’s indictment of the Commission’s decision to limit unbundling to copper loops – and not to require unbundled access to next generation fiber loops – likewise reflects a profound misunderstanding of the history of broadband regulation in this country. In this respect, the Report is simply wrong to assert that the Commission reached this determination merely by “changing the definition of what the cable and telecommunications carriers were doing when they offered broadband.”<sup>94</sup> This cryptic statement appears to be a

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<sup>91</sup> *Verizon Communications Inc. v. FCC*, 535 U.S. 467, 489 (2002); *see also USTA v. FCC*, 359 F.3d 554, 562 (D.C. Cir. 2004) (noting that UNE rates “fall well below the costs the [incumbents] had actually historically incurred in constructing the elements”).

<sup>92</sup> *See* Report at 86 (describing access regime in Japan in which “[t]he price for the elements . . . is to be set so as to secure a profit for the incumbent,” and characterizing “the target of pricing policy [a]s conceptually similar to the one used in the United Kingdom”).

<sup>93</sup> *See* OECD Communications Outlook 2009, at 56, Table 2.9, *available at* <http://browse.oecdbookshop.org/oecd/pdfs/browseit/9309031E.PDF>.

<sup>94</sup> Report at 83.

reference to the Commission’s decision, in the *Cable Modem Declaratory Ruling*, to adhere to its long-settled view that a service that combines transmission with information access and/or processing capabilities is an “enhanced” or “information” service that is outside the scope of Title II of the Communications Act.<sup>95</sup> But, putting aside the fact that this determination did not actually *change* anything but rather applied age-old definitions to broadband services<sup>96</sup> – that decision did not, as the Report flippantly states, itself result in any limitations on unbundled access to fiber loops. Rather, notwithstanding that decision, the Commission, in the 2003 *Triennial Review Order*, comprehensively assessed whether unbundled access to next generation loops was consistent with the 1996 Act’s goal of facilitating competition. And it was based on that assessment in *that* order, not some purported “change” in classification in the *Cable Modem Declaratory Ruling*, that the Commission determined not to require unbundling of next generation architecture (even as it continued to require unbundling of other broadband-capable loops).

The Commission reached this decision, moreover, on the basis of abundant evidence demonstrating the adverse effects of unbundling. At the time, cable modem providers reached more households than DSL providers – 76% for cable to 58% for DSL; only 5% of households had access to DSL but not cable, whereas 23% had access to cable but not DSL.<sup>97</sup> With cable

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<sup>95</sup> See Declaratory Ruling and Notice of Proposed Rulemaking, *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 17 FCC Rcd 4798 (2002) (“*Cable Modem Declaratory Ruling*”), *aff’d in part, vacated in part, and remanded, Brand X Internet Servs. v. FCC*, 345 F.3d 1120 (9th Cir. 2003), *reversed and remanded sub nom. National Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967 (2005).

<sup>96</sup> Prior to the *Cable Modem Declaratory Ruling*, the FCC had long recognized that services that combined data processing and comparable functions with transmission were treated as “enhanced” services (or “information” services under the nomenclature of the 1996 Act). See, e.g., Report to Congress, *Federal-State Joint Board on Universal Service*, 13 FCC Rcd 11501, ¶¶ 40-48 (1998).

<sup>97</sup> See Jason Bazinet *et al.*, J.P. Morgan Securities Inc., Equity Research, *Industry Update — Broadband 2003: Deflation Looms and Market Shares Will Shift*, at 11, Figure 9 (Dec. 5, 2002).

modem providers holding “a leading position” in the broadband service market,<sup>98</sup> the Commission concluded that imposing unbundling obligations on ILECs would impose substantial costs, while bringing little if any competitive benefit. The Commission emphasized in particular that its decision would facilitate investment in next generation architecture by ILECs and CLECs alike. “[W]ith the certainty that their fiber optic and packet-based networks will remain free of unbundling requirements,” the Commission explained, “incumbent LECs will have the opportunity to expand their deployment of these networks, enter new lines of business, and reap the rewards of delivering broadband services to the mass market.”<sup>99</sup> Likewise, competing providers would have strong new incentives to pursue innovative alternatives.<sup>100</sup> “The end result is that consumers w[ould] benefit from this race to build next generation networks and the increased competition in the delivery of broadband services.”<sup>101</sup>

The Commission’s predictions, as it happens, were accurate. Since 2003, leading wireline broadband providers have invested enormous sums to push fiber deep into their networks in order to provide increasing broadband speed and reliability to consumers. AT&T’s advanced fiber-to-the-node network – which did not even exist in 2003 – now passes more than 19 million living units across AT&T’s territory and continues to expand.<sup>102</sup> In 2008, “AT&T invested more than any other publicly traded company in the U.S. and more than any other publicly traded global telecommunications company,”<sup>103</sup> and its total planned network

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<sup>98</sup> *Triennial Review Order* ¶ 292.

<sup>99</sup> *Id.* ¶ 272.

<sup>100</sup> *See id.*

<sup>101</sup> *Id.*

<sup>102</sup> *See* U-verse Update: 2Q09, [http://www.att.com/Common/merger/files/pdf/U-verse\\_Update.pdf](http://www.att.com/Common/merger/files/pdf/U-verse_Update.pdf).

<sup>103</sup> AT&T Press Release, *AT&T Leads the U.S. in Smartphones and Integrated Devices* (May 15, 2009), <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26819>; *See* Comments

investment for 2009 was \$17-18 billion, with approximately two-thirds of this new investment slated to support broadband.<sup>104</sup> And between 2007 and the end of 2009, AT&T will have poured approximately \$55 billion into its broadband networks.<sup>105</sup> As a result of these and other comparable efforts, providers in the United States have not only deployed fiber to the low hanging fruit – *i.e.*, to customers that live in high-density areas – they are also the only providers in the world deploying fiber on a widespread basis “in largely suburban areas with single family homes.”<sup>106</sup> “Significantly, it appears that no nation other than the United States is seeing high speed network (e.g. fiber) deployment in moderate-density areas.”<sup>107</sup> By 2012, the United States is expected to have roughly 40% of its households passed by next generation networks, which is comfortably more than any major country in Europe.<sup>108</sup> A thorough and objective Report would take note of these rather critical facts in any international comparison. That the Report does not speak volumes about the gaps in its analysis and the pervasive bias that fuels them.

In short, the Commission’s decision not to require unbundled access to next generation broadband architecture was not the result of the “culprits” identified in the Report – *i.e.*, “recalcitrant” monopolists, an activist judiciary, and a weak regulator. The Commission’s

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of AT&T Inc., *A National Broadband Plan for Our Future*, GN Dkt. No. 09-51 at viii, n. 13 (June 8, 2009).

<sup>104</sup> See Jeffrey Bartash, *AT&T’s CEO Decries Health Costs, Regulations*, MarketWatch, <http://www.marketwatch.com/story/att-ceo-decries-health-costs-regulations.>; AT&T Press Release, *AT&T to Invest More Than \$17 Billion in 2009 to Drive Economic Growth* (Mar. 10, 2009), <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26597>; See Comments of AT&T Inc., *A National Broadband Plan for Our Future*, GN Dkt. No. 09-51 at viii, n. 13 (June 8, 2009).

<sup>105</sup> See Letter from James Cicconi, AT&T, to Marlene Dortch, FCC, WC Docket No. 05-25, at 2 (June 22, 2009).

<sup>106</sup> Stephen Ezell *et al.*, *The Need for Speed: The Importance of Next-Generation Broadband Networks* at 4 (Mar. 2009), available at <http://www.itif.org/files/2009-needforspeed.pdf> (footnote omitted), citing Atkinson, *Explaining International Broadband Leadership* at 29.

<sup>107</sup> Atkinson, *Explaining International Broadband Leadership* at 28.

<sup>108</sup> See Craig Moffett *et al.*, *U.S. Telecommunications, Cable & Satellite: The Dumb Pipe Paradox, Revisited*, Bernstein Research, at 4–5, Ex. 2 (June 11, 2009).

decision, rather, rested on reams of data and the well-grounded and accurate observation that, because (at the time) cable providers were the leading broadband providers, and because neither incumbents nor CLECs had deployed fiber loops, unbundling mandates would diminish *all* parties' incentives to invest. Simply put, if the Commission had ordered unbundling of fiber as the Report appears to endorse, the fiber architecture that the Report acknowledges is critical to the future of broadband would never have been built.

The Report plainly does not accept that view. Instead, as noted, it finds “extensive evidence” supposedly showing that invasive access regulation spurs broadband in all cases. We address that alleged evidence below. Before doing so, however, it is worth noting that the Report’s primary author arrived at this view even *before* surveying this “extensive” evidence, and indeed before he was tasked by the Commission with this assignment. Although it is not acknowledged in the Report itself, its primary author has previously decried Commission decisions to refrain from regulating next generation broadband infrastructure as a “policy error,” while touting “network neutrality” as “a viable path for institutional reform” that could correct this error.<sup>109</sup> Moreover, the Report’s criticism of the Commission’s supposed “abandonment” of the open access principles codified in the 1996 Act closely paraphrases similar criticisms articulated by Derek Turner of Free Press, a staunch opponent of deregulation and among the nation’s foremost advocates for net neutrality, whom the Report identifies as a contributor.<sup>110</sup> In both instances, the criticisms were offered as part of a more general indictment of United States

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<sup>109</sup> Benkler, *Wealth of Networks* at 401.

<sup>110</sup> See Comments of Free Press, *A National Broadband Plan for our Future*, GN Dkt. No. 09-51 at 21 (June 8, 2008) (“[B]eginning in 2001, the FCC set out on a destructive path of premature deregulation . . . . Aided by compliant courts and an uninterested Congress, the FCC undid most of the 1996 Act’s competitive structure, producing a policy failure that is directly responsible for all of America’s broadband problems.”); Report at 3 (acknowledging “Derek Turner (data for replicating urbanicity study)”).

policy that, where possible, sought to permit facilities-based competition to drive broadband investment and to generate consumer welfare. It is that subjective, “qualitative” world view – that regulation, not competition, should dictate investment and consumer decisions – that permeates the Report and helps to explain its effort, discussed immediately below, to draw unequivocal conclusions from evidence that fails to support those conclusions. AT&T of course has no objection to the airing of that view in an open, transparent manner, where its merits can be debated alongside other, competing views. AT&T strenuously objects, however, to any effort to paint such advocacy as a neutral, “objective” assessment of how broadband competition has developed internationally. To the extent the Commission is interested in such a neutral, “objective” assessment, it will need to start over – the Report is far from that.

**2. The Report’s Own “Qualitative” Analysis of the Experience of Individual Countries Belies the Conclusion that Open Access Fosters Broadband Deployment and Penetration**

Even apart from the Report’s incorrect characterization of the United States’ experience with broadband regulation, the Report’s “qualitative” assessment of the effects of open access regulation is flawed. As noted, that assessment is based on the Report’s summaries of the experiences of various countries, coupled with the intuition of the Report’s authors as to what did and did not work in each country. But, even assuming the Report’s country summaries are accurate – which is impossible to verify due to the lack of citations with respect to numerous such summaries, but which seems doubtful in light of the degree to which its summary of the United States is inaccurate – they do not remotely support the conclusion that there is “extensive evidence” to support the proposition that open access drives broadband deployment and penetration.

The Report draws its conclusion from summaries of 15 OECD countries (including the United States). As has already been discussed, its characterization of the United States is simply wrong: Because the United States had and still has “open access” regulation by the Report’s own definition, it cannot plausibly be said to support the Report’s view that “the better course” was pervasive regulation.<sup>111</sup>

With respect to the remaining 14 countries that supposedly constitute the “extensive evidence” cited in the Report, the Report itself characterizes five of them as either “ambiguous” or directly contrary to the Report’s hypothesis. For example, the South Korean experience is “ambiguous on access, pointing more toward heavy government investment.”<sup>112</sup> Italy too is “an ambiguous case,”<sup>113</sup> as is Canada.<sup>114</sup> Switzerland and Finland, by contrast, are unambiguously *contrary* to the Report’s conclusion: Switzerland represents a “story of success without unbundling,”<sup>115</sup> and Finland is described as an “outlier,” where “unbundling has played little role in [] development” of broadband.<sup>116</sup>

Two more countries provide, at most, limited support for the Report’s hypothesis: Japan provides only “measured support for consideration of an open access policy” – much of its success can be attributed instead to “government-subsidized loans” and “facilities-based competition,” and, to the extent open access mattered at all, it was only “on the DSL side.”<sup>117</sup> Similarly, the United Kingdom is characterized as an example of the success of open access

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<sup>111</sup> Report at 83.

<sup>112</sup> *Id.*

<sup>113</sup> *Id.* at 105.

<sup>114</sup> *See id.* at 109.

<sup>115</sup> *Id.* at 107.

<sup>116</sup> *Id.* at 90, 93.

<sup>117</sup> *Id.* at 83, 85.

policies, yet the Report acknowledges that it “does not have fiber or really high speed DSL service to speak of,”<sup>118</sup> a glaring failure in light of the Report’s own recognition that fiber deployment is critical to the next broadband transition.<sup>119</sup>

That leaves seven countries – fewer than half of the 15 the Report bothers to discuss – that constitute supposedly “extensive evidence” of the success of open access regulation. And yet, here too, the Report itself appears to acknowledge that the evidence is far more equivocal than the Report’s aggressively stated conclusion would suggest. In the Nordic countries other than Finland, for example – where “unbundling and open access worked exactly as they should”<sup>120</sup> – the success might just as easily be chalked up to factors other than government policy (such as “high per capita GDP and median income, high education, and low inequality”<sup>121</sup>). Moreover, none of these countries featured broadband competition from cable,<sup>122</sup> rendering them essentially beside the point when examining whether, in a market such as the United States that is characterized by intense intermodal competition, open access regulation on one (or even both) sides of the market is sound policy (as noted above, several experts have concluded that it is not<sup>123</sup>). And France and Germany – the former of which is painted as embracing open access, and the latter of which is characterized as resisting<sup>124</sup> – are in

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<sup>118</sup> *Id.* at 102.

<sup>119</sup> *See id.* at 55 (“the broad consensus seems to be that the long-term fixed platform will likely be fiber, and cable plant too will likely become increasingly fiber-based over time”).

<sup>120</sup> *Id.* at 90.

<sup>121</sup> *Id.* at 89-90.

<sup>122</sup> *See id.* at 90-91 (Denmark), 91-92 (Sweden), 92-93 (Norway).

<sup>123</sup> *See supra* at 7, 11-12, 15.

<sup>124</sup> Report at 95-100.

fact exceedingly close in the Report’s own broadband rankings,<sup>125</sup> undermining the Report’s “qualitative” assertion that the two countries “present quite different trajectories.”<sup>126</sup>

In short, the evidence supporting the Report’s conclusion regarding the wisdom of “open access” regulation is far from “extensive.” On the contrary, even on the Report’s own telling, much of that evidence is ambiguous, and some of it is directly contrary to the Report’s conclusions.

The Report’s analysis also fails, moreover, because it relies almost entirely on correlation, and makes virtually no effort at assessing causality. As Dr. Hahn explains, the Report’s approach fails to control for critical variables that may explain variations in broadband performance in various countries.<sup>127</sup> “Econometricians,” he emphasizes, “have developed specific techniques to determine whether an omitted variable” – in this case, say, the number of households, urbanicity, or income per capita – may result in “biased inferences.”<sup>128</sup> The Report, however, fails to perform any of those techniques, rendering its conclusions about the primacy of “open access” regulation no better than a guess.<sup>129</sup>

Indeed, the Report’s approach – which did little more than correlate country rankings with whether they did or did not embrace open access policies – might just as easily have concluded that the spelling of a country’s name is a harbinger of broadband success. After all, among the 30 countries included in the rankings, 11 of them have an “n” in their name, and not

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<sup>125</sup> See *id.* at 68 (penetration, speed, and price, respectively: Germany (14, 8, and 10); France (15, 7, and 5).

<sup>126</sup> *Id.* at 95.

<sup>127</sup> See Hahn Decl. ¶ 21.

<sup>128</sup> *Id.* ¶ 22.

<sup>129</sup> See *id.* ¶¶ 22-26; see also *id.* ¶ 27 & Table 1 (undertaking regression analysis the Report should have performed and concluding that “controlling for all other factors, the United States may modestly outperform its peers in terms of broadband penetration, but . . . the relationship is not statistically significant”).

one of those 11 ranks higher than number 14 in the weighted averages.<sup>130</sup> Or, perhaps more plausibly, under the Report’s approach – and using information compiled by the Berkman Center itself (through its “OpenNet Initiative”) – filtering Internet content appears likely to lead to success in broadband deployment and penetration. Here too, using simple correlation of the sort the Report employs yields a clear conclusion: the countries that are the most aggressive in policing broadband content are the most successful in terms of broadband deployment and penetration. Thus, for example, South Korea, a top performer in the Report’s rankings, “imposes substantial legal and technological controls over online expression.”<sup>131</sup> Similarly, during the last decade, at the same time as several EU countries’ broadband successes accelerated, “the Internet in Europe has evolved from a virtually unfettered environment to one in which filtering in most countries, particularly within the European Union (EU), is the norm rather than the exception.”<sup>132</sup> By contrast, with respect to the United States and Canada – two countries the Report paints as middling at best – “neither . . . practices widespread technical Internet filtering at the state level.”<sup>133</sup> If correlation (and not causality) is the touchstone, perhaps this difference explains why numerous EU countries are ranked ahead of the United States, and still more are ranked ahead of Canada. Likewise, “Australia maintains some of the most restrictive Internet policies of any Western nation, while its neighbor, New Zealand, is less rigorous in its Internet regulation.”<sup>134</sup> Australia is ranked three spots higher than New Zealand in the Report’s rankings; perhaps the difference in filtering is the reason. Finally, “[w]ith the exception of Cuba,

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<sup>130</sup> See Report at 68.

<sup>131</sup> OpenNet Initiative, *South Korea*, at <http://opennet.net/research/profiles/south-korea>.

<sup>132</sup> OpenNet Initiative, *Europe: Introduction*, at <http://opennet.net/research/regions/europe>.

<sup>133</sup> OpenNet Initiative, *United States and Canada: Introduction*, at <http://opennet.net/research/regions/america>.

<sup>134</sup> OpenNet Initiative, *Australia and New Zealand Introduction*, at <http://opennet.net/research/australia-and-new-zealand>.

systematic technical filtering of the Internet has yet to take hold in Latin America,” including in Mexico,<sup>135</sup> perhaps explaining Mexico’s ranking of dead last in the Report’s rankings.

Of course, no one seriously thinks that Internet filtering drives broadband deployment and penetration, any more than the spelling of a country’s name does. The point, however, is that serious study of the subject matter requires a causal analysis that properly takes into account the widely divergent characteristics of different countries and controls for the many factors that can influence deployment and penetration. The Report’s “qualitative assessment” is far from that. For this reason as well, its conclusions should be given no weight in the formulation of the Commission’s broadband plan.

**C. The Report’s “Qualitative” Assessment Is Not Saved by Its Misguided Econometric Analysis**

The Report attempts to buttress its “qualitative” analysis by re-engineering an econometric analysis performed by the OECD, based on data from 2002-2005, but altering aspects of the OECD’s analysis that the Report’s authors determined “understated the effects of unbundling.”<sup>136</sup> These “alterations” amount to nothing more than stacking the deck in favor of the Report’s stated conclusion.

Most significantly, the Report removes from the analysis the one country (Switzerland) that even the Report concedes is an example of broadband success without unbundling. It does so, moreover, even as it acknowledges that the data set on which its econometric analysis relies is too small to permit meaningful, reliable results.<sup>137</sup> “Econometricians generally do not throw

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<sup>135</sup> OpenNet Initiative, *Latin America*, at <http://opennet.net/research/regions/la>.

<sup>136</sup> Report at 116.

<sup>137</sup> *Id.* at 80 (“any analysis of such a small set of observations . . . will of necessity overlook important factors”).

out observations.”<sup>138</sup> That the report would take a data set that is already too small and make it even smaller – by removing the one country that is starkly inconsistent with its stated conclusion – says much about the results-oriented approach reflected in the Report. As the Report states, because Switzerland is an example of a country that experienced “successful broadband deployment without the passage of unbundling rules,” “[r]emoving Switzerland from the data set substantially increases both the significance and the effect size of unbundling,” as compared to the OECD’s own conclusion (which was that “competition between platforms (DSL and cable) and the price of broadband and Internet more generally had significant effects”).<sup>139</sup> That is undoubtedly true: it should come as no surprise that removing a key data point from an extremely small sample will lead to results that fail to account for that data point. The fact that the Report took that step – in a transparent effort to create a data set that would support its pre-ordained conclusion – is itself an indictment of the objectivity with which it undertook its task.<sup>140</sup>

The Report’s re-engineering of the OECD’s analysis includes not only the exclusion of inconvenient data, but also the *alteration* of such data. As Dr. Hahn demonstrates in detail, the OECD’s econometric analysis included a value (the “GUYRS” variable) which represented the “total number of years since a country imposed mandatory unbundling.”<sup>141</sup> Incredibly, the Report “altered the values of GUYRS for 17 of 30 observations,”<sup>142</sup> and it did so in ways that are contrary to historical fact. The GUYRS value for the United States, for example, was changed to zero, to reflect the Report’s incorrect belief that the U.S. never did (and still hasn’t) required loop

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<sup>138</sup> Hahn Decl. ¶ 51.

<sup>139</sup> Report at 115-16.

<sup>140</sup> See Hahn Decl. ¶ 51 (“The authors’ inclination to exclude this data is consistent with a broader policy objective of supporting unbundling.”).

<sup>141</sup> *Id.* ¶ 42.

<sup>142</sup> *Id.* ¶ 47 & Table 4.

unbundling.<sup>143</sup> The Report’s “reclassification of the unbundling variable in Germany” – from 8 to zero – is similarly unsupported by the facts, which show that new entrants “began leasing loop infrastructure from [the] incumbent” as early as January 1998.<sup>144</sup> So too with Canada, which had four years shaved off its unbundling history for no apparent reason.<sup>145</sup> Nor is the Report’s re-writing of history limited to re-classifying modest- or under-performing countries as having resisted “open access”: South Korea, one of the Report’s success stories, is changed from 4 to 9 – suggesting that open access was employed as early as 1996 – when in fact mandatory local loop unbundling was not implemented until 2002.<sup>146</sup>

As Dr. Hahn explains, the Report’s methodology – which permitted its authors to “assign values” to key variables “based on subjective standards” – at a minimum “affords the researcher too much discretion” and “suggests that the exercise is,” at best, “arbitrary.”<sup>147</sup> Here, however, it appears that the researcher’s “discretion” was exercised in a manner that was far from “arbitrary.” The Report’s changes to the “GUYRS” values – perhaps *the* critical variable in the study – overwhelmingly resulted in “increasing the significance of the[] estimated effect of unbundling on broadband penetration.”<sup>148</sup> In short, the Report rewrote history in order to support its preordained result. “[U]northodox”?<sup>149</sup> Yes. What the Commission asked for, however, was a “complete and objective” treatment of the subject matter.<sup>150</sup> This is not even close.

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<sup>143</sup> *See id.*

<sup>144</sup> *Id.* ¶ 49.

<sup>145</sup> *See id.* ¶ 48.

<sup>146</sup> *See id.* ¶ 50; Report at 150.

<sup>147</sup> Hahn Decl. ¶ 47.

<sup>148</sup> *Id.*

<sup>149</sup> *Id.* ¶ 21.

<sup>150</sup> Public Notice at 1.

### III. THE REPORT'S FLAWS RENDER IT A GROSSLY INSUFFICIENT BASIS FOR REASONED DECISIONMAKING

In formulating the National Broadband Plan, the Commission must “examine the relevant data and articulate a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made.’”<sup>151</sup> An agency may not put on blinders and ignore significant information that directly relates to a problem, particularly when that information speaks directly to the effectiveness of its proposed action. “An agency’s failure adequately to consider a relevant and significant aspect of a problem may render its rulemaking arbitrary and capricious.”<sup>152</sup>

These principles make clear that the Commission, in formulating the National Broadband Plan, should give no weight to the Report’s conclusions. The errors in the Report are basic and methodological, making its conclusions unreliable, and its refusal to discuss contrary points of view and consider the vast body of literature that undermines its conclusions renders it an insufficient basis for policymaking under settled principles of administrative law.

In this respect, the D.C. Circuit’s recent decision in *American Farm Bureau Federation v. EPA* is instructive. There, the agency relied exclusively upon studies on long-term exposure to particulate matter to set the annual national air quality standard, ignoring studies discussing the effects of short-term exposure. The court held that the agency acted unlawfully because it failed to explain why the short-term studies were not relevant to the problem at hand.<sup>153</sup> Should the Commission rely on the Report in formulating the National Broadband Plan, it would commit a

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<sup>151</sup> *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)).

<sup>152</sup> See *American Farm Bureau Fed’n v. EPA*, 559 F.3d 512, 520 (D.C. Cir. 2009); see also *State Farm*, 463 U.S. at 43 (“Normally, an agency rule would be arbitrary and capricious if the agency . . . entirely failed to consider an important aspect of the problem . . .”).

<sup>153</sup> See *American Farm Bureau Fed’n*, 559 F.3d at 522.

similar mistake. As the above discussion makes clear, the Report fails to consider a wide range of analyses and data that contradict its conclusions, and the evidence on which it relies is vastly insufficient to support its conclusion that “open access” regulation drives broadband deployment and penetration. It is premised upon the notion that the policies of countries ranking high in the OECD per-capita rankings are to be emulated, but it fails to adequately address the widely shared view that the OECD rankings are inaccurate and misleading. Further, it paints “open access” regulation with an extremely broad brush and fails to examine closely the important performance differences between “open access” regimes in countries that have only a single widespread facilities-based broadband network, versus in countries that enjoy competition between multiple network facilities. It also fails to discuss the inherent tradeoff between open access regulation and investment and it pays little attention to demand-side measures. At bottom, the Report eschews an objective “survey” of the existing literature concerning broadband deployment and focuses instead on supporting its own preordained theory. The Commission cannot rationally rely upon such a skewed analysis.

#### **IV. THE REPORT’S INDIVIDUAL COUNTRY ANALYSES UNDERSCORE THE COMPLEX, INTERDEPENDENT VARIABLES THAT DRIVE BROADBAND, AS WELL AS THE IMPORTANCE OF AGGRESSIVE PUBLIC INVESTMENT**

As the above discussion makes clear, to the extent there is a driver of success among countries that the Report holds up as models for the U.S., it is not “open access” regulation. On the contrary, the Report’s labored effort to attribute success to that one variable is deeply and irrevocably flawed. At the same time, the Report serves a useful purpose, insofar as it catalogues the myriad factors that contribute to “success” in broadband, as well as the aggressive – and apparently successful – programs that many countries have adopted in order to directly encourage deployment and spur penetration.

First, as the country summaries appended to the end of the Report make clear, there are a wide range of variables that drive “successful” broadband deployment and penetration. Population density, demand- and supply-side subsidization, income levels, percentage of population in MDUs, geography, deployment by legacy wireline and cable providers, and computer literacy all directly affect the ability of providers to deploy broadband deployment and drive penetration. The Report itself, like leading studies, acknowledges this: “[p]overty, percent in urban areas, and log median income are all significant predictors of broadband penetration.”<sup>154</sup> So too is computer ownership: as Dr. Atkinson has explained to the Commission, “[i]f the U.S. had the level of computer ownership as the average of the top 5 nations, it would rank 5th in broadband adoption.”<sup>155</sup>

At the same time, the Report underscores the prevalence of – and apparent success of – aggressive, direct government encouragement to spur deployment and encourage uptake. Indeed, the Report repeatedly lauds South Korea, Japan, and Sweden as top broadband performers in each of the three metrics it tracks, and the Report itself reveals that each of these three is characterized by aggressive government demand- and supply-side investment. Thus, for example, although “getting numbers on actual public investments is difficult,” all appear to agree that South Korea is characterized by “massive direct public investment[.]”<sup>156</sup> By some calculations, the total amount directed toward broadband in South Korea since the mid-1990s –

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<sup>154</sup> Report at 69. *See also, e.g.,* C. Bouras, E Giannaka, Thrasyvoulos Tsiatsos, *Identifying Best Practices for Supporting Broadband Growth: Methodology and Analysis*, 32 *Journal of Network and Computer Applications* 795, 798 (2009) (some of the “main factors that affect broadband growth” include “The users’ need for fast content access . . . The affordability . . . [and] E (electronic)-readiness and in general the technological level of a country”).

<sup>155</sup> Dr. Robert Atkinson, President, ITIF, *International Lessons for Broadband Policy*, Presentation at the FCC Broadband Policy Workshop 9 (Aug. 18, 2009), *available at* [http://www.broadband.gov/docs/ws\\_int\\_lessons/ws\\_int\\_lessons\\_atkinson.pdf](http://www.broadband.gov/docs/ws_int_lessons/ws_int_lessons_atkinson.pdf).

<sup>156</sup> Report at 162-63.

including low cost loans as well as direct public and private investment – totals, “[i]n U.S. terms, adjusted for population size, . . . about USD443 billion.”<sup>157</sup> South Korea also boasts “the most systematic and extensive demand-side program” in the world, including free or deeply subsidized skills training, subsidized provision of personal computers (including free computers to schools), and extensive efforts to integrate the use of broadband into the educational curriculum.<sup>158</sup> Japan, “often cited as a global leader in broadband technology,”<sup>159</sup> is likewise characterized by substantial direct government spending. “The Japanese government has offered loans and tax deductions designed to incentivize broadband build-out since the mid 1990s, but its efforts dramatically accelerated in 2000 . . . . The policies introduced over the next several years included a series of tax incentives, including a highly accelerated depreciation schedule for capital investments in telecommunications.”<sup>160</sup> Furthermore, “[s]everal of the policy packages that were part of Japan’s national broadband strategies have included skills and demand programs.”<sup>161</sup> And Sweden, also “one of the top performers in broadband provision and adoption,”<sup>162</sup> long ago adopted a plan to publicly “fund a fiber network” with hundreds of millions of Euros, and to allocate hundreds of millions more to regional and local broadband projects.<sup>163</sup> The Swedish government has also adopted extensive supply-side programs,

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<sup>157</sup> *Id.* at 163.

<sup>158</sup> *Id.* at 171-72.

<sup>159</sup> *Id.* at 191.

<sup>160</sup> *Id.* at 195.

<sup>161</sup> *Id.* at 196.

<sup>162</sup> *Id.* at 213.

<sup>163</sup> *Id.* at 217-18.

“fostering digital literacy, increasing access to personal computers, and encouraging the use of broadband for education.”<sup>164</sup>

None of this is to say that, because some countries have tried and appear to have succeeded with programs of this nature, the United States necessarily should adopt identical programs. In this area as in others, the “successful” government policies are the ones that properly take into account the many factors that contribute to the challenge at hand, that properly address the costs and benefits of various policy options, that take into account the country’s own political and economic realities, and that fashion policy accordingly. There are no cookie cutter solutions here. A country facing its own challenges cannot simply adopt policies established elsewhere and necessarily achieve the same results.

As explained at the outset and in AT&T’s comments on the National Broadband Plan, however, there are lessons to be learned from the experience of other countries, and one of those lessons appears to be that direct government encouragement can facilitate deployment and drive penetration.<sup>165</sup> To be sure, there are substantial costs associated with such undertakings. In the United States, Commission staff has estimated that the cost to generate widespread deployment of broadband at 100 Mbps would be approximately \$350 billion.<sup>166</sup> Whether and how the United

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<sup>164</sup> *Id.* at 218-19.

<sup>165</sup> See AT&T Inc. Reply Comments, *In re a National Broadband Plan for Our Future*, WC Dkt. No. 09-51, at 88 (filed July 21, 2009).

<sup>166</sup> See FCC, Broadband.gov National Broadband Plan, *September Commission Meeting*, at 45 (Sept. 29, 2009), at [http://www.fcc.gov/Daily\\_Releases/Daily\\_Business/2009/db0929/DOC-293742A1.pdf](http://www.fcc.gov/Daily_Releases/Daily_Business/2009/db0929/DOC-293742A1.pdf); see also FCC Transcript, *National Broadband Plan Workshop: Technology/Fixed Broadband* at 20:1-4 (Aug. 13, 2009), at [http://www.broadband.gov/docs/ws\\_05\\_tech\\_fixed\\_transcript.pdf](http://www.broadband.gov/docs/ws_05_tech_fixed_transcript.pdf) (Telcordia CTO Adam Drobot: “[W]hoever pays the bill to wire up the nation at high broadband speeds, in our estimation, is something that would be well north of \$300 billion.”); FCC Transcript, *National Broadband Plan Workshop: Deployment – Wired* at 57:22-58:5 (Aug. 12, 2009), at [http://www.broadband.gov/docs/ws\\_02\\_deploy\\_wired\\_transcript.pdf](http://www.broadband.gov/docs/ws_02_deploy_wired_transcript.pdf) (Sanford Bernstein Vice President and Senior Analyst, U.S. Telecommunications, Cable and Satellite, Craig Moffett: “[I]f I were to just scale up to what Verizon’s doing, I’m talking about \$300 billion-plus for the country. Scaled for sort of

States can privately and/or publicly fund such a massive investment – particularly at a time of strained private sector and government budgets – is a difficult question that this Commission and other policymakers with a stake in this arena must face. But, contrary to the teachings of the Report, the Commission cannot avoid that difficult question with the facile assertion that deeply invasive “open access” regulation is a substitute for such sustained investment. As demonstrated by the above analysis – and the vast literature on the subject that the Berkman Center largely ignores – open access regulation is simply not the talisman for a successful broadband strategy.

The Commission is presently engaged in a comprehensive study of broadband that will enable it to weigh the costs and benefits associated with directly encouraging broadband deployment and penetration, and to incorporate its conclusions into a National Broadband Plan. That process to date bears each of the hallmarks the Commission has rightly identified as characteristic of responsible, reasoned, agency action: it is open, transparent, objective, and data-driven, and AT&T has every confidence that it will result in policy determinations that will facilitate broadband investment and drive subscribership. The Berkman Center Report, by contrast, is out-of-keeping with the Commission’s announced approach – it is neither open nor transparent, neither objective nor data-driven – and it should play no role in the Commission’s deliberations.

## **CONCLUSION**

The Commission should continue to formulate its National Broadband Plan pursuant to an open, transparent, data-driven, pragmatic process. Because the Report is out-of-keeping with those principles – and because its conclusions are unsupported and in conflict with a wide range of analyses – its conclusions should be afforded no weight in that process.

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geographically adjusted, I’m at probably a half a trillion dollar project or somewhere in that range, maybe more to do something like that.”).

Respectfully submitted,

/s/ Jack S. Zinman

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November 16, 2009