

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Broadband Study Conducted by the Berkman) GN Docket Nos. 09-47, 09-51, 09-137
Center for Internet and Society)

UNITED STATES TELECOM ASSOCIATION'S
COMMENTS – NBP PUBLIC NOTICE #13

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SUMMARY

The Berkman Center for Internet and Society's draft study of broadband development and strategies in other countries is, unfortunately, seriously flawed. In concluding that unbundling policies play a critical role in broadband development, the Berkman Study contains numerous errors, omissions, and internal inconsistencies. As a result, it should not be relied upon by the FCC in formulating a National Broadband Plan.

First, the Berkman Study incorrectly attributes successful broadband development in certain other countries to unbundling policies. It does so by identifying high-performing countries and pointing to their unbundling policies, while ignoring more important factors, including facilities-based competition, direct government support, large private investment, and non-policy factors such as geography and demographics. It also disregards the likely adverse effects unbundling policies have on investment in next-generation broadband networks.

Second, the Berkman Study employs a flawed methodology in finding a positive causality between unbundling and broadband development. It focuses on certain benchmarks while ignoring others, such as actual broadband usage and capital investment, and fails to explain why some countries that have strong unbundling regulations lag behind in deploying next-generation fiber networks. The Berkman Study also discounts the numerous other econometric analyses that have been performed, most of which reach contrary conclusions, and its own analysis has been strongly criticized. Further, the Berkman Study fails to fulfill the FCC's charge to "conduct an expert review of existing literature;" instead it briefly mentions only a few other studies,

Finally, the Berkman Study contains numerous internal inconsistencies and statements that contradict its own conclusions. These inconsistencies raise serious questions as to the Berkman Study's overall reliability.

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I. INTRODUCTION

The United States Telecom Association (“USTelecom”)¹ submits these comments in response to the FCC’s Public Notice, which seeks comment on the draft study by Harvard University’s Berkman Center for Internet and Society.²

The Berkman Study’s principal conclusion—that unbundling policies have been critical to the development of broadband networks in other countries—is seriously flawed. The Berkman Study reaches this conclusion by misapprehending the regulatory regimes of other countries and ignoring overwhelming evidence regarding the adverse effects of unbundling. It also fails to demonstrate a positive causal connection between unbundling policies and the

¹ USTelecom is America’s broadband association. It is the nation’s premier trade association representing broadband service providers, manufacturers, and suppliers providing advanced applications and entertainment. USTelecom member companies provide broadband on a fixed and mobile basis, and offer a wide range of voice, data, and video services. While ranging in diversity from large, publicly traded companies to small rural cooperatives, USTelecom members seek to bring the promise of broadband to all Americans, advancing the nation’s economy and quality of life, from innovations in health care and education to entertainment and the environment.

² Comments Sought on Broadband Study Conducted by the Berkman Center for Internet and Society, NBP Public Notice #13, DA 09-2217 (Oct. 14, 2009); Next Generation Connectivity: A Review of Broadband Internet Transitions and Policy From Around The World, available at http://www.fcc.gov/stage/pdf/Berkman_Center_Broadband_Study_13Oct09.pdf (Draft Oct. 2009) (“Berkman Study”).

successful deployment of next-generation broadband networks or account for the effect of unbundling on private investment. Moreover, the Berkman Study contains numerous internal inconsistencies that contradict its own conclusions. Thus, while it may provide a useful compendium of some international broadband experiences, the Berkman Study's conclusions are ultimately faulty and should not be relied upon in formulating broadband policies in the United States.

USTelecom shares the Berkman Center's desire to assist the Commission in its efforts to formulate the National Broadband Plan and agrees that the Commission should be mindful of lessons learned by other countries in their efforts to promote broadband deployment and adoption. However, vast differences exist in the experiences of other countries, both in terms of the challenges they face and the methods they employ to promote broadband. These differences make it necessary to proceed with extreme caution and avoid making broad generalizations or drawing sweeping conclusions about the relevance of another country's broadband experience, as the Berkman Study seeks to do.

II. DISCUSSION

A. The Berkman Study Incorrectly Ascribes Next-Generation Broadband Deployment in Other Countries to Unbundling Policies.

The Berkman Study concludes that unbundling policies have played a "core role" in the transition to broadband in "high performing countries" and claims that such policies are playing a similar role in the development of next-generation broadband networks. Berkman Study at 11. The Berkman Study holds up Japan and South Korea in particular as leading examples of countries with the most advanced broadband networks, which, according to the study's authors, are attributable to successful unbundling policies. Unfortunately, this analysis is predicated on a

misunderstanding of the regulatory frameworks and of unbundling's effect on broadband development in the countries in question.

For example, in Japan, next-generation broadband is being driven, not by unbundling requirements as the Berkman Study suggests, but by facilities-based competition in fiber-to-the-home "FTTH" services. As two economists recently noted,

As a result of the limited use of leased unbundled facilities, competition in FTTH services is largely facilities-based among [Nippon Telegraph and Telephone], the electric power companies, and USEN, the largest Japanese cable company. Unbundling obligations have not led to significant competition in providing fiber-based broadband services in Japan.³

In the words of another economist, unbundling in Japan "appears to be largely irrelevant in competition for fiber based services."⁴

In another example—South Korea—which the Berkman Study identifies as a "half generation ahead of the next best performers," the authors assert that "leased access to incumbent facilities spurred new entry," which in turn allegedly facilitated the transition to broadband. Berkman Study at 88. However, the suggestion that unbundling resulted in increased broadband deployment in South Korea is belied by the fact that in South Korea, as the Berkman Study

³ Debra J. Aron & Robert W. Crandall, *Investment in Next Generation Networks and Wholesale Telecommunications Regulation*, at 39 (Oct. 2008), available at <http://www.lecg.com/files/upload/ingnwtr.pdf> ("Wholesale Telecommunications Regulation"); see also Ewan Sutherland, *Unbundling Local Loops: Global Experiences*, at 6 (Dec. 2007) ("ADSL subscriber numbers in Japan are now declining. The growth has shifted to FTTH and this is now the main focus of operators, with both the incumbent (NTT) and alternative operators building their own networks"), available at <http://link.wits.ac.za/papers/LINK.pdf>. Neither of these sources is mentioned in the Berkman study.

⁴ Scott Wallsten, *Whence Competition in Network Industries? Broadband and Unbundling Regulations in OECD Countries*, at 11 (Dec. 2007) ("Whence Competition").

acknowledges, “unbundling was introduced late, after [broadband] had already reached high levels of service.” *Id.* at 79.⁵

As is the case with Japan, much of the broadband deployment in South Korea can be credited to substantial investments by the government in broadband infrastructure, and not to unbundling policies.⁶ Likewise, in Sweden—another country hailed by the Berkman Study—the government spent more than \$800 million to spur broadband deployment, particularly in rural areas of the country; for the United States to spend an equivalent share of its gross domestic product, it would need to invest more than \$30 billion in broadband infrastructure.⁷ And while the Berkman Study concludes that Sweden, South Korea, and Japan are “the most publicly-funded nations,” the authors appear to discount the importance of such public financing to broadband deployment, for reasons that are never explained, and do not account for it at all in

⁵ See also Robert D. Atkinson, Daniel K. Correa, & Julie A. Hedlund, *Explaining International Broadband Leadership*, at F2 (Oct. 2008) (noting that South Korea did not “introduce local loop unbundling until 2002,” while competing providers began offering broadband service years earlier), available at <http://www.itif.org/files/ExplainingBBLeadership.pdf> (“*International Broadband*”).

⁶ *International Broadband* at F2 (noting that “[t]he South Korean government’s national broadband strategy includes direct and indirect support for broadband infrastructure development,” including direct investments of approximately \$26 billion, tax exemptions to small and medium-sized business equal to 5 percent of their total investment in broadband communications systems, and \$70 billion in low-cost loans to build high speed broadband networks); see also *id.* at D1 (noting that the government of Japan “provided a combination of subsidies, tax incentives, and low or zero-interest loans for broadband providers ...”).

⁷ *Id.* at viii. In fact, the FCC’s Broadband Task Force has stated that preliminary estimates of the total investment required to deploy universal broadband in the U.S. range “from \$20 billion for 768 Mbps-3 Mbps service to \$350 billion for 100 Mbps or faster. See Press Release, FCC, *Broadband Task Force Delivers Status Report on Feb. 17 National Broadband Plan* (September 29, 2009) at 2.

their broadband performance comparisons.⁸ Moreover, the finding that Japan's leading position in the deployment of fiber is due largely to public funding is in itself, suspect.⁹

The Berkman Study also erroneously implies that countries with aggressive unbundling regimes have been more successful than the United States in deploying fiber broadband networks, citing to 2008 OECD statistics in which the United States purportedly ranks sixth in the percentage of broadband subscriptions served by FTTH networks.¹⁰ However, this comparison is misleading on several counts. First, the countries with purportedly greater FTTH penetration than the United States are considerably smaller, both in terms of geography and population. For example, South Korea and Japan have a population density of 481 and 338 inhabitants per square mile, respectively, as compared to 31 in the United States.¹¹

Unsurprisingly, "population density is a strong predictor of broadband penetration since more densely populated areas are less costly to serve."¹²

These non-policy factors are essential to understanding differences in broadband development. While asserting that unbundling policies have driven broadband development in

⁸ Berkman Study at 165 ("To the extent that one sees the long-term trajectory of the fixed element of next generation networks to be in fiber closer to – and ultimately at – the home, we can perhaps say that substantial government investments seem to be associated with approaching that goal more rapidly").

⁹ See Comments of Nippon Telegraph and Telephone Corporation, *Broadband Study Conducted by the Berkman Center for Internet and Society*, NBP Public Notice #13, DA 09-2217 (Nov. 16, 2009) at 4-8 (the essential role that vigorous inter-platform competition and private investment had in spurring fiber deployment and explaining the relatively modest role of low cost loans and other government financing), available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=7020348409.

¹⁰ Berkman Study at 55 (noting that as of December 2008, 4% of U.S. broadband subscriptions were served by fiber to the home networks, exceeded by Japan (48%), South Korea (43%), Sweden (20%), Denmark (10%), and Norway (9%)).

¹¹ *International Broadband* at F1 and D1.

¹² *Whence Competition* at 5.

“high performing” countries, the Berkman Study acknowledges that many factors “other than government action predict broadband penetration, a primary metric for measuring broadband success,” including “income, geography, and poverty.” Berkman Study at 74. To be sure, government policy “can contribute positively and appreciably, at the margin” to a country’s broadband performance. *Id.* However, studies suggest that “non-policy factors account for roughly three-fourths of a nation’s broadband performance,” which significantly undermines the Berkman Study’s predictions regarding the impact of unbundling on broadband deployment and adoption.¹³ By focusing only on “high performing countries,” The Berkman Study a creates a skewed image of unbundling’s effects overall.¹⁴

Second, in addition to demographics, differences in FTTH penetration between countries also are explained by regulatory policies that have nothing to do with unbundling. For example, in 2000, the South Korean government created “The Certification Program for Broadband Buildings,” which mandates that all buildings in South Korea must be “designed to enable high-speed broadband connections, such as locating digital subscriber line (DSL) access multiplexers (DSLAMs) or cable head-ends in apartment buildings.”¹⁵ With apartments making up more than

¹³ See *International Broadband* at 18 & 33-36. In concluding that non-policy factors dominate broadband performance, this study also assessed which policy factors have a positive impact on broadband. Some of the effective policies identified include enacting tax policies that encourage investment, making more spectrum available for broadband, expanding government programs that target rural broadband development, and supporting initiatives that encourage broadband usage and digital literacy. *Id.* at 40-44. The study did not find unbundling to be an effective policy. *Id.* at 34-37. As the Berkman Study acknowledges, even in the best case unbundling accounts for only a “marginal” portion of the variation in penetration. Berkman Study at 74.

¹⁴ See *International Broadband* at 36 (noting that unbundling is required in “some nations further down the OECD rankings, such as Ireland, Italy, and Spain—a fact seldom pointed out by proponents of unbundling”).

¹⁵ *Id.* at F1.

50 percent of the housing in South Korea, this government initiative “helps keep down the costs of the ‘last mile’ to the home,” which has facilitated FTTH penetration.¹⁶

Likewise, in Japan, government support and platform competition, rather than unbundling, have driven next-generation broadband.¹⁷ Thus, for example, incumbent telecom provider Nippon Telegraph and Telephone (NTT) has deployed FTTH extensively in the face of “competition from subsidiaries of electricity companies, which are using their own fiber networks to offer high-speed broadband services to their electricity customers.”¹⁸

While trumpeting unbundling policies, the Berkman Study largely ignores the importance of private investment on next-generation broadband deployment. In particular, while the Berkman Study highlights FTTH services as the most important next-generation broadband technology, its authors fail to recognize the large private investment required to deploy the broadband infrastructure necessary to provide such services. Instead, the Berkman Study characterizes unbundling as having played a significant role in the transition from dial-up connectivity to first-generation broadband, but then assumes without explaining how unbundling can or will spur investment in next generation fiber networks. In reality, such networks require enormous private investment, which unbundling regulation would only undermine.

Unlike in many of the countries in the Berkman Study, the United States enjoys strong intermodal competition between telephone companies and cable operators, which has resulted in

¹⁶ *Id.*

¹⁷ *Id.* at D2.

¹⁸ *Id.*

increased high-speed and fiber-optic services.¹⁹ This competition has driven broadband providers to invest \$60 billion annually in building networks. This amount far exceeds the average annual inflation-adjusted cost of major governmental programs such as the Apollo space program and the Interstate highway system, or the approximately \$7 billion allocated over two years to broadband programs in the American Recovery and Reinvestment Act of 2009.

This substantial investment by broadband providers is paying dividends. According to a recently released market report, FTTH networks in North America, almost all in the United States, currently pass more than 17 million homes, and more than 2 million additional homes passed were added in the six months ending October 2009, which was nearly a record, “[d]espite a weak economy and a dearth of greenfield deployments.”²⁰ Total FTTH penetration exceeds 5 million customers, and “[t]he rate of homes connected is now 31 percent of those passed, up from 27 percent a year ago.”²¹

The Berkman Study does not address the likely adverse impacts of unbundling on the current investments being made in next-generation networks in the United States. By contrast, a March 2009 economic analysis, which the Berkman Study did not review, found “a negative relationship between unbundling and investment in next-generation networks.”²² The same

¹⁹ *Wholesale Telecommunications Regulation*, at 28 (“In the U.S., it is evident that vigorous intermodal competition, spurred by aggressive ILEC and cable investment, is triggering yet further investments by both ILECs and cable companies.”).

²⁰ Steven S. Ross, “908,000 New FTTH Customers! A Record Summer for Fiber,” *Broadband Properties*, at 21-22 (Oct. 2009) (citing market research by RVA, LLC).

²¹ *Id.*

²² Scott Wallsten and Stephanie Hausladen, *Net Neutrality, Unbundling, and their Effects on International Investment in Next-Generation Networks*, *Review of Network Economics* 8(1), 90-112 (March 2009); see also Comments of Thomas M. Lenard, Ph.D., President and Senior Fellow Technology Policy Institute on Broadband Study Conducted by the Berkman Center for Internet and Society, GN Docket Nos. 09-47, 09-51, 09-137 (filed Nov. 9, 2009) (“Lenard Comments”).

study also found “a positive relationship between platform competition and investment in next-generation networks.”²³ Indeed, incumbent telecommunications carriers invested in FTTH networks to compete with cable broadband providers only after the FCC eliminated most unbundling requirements.²⁴ The economic literature suggests that unbundling is primarily aimed at enhancing intra-platform “competition,” and it would not spur investment in next generation networks, and the Berkman Study does not claim, let alone establish otherwise.

B. The Finding of a Causal Connection Between Unbundling and Broadband Deployment in the Berkman Study Is Based on a Flawed Methodology and Ignores Evidence to the Contrary.

The methodology employed in the Berkman Study to find that unbundling has played a “core role” in broadband deployment is seriously flawed. For example, the Berkman Study relies upon a “benchmarking report” that purports to calculate an “overall weighted average rank” based upon broadband penetration, speed and price. Berkman Study at 67-68. However, this analysis fails to adjust for many factors.²⁵ For example, it does not adjust price variables for broadband in those countries—such as Japan, Sweden, and South Korea—that have made significant public investments in network infrastructure. Such public investment reduces the cost of broadband, and hence broadband prices, with the result being a systemic overstatement of the price performance ranking criterion.

In addition, neither the pricing nor the speed criterion takes into account loop length. The United States has the longest copper loop lengths (among 13 OECD countries where data were

²³ *Id.*

²⁴ Thomas W. Hazlett and Anil Calistan, “Natural Experiments in U.S. Broadband Regulation,” at 15 (George Mason University School of Law, February 2008).

²⁵ *See supra* notes 11, 12 and accompanying text.

available), which makes broadband deployment more expensive and adversely affects broadband speeds. As one study notes, “loop lengths are an important factor in determining broadband performance, which may (at least in part) explain why the United States and Canada have lower levels of broadband penetration than countries such as South Korea, Japan, and France, where loop lengths are shorter.”²⁶ Even though “shorter loop lengths are a factor in explaining superior broadband performance,”²⁷ the Berkman Study ignores this factor.

The Berkman Study also ignores other relevant criteria that would be useful broadband benchmarks, such as actual usage and capital investment levels. It appears that the United States is among the top countries in the world when measuring bandwidth consumed per Internet user.²⁸ In addition, based on OECD data concerning investment in information and communications technology (“ICT”), as well as its communications equipment, hardware, and software components, the United States compares quite favorably to other countries—in the top one or two—when comparing ICT investment as a share of total nonresidential gross fixed capital formation (GFCF) or as a share of gross domestic product (GDP).²⁹ The health of the broad ICT sector is essential to economic recovery, job creation, and international competitiveness.

²⁶ *International Broadband* at 11-12.

²⁷ *Id.*

²⁸ Usage data are available from several sources. For example, Cisco publishes projected global IP traffic data from 2008-2013 for the various regions of the world. See Cisco Visual Networking Index: Forecast and Methodology, 2008–2013, June 9, 2009 at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html. Selected country data are available from Cisco VNI Forecast Widget for the Cisco Visual Networking Index IP Traffic Forecast, 2009 at http://www.ciscovni.com/vni_forecast/index.htm. Internet user data by region and country are available from Internet World Stats (IWS) at <http://www.internetworldstats.com/stats.htm>.

²⁹ Data for GFCF are available from 1980 to 2005 or 2006, depending on the country. See <http://www.oecd.org/dataoecd/27/37/36396989.xls>. An analysis of ICT as a share of

In addition, although the Berkman Study relies upon three benchmarks—penetration, price, and capacity—for measuring the relative success of countries in deploying broadband, it offers no explanation why several countries with strong unbundling policies lag behind in one or more of these benchmarks, especially in moving to next-generation networks such as fiber. For example, the Berkman Study recognizes that “fiber has been slower to deploy in the Netherlands than in some other countries,” but attributes this to “the ability of the cable and copper infrastructure to be stretched to support higher speeds” rather than to any lack of incentive to invest in fiber resulting from unbundling requirements. Berkman Study at 207. The Berkman Study also brushes off the lack of fiber investment in France. Although France is touted as having successfully spurred broadband through unbundling, “fiber-based broadband connections remain marginal in France,” and DSL subscriptions make up 95% of all broadband connections there. *Id.* at 183. Similarly, the United Kingdom does not have fiber or very high speed DSL to speak of, with only its sole major cable provider offering very high speed service at 50 Mbps. *Id.* at 102. In this respect, the benchmarks used by the study are very poor predictors of next generation network buildout.

The Berkman Study also fails to explain adequately the failure of past unbundling efforts in the United States. The Berkman Study attempts to blame these failings on alleged “foot dragging” by incumbents and “highly skeptical” courts. *Id.* at 78. However, the U.S. experience with unbundling has been well documented by economists, who have concluded that unbundling was a failed experiment that resulted in reduced investment, no net welfare benefits to residential

nonresidential GFCF is available at <http://www.oecd.org/dataoecd/52/50/39658178.pdf>. GDP data are available at <http://stats.oecd.org/Index.aspx>.

customers, and a host of competing entrants going bankrupt.³⁰ While the Berkman Study points to the possibility of innovation based on unbundled access to copper loops, which are available in the United States, the evidence of actual innovation in DSL offerings in the United States is lacking. *Id.* at 81. Furthermore, the Berkman Study can claim nothing more than marketing innovations from unbundling of fiber networks, *id.* at 77, which stand in stark contrast to the technological innovations consumers in the United States enjoy today.³¹ Furthermore, focusing on marketing innovations, rather than on investment in more advanced network infrastructure, does not lead to development in next-generation networks.

Although the Berkman Study purports to provide quantitative support, Berkman Study at 12, its authors acknowledge that the majority of econometric studies analyzing the effect of unbundling on broadband penetration dispute its conclusions. *Id.* at 115. The econometric studies cited all show either no effect of unbundling on broadband penetration, negative effects, inconsistent effects, or an effect less than (or together with) platform competition. *Id.* For its own analysis, the Berkman Study re-uses data that has been analyzed in two previous studies, one showing no statistically significant effect and the other showing only a modest effect, which was overcome by platform competition and price. *Id.* at 115-17. Significant questions also have

³⁰ See Lenard Comments at 4-6 (*citing* Robert W. Crandall, *Competition and Chaos, U.S. Telecommunications Since the 1996 Telecom Act*, Brookings Institution Press, 2005); *see also Wholesale Telecommunications Regulation*, at 18-30 (“The incentives of the beneficiaries of the unbundling policy to make investments in new facilities rather than use the unbundled elements are significantly reduced if they can utilize the incumbent’s resources at regulated rates rather than incur the risk to build their own or negotiate for commercial agreements, an effect that is well-recognized in the economics literature.”).

³¹ *See, e.g., Wholesale Telecommunications Regulation*, at 33-35 (noting that cable companies are deploying “more advanced cable technology” such as DOCSIS 3.0 in order to compete against incumbent telecommunications carriers, which has resulted in “mutually reinforcing cycles of investment and responsive investment between U.S. ILECs and cable broadband providers [that] are unlikely to end soon”).

been raised about the econometric methodology employed in the Berkman Study, which further undermines its conclusions regarding the positive effect of unbundling on broadband.³²

Indeed, by merely mentioning briefly a few other studies, the Berkman Study fails to fulfill the Commission's core purpose in commissioning the Berkman Study. As the Commission states in the Public Notice calling for comments, the principle purpose of the Berkman Study was to "conduct an expert review of existing literature and studies about broadband deployment and usage throughout the world."³³ However, of the study's 225 pages, only a few paragraphs discuss previous studies on the effect of unbundling on broadband deployment and even these are treated in a cursory fashion. *See, e.g., id.* at 115. The Berkman Study ignores an extensive literature, providing only brief mention of one of the important studies by Wallsten.³⁴ But Wallsten's survey of the existing literature reaches the opposite conclusion of the Berkman Study, which should have addressed some of the evidence on which the Wallsten article relies.³⁵ The Wallsten article cites an extensive literature in its bibliography

³² *See, e.g.,* George S. Ford, PhD, "Whoops! Berkman Study Shows 'Open Access' Reduces Broadband Consumptions," Phoenix Center Perspectives 09-05 (Nov. 12, 2009) (explaining that "the Berkman Study first improperly estimates its econometric model and then incorrectly interprets the results from it").

³³ Comments Sought on Broadband Study Conducted by the Berkman Center for Internet and Society, NBP Public Notice #13, DA 09-2217 (Oct. 14, 2009); *see also* Press Release, FCC, *Harvard's Berkman Center to Conduct Independent Review of Broadband Studies to Assist FCC* (July 14, 2009) (announcing the commissioning of the Berkman Center study: "The Berkman Center for Internet and Society at Harvard University will conduct an independent expert review of existing literature and studies about broadband deployment and usage throughout the world.") available at http://www.fcc.gov/Daily_Releases/Daily_Business/2009/db0714/DOC-291986A1.txt.

³⁴ *See, e.g.,* Scott Wallsten, *Broadband and Unbundling Regulations in OECD Countries*, AEI-Brookings Joint Center Working Paper (2006), *cited in* Berkman Study, n.85.

³⁵ For example, Wallsten concludes that "the empirical economics research demonstrates that network sharing, or unbundling, rules reduce incentives to invest and thus can slow growth of broadband networks." Scott Wallsten, *Towards Effective U.S. Broadband Policies* (2007), available at <http://www.pff.org/issues-pubs/pops/pop14.7usbroadbandpolicy.pdf>; *see also*

which the Berkman Study mentions only in passing or not at all. Thus, the Berkman Study has utterly failed to comply with the Commission's charge to provide an expert survey of the existing literature.

C. The Berkman Study Contains Numerous Internal Inconsistencies, Which Undercut Its Conclusions.

Contradictions permeate the Berkman Study. For example, the Berkman Study contradicts its own presentation of South Korea as a successful model for unbundling. As noted above, the Berkman Study acknowledges that unbundling was introduced in South Korea only after broadband service was widely available. Berkman Study at 79. The Berkman Study further suggests that government support, not unbundling, drove broadband development, stating that the "South Korean experience speaks more to government investment than to access regulation." *Id.* at 87.

The study's discussion of Japan also conflicts with its other assertions. Rather than demonstrating that broadband networks were built as a result of unbundling, the Berkman Study notes that Japan's incumbent provider "NTT had already built much of the heart of the fiber infrastructure in the 1990s, with cheap government loans during the lost decade." *Id.* at 84. In fact, the Berkman Study seems to suggest that the lessons from Japan actually cast doubt on its overall conclusion, stating that "the story of fiber development [in Japan] is more ambiguous in its implications for open access, and more supportive of the argument that facilities-based competitors are sufficient." *Id.* at 85.

The Berkman Study undermines its own conclusion in the case studies of other countries as well. For example, it states that Britain's failure to invest in fiber until recently—along with

Edmond Baranes and Marc Bourreau, *An Economist's Guide to Local Loop Unbundling*, 57 *Comms. & Strategies* 13 (1st quarter 2005) (also providing a review of the literature and making similar findings), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=977380.

the relative unavailability of very high speed services there—may actually be a “vindication of the theory that unbundling deters investment.” *Id.* at 104. In Switzerland, the Berkman Study recognizes that Swisscom’s plans to invest in fiber “seem to be driven *not* by the introduction of unbundling,” but by competition from cable broadband and other fiber providers. *Id.* at 107 (emphasis added). The supposed pattern also appears to vary from the experience in Canada, which, “despite its implementation of local loop unbundling, has seen no competitive entry beyond the incumbents.” *Id.* at 110.

III. CONCLUSION

While the Berkman Center provides the Commission with extensive information regarding the broadband experience in some other countries, the Berkman Study should not and cannot reasonably be relied upon to fashion broadband policy in the United States.

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