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UTILITY REGULATION AND BROADBAND NETWORK INVESTMENT: THE EU AND US DIVIDE

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If America's broadband internet services continue to be regulated by the federal government under a Title II regime, U.S. broadband investment per capita could decline toward much lower European levels over time. U.S. broadband investment could decline as much as 50% if it fell to European levels, a reduction in infrastructure investment of roughly \$44 billion dollars yearly, according to our analysis of OECD data below. The precise timing and impact of imposing a Title II regulatory framework on broadband investment will play out over the long term and will be affected by many factors. However, the gap between per capita investment in the two regions is enormous, and any substantial decline toward European levels could pull the rug out from the U.S. position as the leader of the internet ecosystem, and further disincite investment.

Europe as a Guidepost

Broadband networks – wireline and wireless – depend on billions of dollars of capital investment every year. In fact, broadband providers are currently the biggest investors in our nation’s economy. But, broadband investment [ticked down a billion dollars in 2015](#) after the FCC decided to start treating the industry like local water and gas companies.¹ Regulatory structures matter - one global investment analyst “see[s] regulation as the most powerful determinant of outcomes in the telecoms sector” and notes that “the ramifications of regulatory decisions ... extend to determining a given country’s or region’s prospects of securing an advantageous level of network investment.”² The FCC’s move to impose Title II public utility regulation after years of light-touch regulation under Title I could substantially lower capital investment in U.S. broadband infrastructure over the investment levels that would have prevailed under a lighter-touch regime.

One way to get a sense of what the switch to Title II regulation might bring us in the long term in the way of reduced investment is to compare investment levels in Europe and the U.S. On the whole, Europe has pursued a markedly more regulatory approach to broadband infrastructure than has the U.S.³ That approach has been built on accepting a single network provider model with intrusive price regulation (*e.g.*, open access, unbundling) to attempt to create competition over that network by opening it to other firms.

Title II of the Communications Act was constructed on a similar single network philosophy, and provides the FCC authority to engage in detailed price regulation and unbundling similar to that imposed in Europe. However, the FCC has used Title I, under which the broadband internet developed, to encourage investment and innovation in new services and networks by putting those services and networks outside the regulatory Title II framework. Because the European model and Title II share a basic regulatory philosophy and tools, for practical purposes, we can use the Title II label as a shorthand for the European approach to broadband network regulation, while the U.S. has proceeded under a more open pro-innovation Title I model (until 2015 anyway).⁴ A comparison of broadband network investments between the two regions will yield insight into how the recent change to Title II regulation may affect broadband investment levels in the U.S. over time.

¹ USTelecom, Historical Broadband Provider Capex available at <https://www.ustelecom.org/broadband-industry-stats/investment/historical-broadband-provider-capex> (visited April 25, 2017).

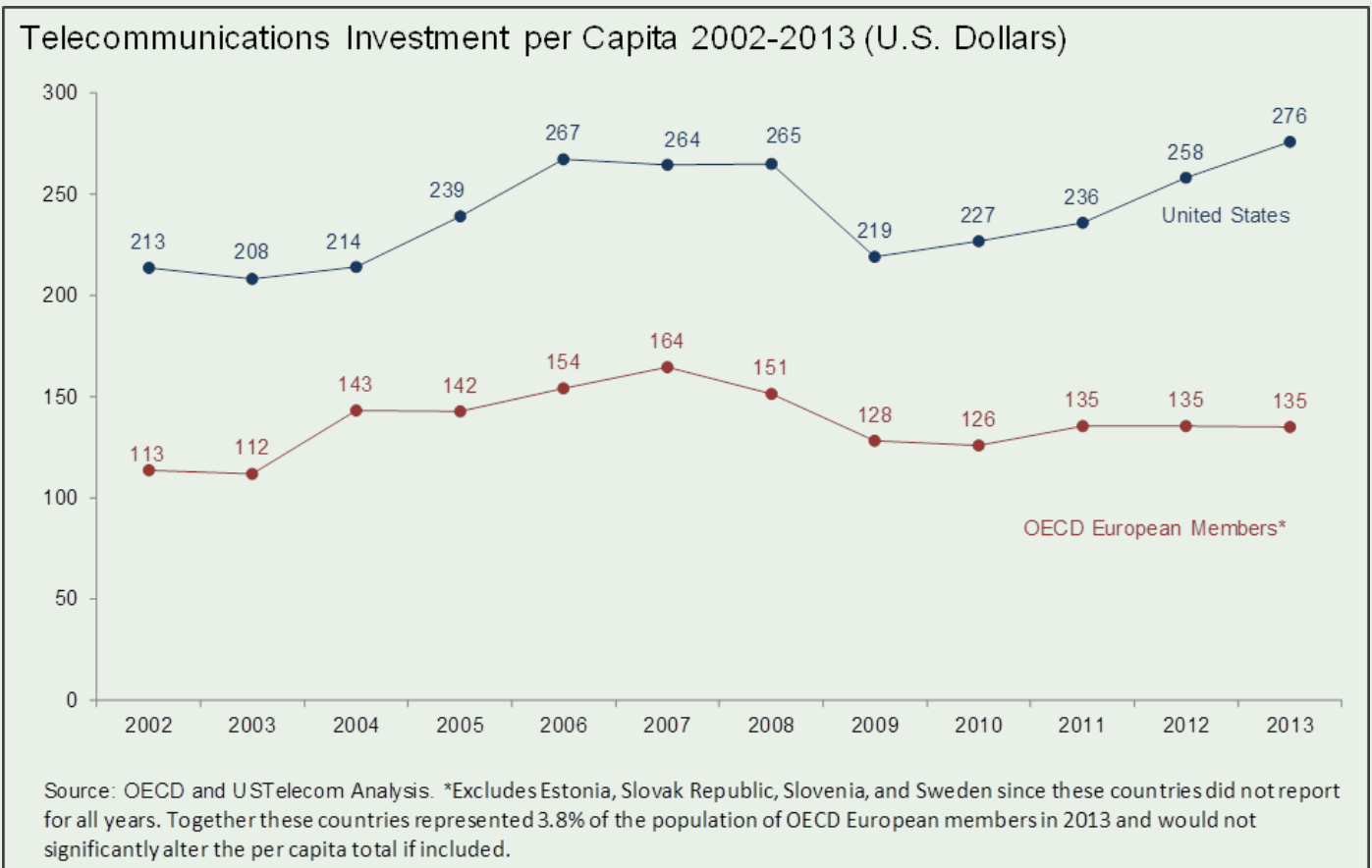
² HSBC, Global Telecoms; Regulatory Heatmap – A Temperature Check,” October, 2016.

³ See, *e.g.*, Christopher S. Yoo, U.S. v European Broadband Deployment: What do the Data Say? (June 2014) at 1. (“The difference in regulation and competition models influenced the amount of broadband investment in the U.S. and Europe. In Europe, where it was cheaper to buy wholesale services from an incumbent provider, there was little incentive to invest in new technology or networks. In the U.S., however, providers had to build their own networks in order to bring broadband services to customers. Data analysis indicates that as of the end of 2012, the U.S. approach promoted broadband investment, while the European approach had the opposite effect (\$562 of broadband investment per household in the U.S. vs. \$244 per household in Europe”). Professor Yoo normalizes the data per household; the OECD normalizes the data per capita. Therefore, the OECD approach may understate U.S. investment compared to Europe because there are more people per household in the U.S.: See, also, Robert W. Crandall, Jeffrey A. Eisenach and Allen T. Ingraham, “The long-run effects of copper-loop unbundling and the implications for fiber,” Telecommunications Policy, Vol 37, Isss 4–5, Pgs 241-428 (May-June, 2013).

⁴ There is regulatory variation across the EU states included in our analysis. Title II style open access and unbundling mandates vary somewhat across countries and networks as do their application to particular fiber networks.

To make this comparison we look to OECD data on investment. We isolate all reporting European nations in the OECD and compare to the United States, normalizing the data on a per capita basis. We start with 2002 – a period after which distortions associated with the telecom bubble of the late 1990s had dissipated and the FCC had signaled its policy direction toward Title I for broadband – and end with 2013, the most current data available from the OECD.

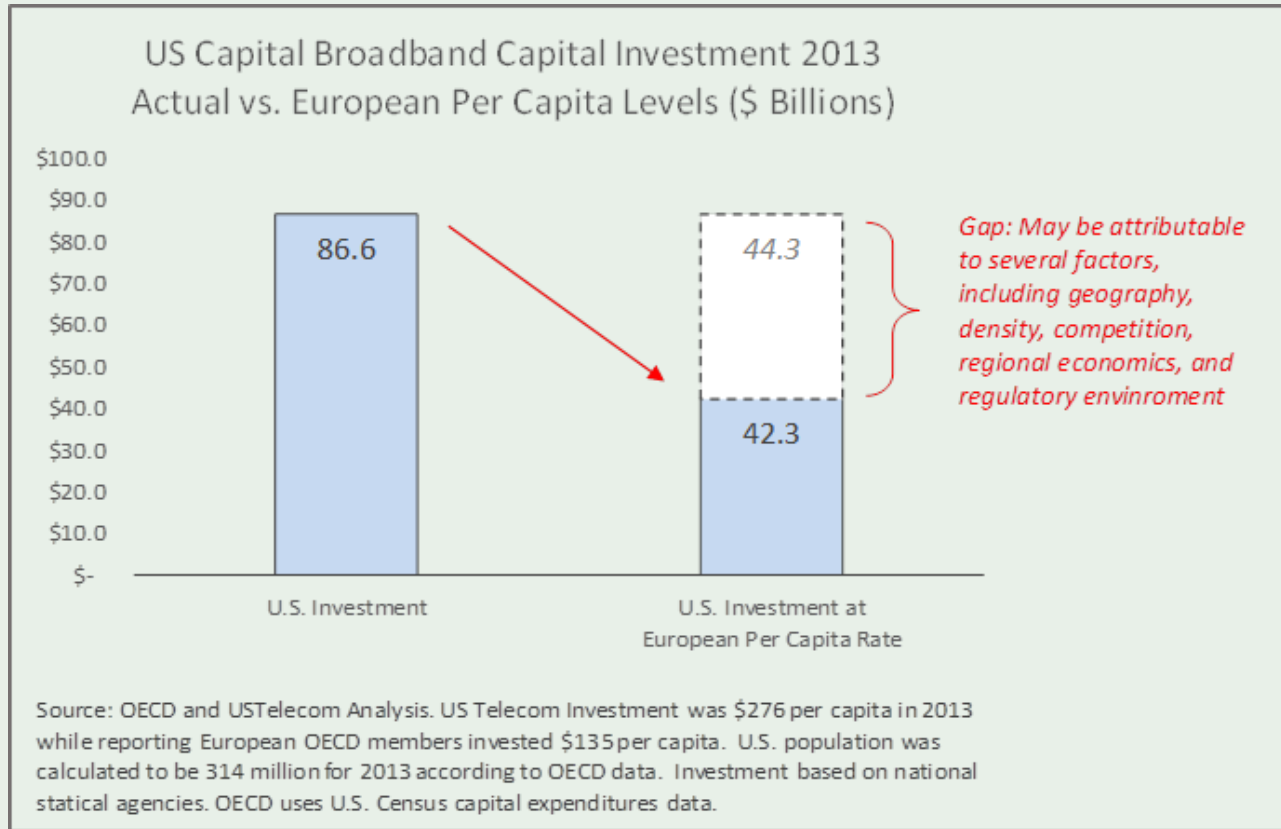
Chart 1



Over the entire period (and before), the U.S. generated significantly more broadband investment per capita under Title I than Europe did under a Title II-like public utility regulatory model. The gap is stark: Europe-wide investment is 51% less, or \$141 less per capita, than in the U.S. If we take this \$141 per person and multiply it by the U.S. population of approximately 315 million in 2013, we would have had \$44.3 billion less investment in U.S. broadband. Instead of about \$86.6 billion in U.S. broadband investment for 2013 as reported by the OECD, we would have had about \$42.3 billion.

Under a Title II regime, we could expect U.S. broadband investment to decline towards much lower European levels over time. U.S. broadband investment could fall on the order of 50% if it reached European levels, or by about \$44 billion dollars. Of course, there are factors that tend to push U.S. investment higher, the U.S.'s relatively low population density is one.

Chart 2



What has been the result of much higher levels of investment for U.S. consumers?

- **More competition:** 84% of households have a choice of two or more wired broadband providers in the U.S. compared to 43% in Europe. (FCC and EU 2015 data)
- **More Next Generation Wired Broadband:** In the U.S. wired broadband at 25 mbps download and 3 mbps upload is available to 88% of households (and 57% of rural households); in Europe, Next Generation Access, typically at 30 mbps download and any upload speed, is available to 71% of households (and 28% of rural households). (FCC and EU 2015 data).
- **More Wireless Broadband Sooner:** In the U.S., LTE mobile broadband is available to more than 99% of households up from 97% in 2013 and 71% in 2011. In Europe, LTE mobile broadband is available to only 86% of households compared to 59% in 2013 and 8% in 2011. (FCC and EU 2015 data). The U.S. has multiple wireless networks at scale to deliver continuing increases in speed and coverage.

- Networks that Support World Leading Usage: U.S. broadband networks are the most robust in the world as measured by the amount of traffic they carry in both absolute and per capita terms. The U.S. represents less than five percent of world population in 2015, but it generates almost one-third of the world's data traffic. (USTelecom analysis of Cisco Visual Networking Index 2015 data.)
- World Leading internet Service, Content and App Economy: Under Title I, innovation on the edge thrived, and U.S. based companies lead the world in software development, internet applications and content production. Eleven of the top fifteen internet companies are based in the U.S.⁵

Maintaining a Title II regulatory structure for the U.S. broadband industry could push U.S. investment levels toward those in Europe. Less investment in broadband infrastructure over time will mean less competition, reduced deployment of next generation wired and wireless broadband, constrained network capacity and less innovation on the internet edge.

⁵Liz Gannes, "Mary Meeker's 2015 Internet Trends (Slides)," *Re/code*, May 27, 2015.