

U.S. vs. European Broadband Deployment: What Do the Data Say?

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EXECUTIVE SUMMARY

As the Internet becomes more important to our everyday lives, commentators debate over the best policies and models to drive even more widespread adoption and deployment of broadband technologies. Some claim the European model of service-based competition, induced by stiff telephone-style regulation, outperforms the facilities-based competition practiced in the U.S. in promoting broadband. Data analyzed for this report reveals, however, that the U.S. led in many broadband metrics in 2011 and 2012.

- **High-Speed Access:** A far greater percentage of U.S. households had access to Next Generation Networks (NGA) (25 Mbps) than in Europe. This was true whether one considered coverage for the entire nation (82% vs. 54%) or restricted the analysis to rural areas (48% vs. 12%), suggesting that the U.S. approach proved more effective than the European approach at narrowing the digital divide.
- **Fiber and LTE Deployment:** Turning to specific technologies, the data indicate that the U.S. had better coverage for fiber-to-the-premises (FTTP) (23% vs. 12%) and for the fourth-generation wireless technology known as Long-Term Evolution (4G LTE) (86% vs. 27%). Furthermore, empirical analysis claims the position that the provision of high-speed Internet depended exclusively on fiber. In short, FTTP remained a minor contributor to NGA coverage, and those countries that emphasized fiber were the bottom broadband performers among the eight European countries studied.
- **Regulatory Policies and Competition Models:** Disparities between European and U.S. broadband networks stemmed from differing regulatory approaches. Europe has relied on regulations that treat broadband as a public utility and focus on promoting service-based competition, in which new entrants lease incumbents' facilities at wholesale cost (also known as unbundling). The U.S. has generally left buildout, maintenance, and modernization of Internet infrastructure to private companies and focused on promoting facilities-based competition, in which new entrants are expected to construct their own networks. Regression analysis indicates that the U.S. approach has proven more effective in promoting NGA coverage than the European approach.
- **Investment:** 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).
- **Download Speeds:** U.S. download speeds during peak times (weekday evenings) averaged 15 Mbps, which was below the European average of 19 Mbps. There was also a disparity between the speeds advertised and delivered by broadband providers in the U.S. and Europe. During peak hours, U.S. actual download speeds were 96% of what was advertised, compared to Europe where consumers received only 74% of advertised download speeds.
- **Price:** The European pricing study reveals that U.S. broadband was cheaper than European broadband for all speed tiers below 12 Mbps. U.S. broadband was more expensive for higher speed tiers, although the higher cost was justified in no small part by the fact that U.S. Internet users on average consumed 50% more bandwidth than their European counterparts.

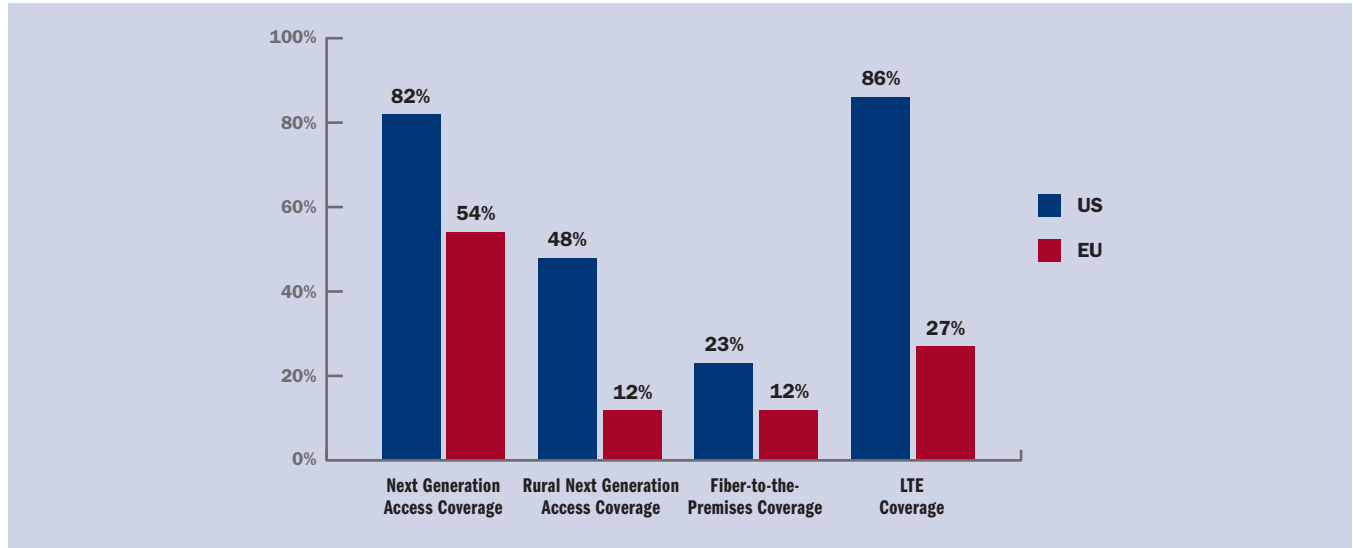
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Data analyzed for the study resolves the question whether the U.S. is running behind Europe in the broadband race or vice versa. The answer is clear and definitive: As of 2012, the U.S. was far ahead of Europe in terms of the availability of NGA. The U.S. advantage was even starker in terms of rural NGA coverage and with respect to key technologies such as FTTP and LTE. The empirical evidence thus confirms that the United States is faring better than Europe in the broadband race and provides a strong endorsement of the regulatory approach taken so far by the U.S. It also suggests that broadband coverage is best promoted by a balanced approach that does not focus exclusively on any one technology.

Case studies of eight European countries (Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden, and the United Kingdom) confirm that facilities-based competition has served as the primary driver of investments in upgrading broadband networks. Moreover, the countries that emphasized FTTP had the

lowest NGA coverage rates in this study and ranked among the lowest NGA coverage rates in the European Union. In fact, two countries often mentioned as leaders in broadband deployment (Sweden and France) end up being rather disappointing both in terms of national NGA coverage and rural NGA coverage.

Coverage in the U.S. and Europe, 2012



Comparison between U.S., EU and Case Study Countries

	Total NGA	Rural NGA	Investment per HH	Bandwidth per User	Percentage Rural HHs
U.S.	82%	48%	\$562	27	19%
EU	54%	12%	\$244	18	15%
Sweden	57%	6%	\$280	n/a	17%
France	24%	1%	\$326	12	18%
Italy	14%	0%	\$291	12	13%
Denmark	73%	3%	\$457	n/a	17%
Spain	64%	13%	\$255	13	18%
Netherlands	98%	85%	\$450	n/a	8%
UK	70%	18%	\$215	31	9%
Germany	66%	26%	\$197	14	11%

About the Report

Both the European Commission (EC) and the U.S. government have recently conducted or commissioned studies providing detailed information about the extent of broadband coverage as of the end of 2011 and 2012. These studies report coverage levels for a wide range of speed tiers and technologies in both urban and rural areas. Although the European mapping study focuses on Next Generation Access (NGA), which it defines to be service providing download speeds of at least 30 Mbps, a close analysis reveals that the study actually reports data for

25 Mbps service. Data from these studies served as the basis for analysis in this report.

These mapping studies were supplemented by other studies conducted or commissioned by the EC or the Federal Communications Commission that examine other key information, such as broadband investment, pricing, and download speeds.

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