



## INNOVATION, INVESTMENT, AND COMPETITION IN BROADBAND AND THE IMPACT ON AMERICA'S DIGITAL ECONOMY

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How true are fears that the United States is falling behind the rest of the world when it comes to broadband? Are Americans paying more for lower-quality broadband than Europeans and South Koreans, and are US companies falling behind their global counterparts?

In a new study for the Mercatus Center at George Mason University, [Roslyn Layton](#) and [Michael Horney](#) survey broadband in America and compare broadband costs around the world. They find that the United States is a global leader in broadband, as measured by the level of broadband-enabled economic activity, the number of Internet-based companies, the level of digital exports, and the level of Internet-enabled employment.

For the complete study, see [“Innovation, Investment, and Competition in Broadband and the Impact on America’s Digital Economy.”](#)

### BROADBAND IN AMERICA

When price comparisons are adjusted for taxes, network quality, and consumption of data, Americans enjoy lower unit costs for connectivity.

Americans typically pay a monthly fee to their cable or mobile company for the use of broadband. Additionally, much of the content on TV and the radio has historically been considered “free” because it has been paid for by advertisers rather than by consumers.

- Typical price comparisons rarely include taxes or the mandatory media licensing fees that much of the rest of the world pays. In two-thirds of European countries and half of Asian countries, households pay a media licensing fee on top of subscription fees. These fees must be considered to obtain a more complete picture of the real price of broadband across countries.
- In contrast, the United States’ pricing structure allows Americans to access entry-level broadband for prices below the global average.

Moreover, Americans are paying for innovative networks that simply are not available in much of Europe. For example, in 2013 just 26 percent of people in the EU had access to 4G/LTE (long-term evolution) wireless networks, but 97 percent of Americans had the ability to access these networks.

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## INNOVATION

America's broadband market is characterized by a high level of innovation in networks, services, and technologies. Network innovations continue to improve the capacity and throughput of broadband networks. The United States' growing digital economy is the result of the vast majority of Americans having broadband access and using it to produce and consume a range of goods and services. A fixation on broadband speeds would harm policies that promote greater adoption and investment, as well as more competition.

- Americans use a variety of network solutions, including DSL, cable, fiber to the home, mobile, Wi-Fi, and satellite, to meet their preferences. Each broadband technology has advantages for a given set of users, and it is critical that the government not favor one technology over another, as the access to a variety of technologies creates a dynamic broadband marketplace.
- Some critics of US broadband policies argue that America's speeds lag behind those of other countries, thereby harming innovation. However, if speeds were all that mattered, then the Internet should be dominated by firms from South Korea, Japan, and Hong Kong. Instead, Internet giants like Google, Amazon, and Facebook come from the United States.
- Innovation is highly complex and results from the interplay of many factors in a larger innovation ecosystem. America's broadband networks are an important input, but not the only one, in the innovation landscape. For example, though the United States and Canada have only 5 percent of the world's population, these two countries account for more than half of the world's 4G/LTE subscriptions, making North America a hotbed for mobile innovation.

## INVESTMENT

The current policy debate primarily revolves around whether broadband should be regulated as a utility. During the past decade, many EU countries have applied aggressive utility-style regulation to broadband. Meanwhile the United States, with its relative lack of regulation, enjoys a dynamic broadband market.

- A decade ago, the European Union accounted for roughly one-third of the world's private investment in communications capital equipment; that amount has plummeted to less than one-fifth today. EU broadband providers invest only half as much as their American counterparts. Additionally, more than three-quarters of all EU broadband subscriptions are DSL, a slower technology, which many Americans would find unacceptable.
- Over the past decade, the United States has consistently made up around a quarter of the world's broadband investment. This remains true even as the world's investment in broadband has grown from \$130 billion in 2003 to \$330 billion in 2013. US companies continue to invest in technologies like mobile and Wi-Fi, making them cheaper and more broadly available for consumers.
- Providers in the United States invest at twice the rate of EU operators, and there is a growing gap between the United States and the EU in per capita spending on infrastructure.

## COMPETITION

Competition in the broadband industry is based on the level of technology, not the number of providers. Competition also spurs the development in fixed and wireless services from "over-the-top providers," which provide services to supplement the network.

While mobile has developed to be both a competitor of and a complement to fixed broadband, concerns about limitations on data usage lead some to believe that mobile will never be a true substitute for fixed broadband.

- Innovations in technology and business models could yield solutions to the challenge of data caps, which will allow mobile to compete more directly with fixed broadband, highlighting the dynamic nature of this fast-moving industry.
- In Denmark and the United States, the segment of the population with mobile-only broadband subscriptions is already approaching 10 percent, showing that for many people, wireless broadband is sufficient.
- In Europe, the regulated broadband market is marked by static competition that fails to increase investment or innovation. In general, the EU relies on an approach where network owners are required to lease the networks to competitors at regulated rates, providing little incentive for entrants to develop their own networks. Furthermore, operators are reluctant to invest in new networks because they have to make them available to competitors.
- The US model is based on dynamic competition where companies compete on the basis of different technologies and networks, which results a greater variety of broadband networks for consumers to choose from, with more advanced technologies.

## SUGGESTED SOLUTIONS

America's broadband networks have allowed the United States to become a leading digital economy. Building on a sound broadband foundation and leveraging the advantages of America's innovation ecosystem have allowed American firms to export their digital goods and services to other countries, making the digital sector America's third-largest category of exports after industrial supplies and capital goods. Policymakers should take the following steps to ensure that the United States continues to be the leader in global competitiveness:

- In order to maximize investment, avoid utility-style regulation. Instead, focus on market-based, technology-neutral approaches that encourage dynamic competition with different networks and technologies.
- Avoid subsidies for any particular technology: a variety of broadband technologies keep the market competitive. Government involvement in the broadband market may cause private firms to exit, stifling growth in the industry.
- Permit competition-enhancing consolidation of broadband companies because mergers lower overhead costs and make operations more efficient.
- Remove barriers to mobile infrastructure at the local level. Municipalities often hinder the deployment of infrastructure, which limits broadband competitors, particularly in rural areas.
- Focus on increasing Internet adoption rather than the deployment of network. More than 80 percent of Americans use the Internet, and those who do not cite lack of usability and relevance as their primary reasons rather than cost or lack of access.