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Broadband Myths: Are High Broadband Prices Holding Back Adoption?

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Broadband affordability is a problem for some Americans, but not the "crisis" advocates claim. U.S. broadband prices are comparable with those charged abroad and by municipal networks. To ensure affordability for everyone, we need a better subsidy program, not changes to industry structure.

KEY TAKEAWAYS

- Municipal broadband prices are not substantially different from private ISPs' broadband prices. After accounting for associated costs, private entry-level broadband plans are comparable to, if not more affordable than, municipal broadband.
- U.S. entry-level broadband rates are also comparable with prices in peer nations. Studies focused on advertised prices often fail to account for average income. Normalizing the data demonstrates America's competitive rates.
- Affordability is only part of the adoption problem in America's digital divide. Digital literacy, device costs, and other barriers also hamper adoption. So, to get more people online, policymakers need to avoid affordability tunnel vision.
- Congress should provide flexible subsidies directly to low-income users rather than attempt large changes to industry structure. Policymakers also should incorporate automatic stabilizers to surge broadband benefits during economic downturns.

INTRODUCTION

The COVID-19 pandemic has brought new attention to the long-standing problem of societal disparities in the adoption of fixed broadband Internet service. Near universal broadband adoption is a worthy policy objective: The United States and other countries around the world would be better off if everyone could access the Internet regardless of their income level. Unfortunately, myths and misconceptions around broadband affordability in the United States undermine productive efforts to get everyone online.

Some advocates make ill-founded arguments that expensive broadband is to blame for the digital divide, in part to justify calls for wide-ranging changes in broadband policy and in the structure of the industry. But while affordability is indeed a barrier to broadband adoption for some Americans, the affordability problem is often overstated and presented as a silver bullet to "fix" broadband adoption. Wide-ranging interventions into the broadband system predicated on affordability concerns are not justified, especially when direct subsidies to low-income residents would be more effective.

BROADBAND ADOPTION BARRIERS MUST BE ADDRESSED

Fixed broadband does not suffer from Solow's paradox. Economist Robert Solow famously asserted in 1987, "[you] can see the computer age everywhere but in the productivity statistics."[1] While it took some time for the benefits of computers to show up in economic indicators, empirical economic literature has long recognized broadband as a clear boon to economic growth, productivity, and innovation. For example, UNESCO's Broadband Commission for Digital Development has highlighted historical World Bank data, noting, "for high-income countries, a 10-percentage-point rise in broadband penetration adds a 1.21-percentage point rise in economic growth."[2] For those already online, the benefits of broadband are obvious: access to information, entertainment, communication, education, employment opportunities, better access to health care, etc.

But importantly, the entire economy is better off as more people get online. Policymakers should be working toward a society where every business and government service can be organized and designed based on the assumption that all residents are online. Broadband is also a particularly important tool to counteract economic downturns. For example, researchers have found that young, unemployed individuals who use the Internet in their job searches have been re-employed about 25 percent faster than others using only traditional offline methods.[3] Other studies have found that unemployed workers in households with broadband access are more likely to gain employment one month after losing it than those without access.[4]

The socio-economic benefits of broadband have become even more critical during the current pandemic. In a world where public health requires children to attend school remotely and millions of individuals to work from home, connectivity should be available to all. But if

policymakers are to succeed in narrowing the digital divide, it is important to understand the impediments standing in the way of that goal and how to effectively address them.

U.S Broadband Pricing Is Relatively Comparable Between Municipal and Private Providers

Given the benefits of near-universal broadband adoption, it is critical to understand barriers to adoption. Some advocates of government-run or heavily regulated broadband networks argue that price is the key barrier preventing adoption and that prices are too high due to lack of competition, or even because for-profit companies provide the lion's share of broadband services. Without the profit motive, these advocates claim, municipal providers could offer much lower retail prices. But this does not appear to be the case.

Broadband prices are difficult to study. Different bundles of different performance tiers do not make for easy comparisons. How products are offered—what speed, whether there is a data cap, whether it is bundled with other advertising-supported services, etc.—can have a significant effect on the advertised price. Introductory rates that are often different from long-term subscription prices, subsidies for mobile devices purchased through service plans, and equipment rentals can all affect the price. As a result, studies attempting to compare broadband prices, especially between municipal and private providers, are often riddled with flaws. In reality, private U.S. providers typically offer entry-level prices that are competitive with municipal broadband. But unfortunately, this realization is often lost under the forage of skewed analysis.

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Some pricing studies stand out for their brazen methodological flaws, which give activists fodder to claim, as they often do, that Americans pay "some of the highest broadband prices in the world."[5] For example, the "Cost of Connectivity" report published in 2014 by New America's Open Technology Institute (OTI) contains cherry-picked data that focuses on advertised prices without attempting to normalize for income or the costs of providing service.[6] Methodological choices by OTI and others reveal that the likely aim of these reports is to make the prices of private providers look bad and municipal offerings over shared infrastructure look good.[7]

In one such specific instance, an OTI report held up the open-access municipal broadband of Ammon, Idaho as having the lowest prices the researchers found in the United States. However, the prices that the report used for providers using Ammon's city infrastructure explicitly did not include monthly fees charged by the city.[8] The report summary lauded "advertised speeds [in Ammon] as low as $9.99/month," yet deeper in the report the authors acknowledged this did not include monthly utility and construction fees charged by the municipality, which raised the cost to consumers by nearly $40 per month—in line with rates charged by private competitors.[9] Residents connecting to Ammon's fiber network also faced installations fees that, when paid upfront, came to $3,200–$3,600.[10] In addition, because the infrastructure was provided through a government agency, the infrastructure provider doesn't pay any taxes or fees to city. In fact, the city has loaned more than $1.1 million to the fiber agency at rock-bottom interest rates between 1.5 percent and 3 percent.[11]

An Information Technology and Innovation Foundation (ITIF) review of Wilson, North Carolina's municipal broadband pricing (the second of five cities included in OTI's study that have municipal providers) indicates a similar methodological flaw.[12] Advertised prices used in the analysis were only offered for those who purchased multiple services from the provider.[13] Moreover, when comparing affordability, excluding Ammon's municipal broadband (for reasons explained earlier), only one of the four other municipal broadband city providers offered a broadband package that cost $50 or less—Wilson, North Carolina's Greenlight—which, as note earlier, required bundling services to receive the advertised rate.[14] By comparison, in each of the cities ITIF evaluated (to include cities with municipal broadband), there was at least one non-municipal provider that offered a broadband subscription at $50 or less.[15] This underscores that comparing prices requires an appropriate level of scrutiny. Especially when evaluating entry-level broadband prices, private Internet service providers offer competitive, if not lower, rates than municipal broadband providers.

While aspects of OTI's price studies are flawed, it does present some interesting data as to how prices change relative to broadband performance in different countries. The range of pricing is larger between different price plans in the United States than it is among most other international cities studied in the report. In the United States, low-end, slower broadband is cheap, while high-end faster options are relatively more expensive.[16] While OTI might attempt to make hay of this by focusing on the prices of high-end plans, the important policy question when it comes to driving broadband adoption is the affordability of a basic broadband package that enables online work, study, and participation in society. In other words, U.S. broadband pricing is progressive, seeing slightly higher fees for faster services that are generally purchased by above-average income households and less expensive plans for for slightly slower services that on average are bought more by below-average income households.

OTI's choice to exclude affordable offerings is strange when these Lifeline-supported and other low-income offerings like Comcast's Internet Essentials are a fraction of the prices charged by municipal broadband providers OTI studied.

Private Internet providers also offer low-priced services for qualifying low-income subscribers, either in tandem with the FCC's Lifeline low-income subsidy program or wholly separate from it. If policymakers are concerned with broadband affordability, these programs should be of great interest—because affordability is a question of lowest-cost prices offered, not average prices. After all, if affordability is a barrier to broadband adoption, it is entry-level, low-cost options that cost-conscious users will turn to. Yet OTI chooses not to include Lifeline-supported or private programs aimed at assisting qualifying low-income users, claiming there is not enough information available online. It is strange that, after performing so much research and analysis, OTI would draw the line at looking up the terms of low-cost offerings from major providers (most of which are available with a simple online search). OTI's choice is all the stranger when Lifeline-supported and other private low-income offerings like Comcast's Internet Essentials are a fraction of the prices charged by municipal broadband providers OTI studied.[17]

OTI also claims that "plans targeted at low-income consumers may offer poor value" because they are generally provide lower speeds. OTI's analysis focusing on dollar-per-Mbps is flawed, because additional speed is not evenly valued by consumers. Going from no broadband

connectivity at all to even a relatively low-speed connection is tremendously valuable, and the marginal value of higher broadband speed drops off quickly after the connection can provide basic functionality and stream video. As discussed in our earlier entry in this series, "Broadband Myths: Is It a National Imperative to Achieve Ultra-Fast Download Speeds?", the added benefit of super-fast speed is marginal, so low-cost offerings often provide considerable value even if they are slow compared to super-fast offerings.[18]

Private-Sector Providers Are Better Positioned Than Municipalities to Affordably Serve Most American Households

Given the high capital intensity of building broadband networks, the retail price of broadband is tied to the cost of deployment. Deploying broadband always requires some degree of cooperation between private providers and municipal authorities. And sometimes outright municipally provided broadband can make sense, generally where there is no cable deployed and it is not economical to upgrade existing DSL networks. In those limited geographies, the positive externalities of providing broadband certainly outweigh the long-term drag on innovation that comes with government-provided broadband.[19] But even in these situations, the answer doesn't have to be municipal ownership; it could be public-private partnerships where the local government works to reduce the costs of deploying more robust networks.

Where municipalities attempt to offer service in cities already served by multiple providers, they often find it difficult to gain sufficient market share to recoup their costs. This is especially true when a municipality is building redundant infrastructure that competes with incumbents. This is why prices offered by municipal broadband are roughly in line with private competitors' prices and also why many municipal providers face difficulty in repaying their bonds (an implicit subsidy for government broadband).[20]

The fact that municipal broadband is not dramatically cheaper than those services offered by private providers is even more noteworthy, because most municipal broadband providers are "cherry pickers." Municipal deployments generally serve relatively densely populated areas, which are cheaper to provide service to. Not only do they necessarily serve the municipalities in which they have jurisdiction, often municipal deployments will focus first on the lowest-cost, highest-return areas of a city to prioritize deployment. In contrast, nationwide private-sector providers serve most American households, even many that are expensive to serve because of low population density. Supplying additional infrastructure through municipal broadband is simply not a good tool to ensure broadband is affordable for everyone.

U.S. Broadband Pricing Is Also in Line With Rates Abroad

It is notoriously difficult to compare the prices of communications tools from country to country. For example, in the EU, it is especially difficult to account for the differences between the broadband speeds that are advertised to consumers at various prices and the speeds that are actually delivered. Historical data shows that Europe traditionally has had challenges making good on advertised speed promises when compared to broadband providers in the United States—and such comparisons are still likely to be inaccurate.[21]

Moreover, advocates seeking sweeping changes to the U.S. broadband system often cherry-pick data to paint a skewed picture that broadband is more affordable abroad than it is in the United

States. But the argument does not hold up as entry-level broadband pricing plans for U.S. users are not substantially out of line with prices consumers pay in other peer nations.

While there is no definitive international broadband pricing study, reputable sources put the United States on even footing with peer countries. The International Telecommunications Union (ITU) ranks the United States as tied for sixth place globally for affordability of fixed broadband prices as a percentage of gross national income (GNI) per capita, on par with France and Singapore.[22] In fact, the ITU's *Measuring Digital Development* report has long ranked the United States favorably in terms of the affordability of lower-speed offerings.[23]

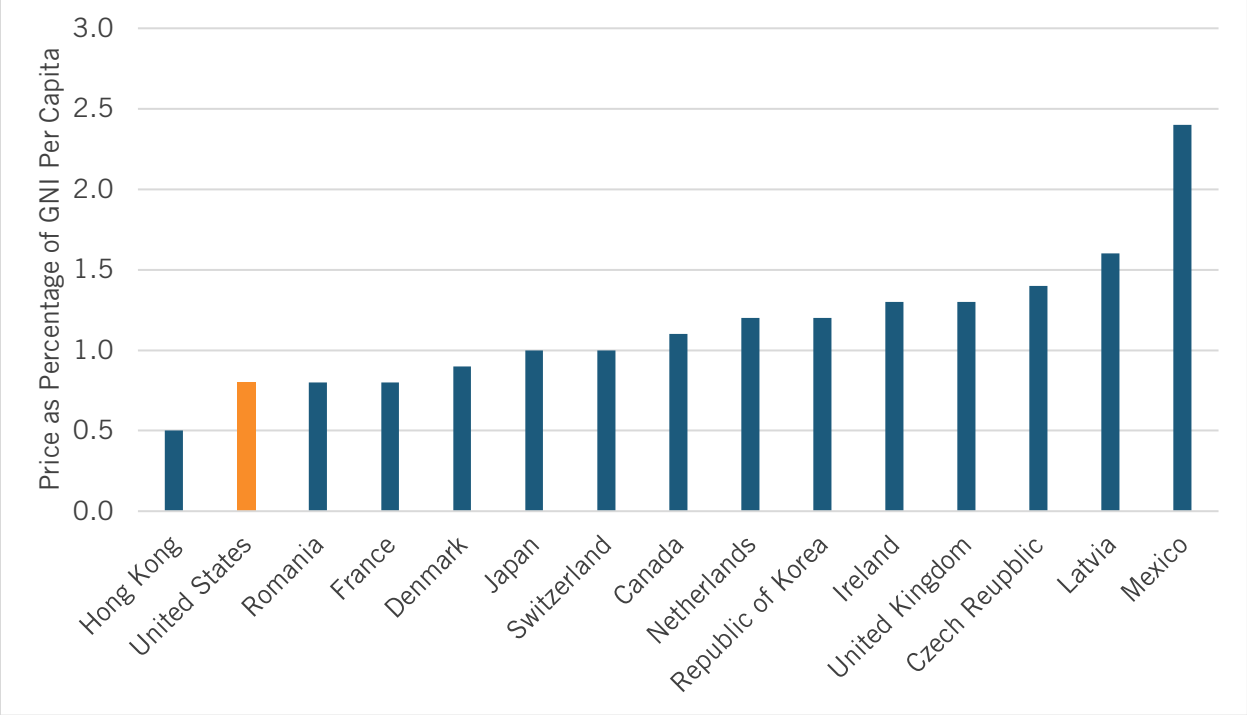
Separately, the *Inclusive Internet Index for 2020*, a report developed by The Economist Intelligence Unit (EIU) for Facebook, highlights where the United States stands in comparison to 99 other countries when evaluating Internet availability, affordability, relevance, and readiness.[24] The United States ranks third overall, propelled by a first-place ranking in affordability. Importantly, the EIU index considers income and competition, which are omitted from other similar reports that focus narrowly on advertised prices.[25] Considering these additional factors puts the numbers in perspective: Even if two countries have the same average price for broadband, the price tells two completely different stories if it is 1 percent of the average income versus 10 percent of the average income.

The lack of pricing comparison relative to income is a noticeable flaw in other studies where the United States is ranked lower than peer countries. Studies such as the OTI's "Cost of Connectivity" simply compare advertised prices of broadband without controlling for purchasing power in different countries.[26] Of the OECD countries evaluated in the OTI's study (a total of 13, including the United States), all but one have annual average wages well below that of the United States (Switzerland is the exception).[27] Without factoring in average wages and purchasing power parity, it is difficult to compare the relative affordability of broadband prices. (See figure 1 for a comparison of prices based on GNI per capita.) Moreover, even if broadband prices are normalized for average wages, dollar denomination can still paint a misleading picture. In the event the U.S. dollar increases in value, which it has over the last decade, foreign broadband prices will look cheaper in comparison.

Data from the OECD illuminates another common flaw of international price comparisons.[28] Often, studies fail to account for the difference between bundled and unbundled services. While the OECD fixed-broadband basket for high-speed data puts the United States on the more expensive side of developed countries, the data does not rigidly control for different bandwidth offerings, making it difficult to accurately compare prices.[29] OECD price studies swing a fair bit from year to year due to the somewhat arbitrary methodology: The contractor performing the study simply picks advertised prices within a large range of offerings from companies that represent 70 percent market share.[30]

The steeper price discrimination of broadband offerings in the United States means digital elites looking for higher-speed services may indeed face higher prices compared to some European countries. But again, if we are concerned with whether broadband is affordable, it makes sense to focus on making sure entry-level plans are affordable to all Americans before worrying about the price of the highest performance tiers. For entry-level speeds, OECD data puts U.S. broadband prices below or within two dollars of Iceland, Ireland, Luxembourg, New Zealand Norway, Spain, and Switzerland—by no means outside the norm of peer countries.[31]

Figure 1: Relative prices of fixed broadband by country[32]



Sadly, some countries do indeed face wildly expensive broadband prices, particularly landlocked countries in Africa.[33] Four of the five most expensive broadband packages are found in Africa—specifically, in Eritrea, Comoros, Ghana, and Mauritania—and all are well over a thousand U.S. dollars per month.[34] Assertions from activists that the United States has the most expensive broadband thus are completely false.

AFFORDABILITY IS ONLY ONE PART OF THE BROADBAND ADOPTION PROBLEM

Misunderstanding the role affordability plays in broadband adoption risks focusing with tunnel vision on only part of the problem. The United States will not succeed in closing the digital divide by focusing on affordability alone. No doubt, affordability is a real issue for some Americans, and policymakers must take steps to address that problem, but we should not overlook the many complications that impede broadband adoption if policy efforts are to be effective.

There is a rich trove of research showing that broadband non-adoption is a complicated issue, with multiple contributing factors. In 2010, the Federal Communications Commission's (FCC's) Omnibus Broadband Initiative (OBI) Working Paper Series, produced in support of the National Broadband Plan, found that when non-Internet users were asked the most important reason they didn't use the Internet, "no single reason stands out."[35] A 2014 study published in the Information Economics and Policy Journal indicated that roughly two-thirds of non-adopters "face primarily non-price barriers to adoption."[36] Surveys often indicate additional barriers, such as digital literacy and other practical considerations, impede adoption. The pandemic has generally decreased barriers around relevancy; increasingly, more non-adopters have found they have reason to require broadband in order to carry out previously in-person tasks and visits, yet other impediments remain.

Access to physical networks is still an issue that must be addressed in any effort to close the digital divide.[37] Robust infrastructure is lacking rural areas in large part due to the high costs and low returns broadband providers would earn serving dispersed populations.[38]

Setting aside the access issues, digital literacy remains a significant barrier to broader digital inclusion. Data from the Pew Research Center indicates that "having access to the Internet did not lead to more online exploration" for about 39 percent of respondents.[39] This points to the need for a focused effort around digital literacy support.

Moreover, some who argue that affordability is the cause of lack of connectivity cite 2019 data from the Pew Research Center, which found that 50 percent of survey respondents cited the cost of broadband as a reason for not having a subscription.[40] This statistic should not be misconstrued to mean price was *the* reason for not purchasing a subscription (rather than a factor). The Pew Research Center's data indicated that for slightly more respondents, advancements in mobile broadband technology was the primary reason for forgoing a fixed broadband subscription in the home.[41]

An effective policy effort to increase broadband adoption must address barriers beyond price. As researcher Colin Rhinesmith has noted, "successful digital inclusion efforts depend on a recognition of how persistent poverty shapes people's ability to access and use computers and the Internet in ways that are meaningful to their lives."[42] He points to the need for active outreach, digital literacy training, easy access to low-cost devices, and publicly accessible computing facilities such as libraries as important tools in addition to low-income subsidy programs like Lifeline.

ADDRESS AFFORDABILITY DIRECTLY: SUBSIDIES FOR LOW-INCOME USERS

The system of private competitors providing broadband is working quite well, but that does not mean affordability is not a serious barrier to broadband adoption and inclusion. Unfortunately, the United States has relatively high rates of poverty. Of OECD countries, it has the third-highest poverty levels, so certainly affordability is a challenge for large numbers of Americans.[43] But policymakers should address that problem directly with a robust broadband subsidy program for low-income Americans.

To ensure broadband is affordable for all, policymakers should provide a robust broadband subsidy program to support low-income Americans rather than build redundant infrastructure.

There is no need for a complicated intervention in the competitive system, or a widespread shift to municipal broadband infrastructure. Such strategies reallocate critical funding away from direct end-user support toward efforts to generate artificial competition and redundant infrastructure. The type of competition OTI and other advocates want to promote may give users more superficial choice, but the choices will be relatively uniform and will not have the incentives that drive long-term innovation. Instead of policy bank shots of injecting competition or socializing more of the infrastructure costs, simple and direct steps, such as improving subsidies, would be most effective in closing the digital divide.

The existing FCC mechanism to provide support to qualifying low-income users—the Lifeline program—should be improved or revamped entirely. We should move away from the current,

outdated framework for designating telecommunications carriers to receive subsidies, known as the Eligible Telecommunication Carrier (ETC) framework. The ETC process is an anachronism, designed for a time of local telephone monopolies overseen by state utility commissions.[44] A modernization of Lifeline should use a flexible voucher system, empowering eligible users to put their subsidy toward a variety of communication tools of their own choice. This could be bundled with Supplemental Nutrition Assistance Program (SNAP) benefits or other similar assistance programs.[45]

While Congress is at it, Lifeline should incorporate automatic stabilizers to surge broadband benefits and eligibility during economic downturns. ITIF's previous report "Lessons from the Pandemic" outlined potential modifications to the Lifeline program that would support this in order to ensure the program adapts during times of excessive strain when potential users are most at-risk and have the highest demand.[46] Doing so would not only help to avoid stagnation that occurs during partisan debates on the Hill, but also ensure mechanisms are in place to automatically respond in times of crisis.

CONCLUSION

During the COVID-19 pandemic, policymakers have a rare opportunity to galvanize support for closing the digital divide. We should not squander this opportunity with myopic debates broadband price comparisons.

Affordability clearly is a barrier for some Americans, and the government is more than justified to offer support to ensure everyone who wants broadband can afford it. We also must improve and support programs that work to encourage digital literacy and broadband adoption within communities.

But the fact that we need to ensure broadband is affordable for all does not mean there is a broader problem with America's competitive system. We should look instead at the existing support infrastructure to ensure it is assisting the right audiences in the right ways. We need to adapt current subsidy programs to fit the times, improve digital literacy, and decrease barriers to access that are beyond the price tag. Fixing affordability is not the silver bullet to fixing broadband adoption.

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45. As part of this revision, Congress would need to revisit Section 254 of the Telecommunication Act to lift the requirement for Federal support to go through select eligible carriers and instead offer direct support to the end-user. "Communications Act of 1934," Federal Communications Commission, accessed December 17, 2020, https://transition.fcc.gov/Reports/1934new.pdf.
46. Doug Brake, "Lessons From the Pandemic: Broadband Policy After COVID-19," (ITIF, July 2020), https://itif.org/publications/2020/07/13/lessons-pandemic-broadband-policy-after-covid-19.