



Connectivity Gaps in Latin America

A Roadmap for Argentina, Brazil, Colombia, Costa Rica and Ecuador
Summary

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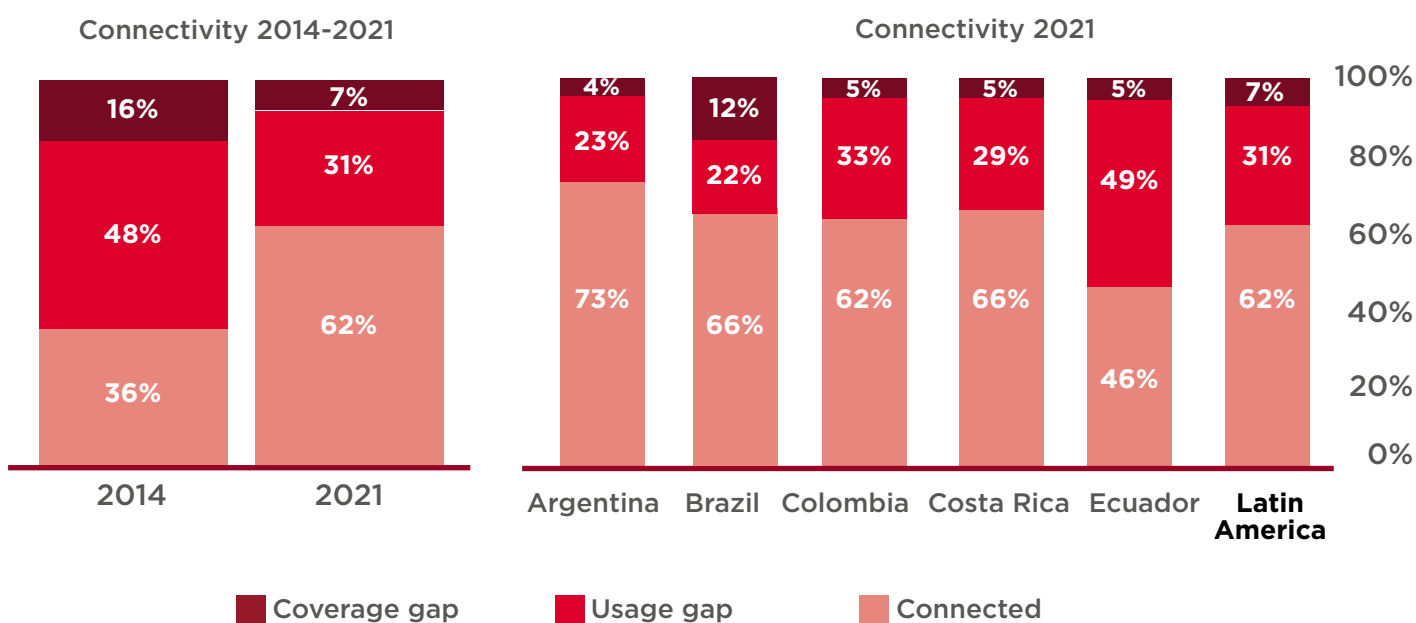
Recent years have seen an internet connectivity revolution in Latin America. Between 2014 and 2021, the number of people in the region with mobile internet access¹ nearly doubled, from 220 million to almost 400 million.

Despite this spectacular growth, 230 million people remain without access to mobile internet. And in contrast to the fast pace of change seen over the last few years, further progress will be increasingly complex.

FIGURE 1

Mobile internet connectivity in Latin America, 2014-2021

Percentage of population



Source: GSMA Intelligence

The gap in terms of internet provision (the 'coverage gap') across most of the countries studied (Argentina, Brazil, Colombia, Costa Rica and Ecuador) is not wide relative to other parts of the world. At a regional average of 7% of the population (and even lower in some countries), the coverage gap is concentrated in remote areas or locations with complex terrain, making network deployments economically challenging.

Lack of demand (the 'usage gap') is the main driver of the mobile internet connectivity gap across Latin America. Some **190 million people across the region** (of the 230 million unconnected), **in both urban and rural areas, live in locations with mobile internet network**

coverage but do not access the internet. Despite a continued decline in service prices, lack of affordability is the main reason why this usage gap exists. Low income levels in some population segments are an important factor, but regressive, short-termist tax policies also artificially raise the price of internet connectivity.

If the current framework is not changed significantly, the connectivity objectives set by most regional governments and international organisations such as the United Nations will not be achieved. By 2030, the International Telecommunication Union (ITU)'s targets are to reach universal internet coverage and for 100% of the adult population to be connected.

1.Those subscribed to a 3G, 4G or 5G mobile internet service.

Universal service funds do not represent an effective mechanism for bridging the gap

The main public policy instrument for bridging the connectivity gap in all five countries studied has traditionally been universal service funds (USFs). However, it is clear that they are not – and have not been – an effective mechanism for closing the gap. Aside from specific projects supported by USFs that may have been partially successful, econometric analysis by the United Nations indicates that the cumulative effects of USFs on internet connectivity are null or even counterproductive (that is, USFs reduce connectivity).

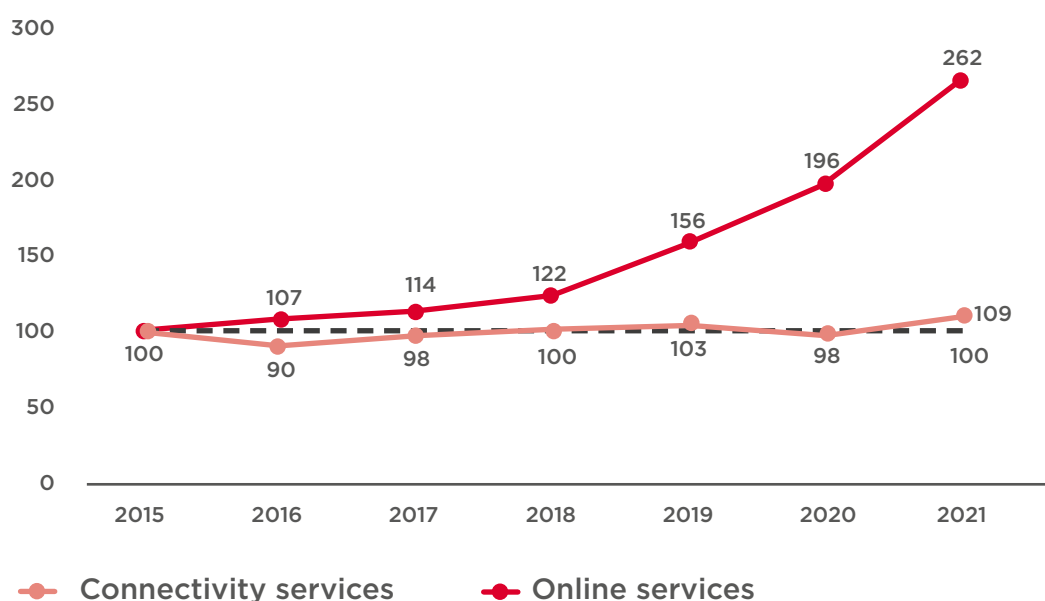
Universal service funds in the region need to be reformed urgently, **particularly in terms of funding**

models, the selection and disbursement of funds, and the lack of evaluations or monitoring of projects supported by fund resources. Over the last 10 years, changes in the value chain and the digital ecosystem landscape have led to significant variation in how much revenue is being generated, as a result of connectivity, by different players. While telecoms operators' revenues have remained largely flat, the revenues of digital service providers in the region, such as Meta, Netflix and YouTube, have skyrocketed.

Universal service funds in all five countries studied are still exclusively financed by contributions from telecoms operators. If there are no changes to the

FIGURE 2

Revenue growth (index base 100 = 2015 revenues)



Source: GSMA Intelligence

2. The Impact of Universal Service Funds on Fixed-Broadband Deployment and Internet Adoption in Asia and the Pacific, Asia-Pacific Information Superhighway (AP-IS) Working Paper Series, United Nations Economic and Social Commission for Asia and the Pacific, 2017.



Changes in the internet value chain have led to significant variation in how much revenue is being generated, as a result of connectivity, by different players.

It is time to reconsider the USF contribution base.

contributions and efforts made across the different players in the ecosystem, the USF funding system will remain unfair and unsustainable. Such a system creates impacts that are at odds with the desired objectives and raises the cost of extending services to lower income users.

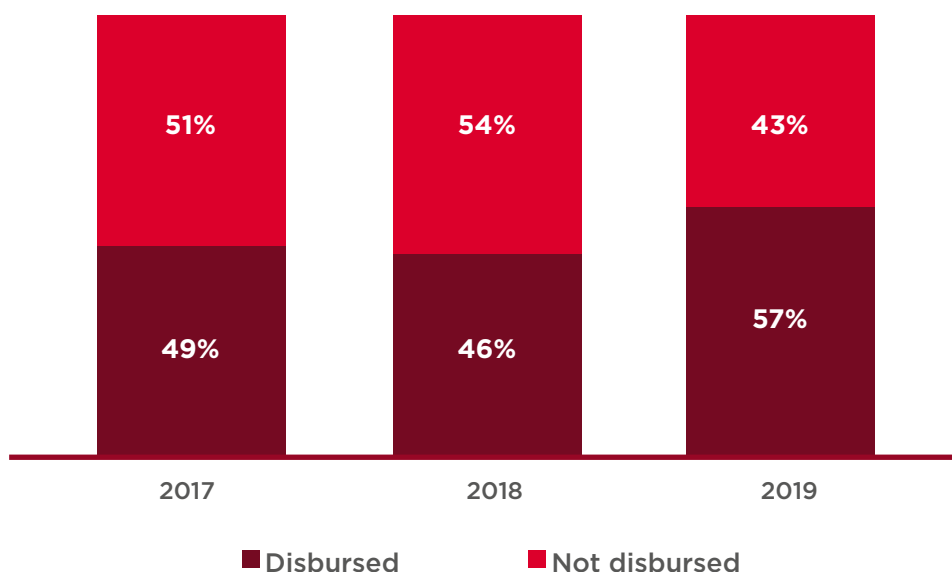
The inefficacy in the operation and use of USFs is clear. **Disbursement rates over the last few years have been deficient, with partially funded projects and inactive funds** the norm rather than the exception in several countries. The efficiency and effectiveness of the use of funds is also highly questionable. How many people have had access to the benefits of connectivity thanks to USF-supported programmes? What is the return on investment, measured in people connected per dollar invested? Unfortunately, given the lack of any robust,

ex-post evaluations by the institutions responsible, such questions remain unanswered.

Fortunately, there are alternatives to USFs in the region that provide a potential roadmap for achieving connectivity objectives. In Peru, infrastructure sharing and a spectrum management model that facilitates sharing enable players from all across the ecosystem to jointly invest in rural connectivity through a market mechanism called Internet for All (Internet para Todos). In Chile, the State assumes its central role and leadership in enabling the benefits of connectivity by directly financing the USF. In North America, the US regulator was one of the first to acknowledge that the current USF financing model is no longer sustainable and that expanding its contributor base is necessary to face the current challenges related to closing the connectivity gap.

FIGURE 3

Aggregate level of USF disbursement in Argentina, Brazil, Colombia, Costa Rica and Ecuador, 2017-2019



Source: GSMA Intelligence



If there are no significant changes, universal connectivity goals will not be reached by the end of this decade.

There are alternatives to traditional USF models to bridge the connectivity gap.

Alternative options to expand 4G connectivity levels by 2030: a quantitative assessment

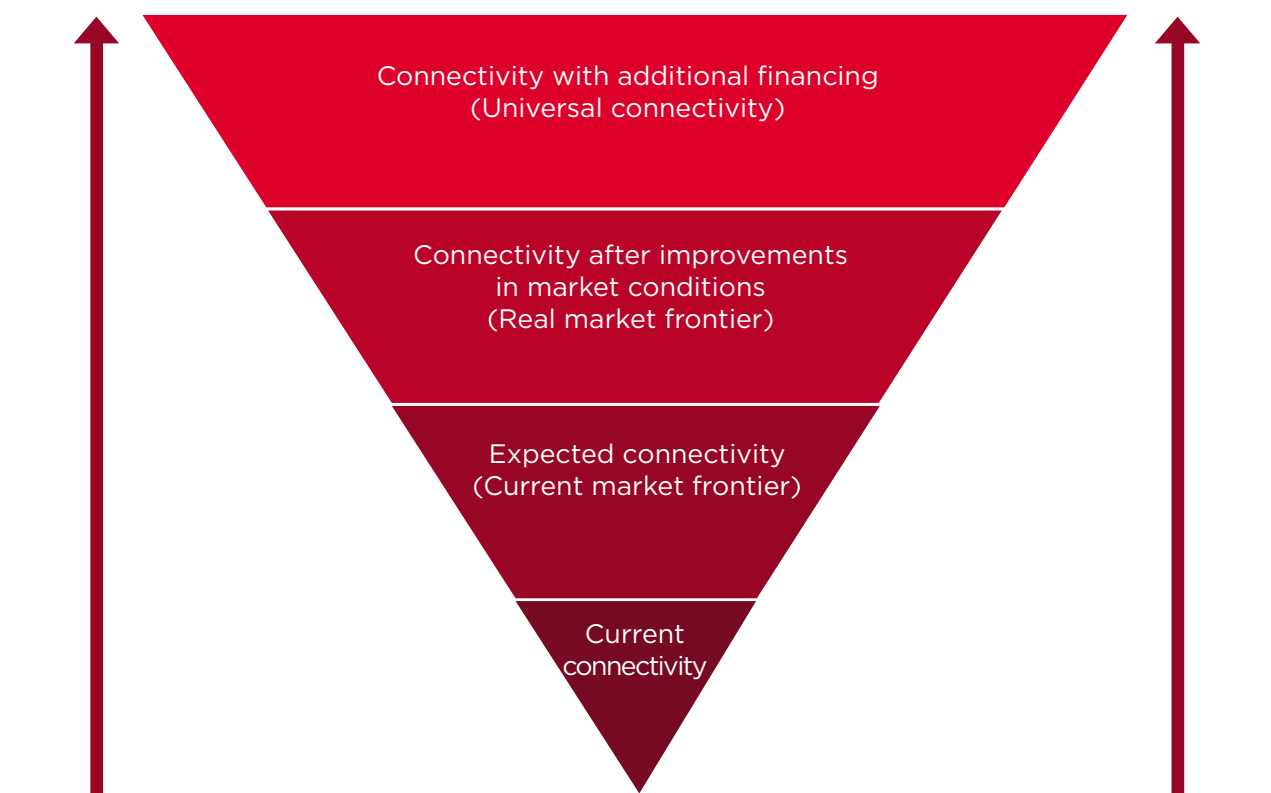
To assess the effectiveness of different models and the cost of closing the gap³, we analysed the results of a detailed supply and demand economic model specially developed for each of the five countries studied.

First, we analysed the effects of eliminating sector-specific taxes and levies on connectivity, including an alternative

financing model for the USFs. We find that these measures will boost demand and have, as a whole, an important effect, leading to a reduction in the connectivity gap of between 6 and 16 percentage points, depending on the country. This equates to an additional 50 million connected people across the five countries.

FIGURE 4

Steps to universal connectivity



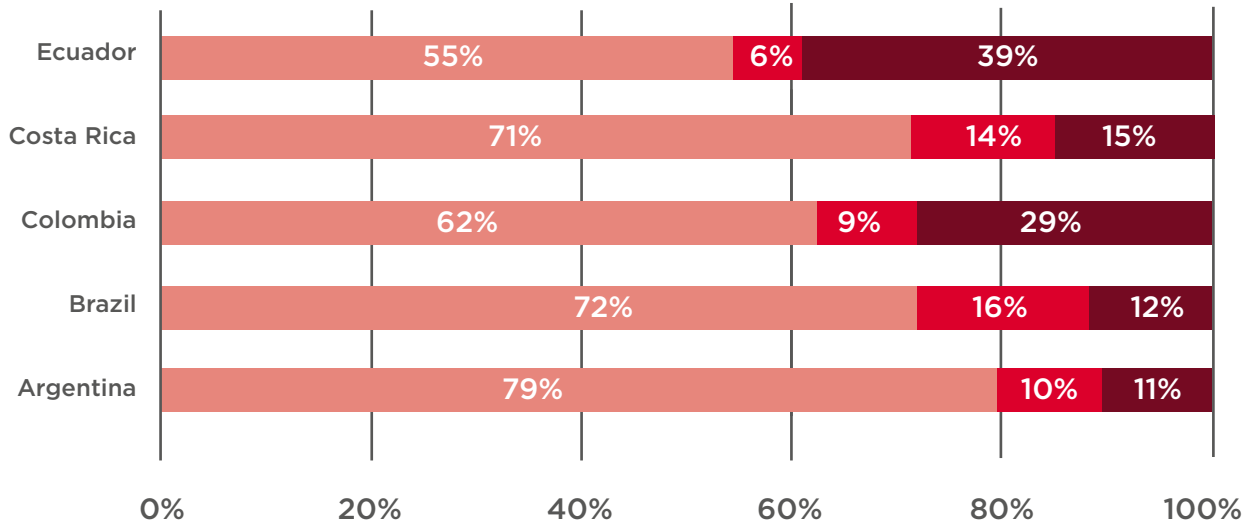
Source: GSMA Intelligence

3. For the purposes of this economic model, we define mobile internet as access to 4G services. In the medium term (by 2030), the minimum quality level expected by users and regulators in relation to internet access should be generated through 4G networks. For example, A4AI states that, even today, a 4G connection is the minimum standard necessary to enjoy an acceptable internet experience.

FIGURE 5

Reduction of the 4G connectivity gap by 2030, after reforms

Percentage of total population



Source: GSMA Intelligence

- Connected population
- Increase in connected population after measures to boost demand
- Connectivity gap after improvements in market conditions

**IT IS POSSIBLE TO REDUCE
THE CONNECTIVITY GAP BY
ADOPTING REFORMS**

Once sector-specific taxes and other barriers to mobile internet connectivity are eliminated, we reach the coverage and adoption frontier that the market is capable of achieving under current technological and demand conditions. To completely close the gap beyond these market frontiers, direct subsidies to boost internet supply and demand need to be considered.

The economic model shows that achieving 99% 4G population coverage would require between USD1,200

and USD3,500 per additional person covered beyond the market frontier, depending on the country. To achieve universal 4G connectivity, some markets will need to boost demand further through digital training programmes and subsidies to cover the entirety or a portion of the cost of devices and services for low-income citizens. Such costs are estimated at an average range of between USD50 and USD360 per additional connected person, in present values.



The conclusion is clear.

To effectively bridge the internet connectivity gap, measures need to be taken to enable the expansion of both supply and demand. Without significant changes, connectivity objectives will not be achieved. The roadmap to universal internet connectivity varies from one country to another, but it must inevitably involve the expansion of demand and urgent reform of USF operation and financing. These funds are not only ineffective in connecting the unconnected; they are also often counterproductive.

Recommendations:

Public policy and regulatory decisions are key stages on the roadmap to universal connectivity

The telecoms market has evolved towards ubiquitous network deployments and flexible commercial supply. We are no longer talking about calls or messaging services, but connected things, augmented reality, digitised production processes, e-government, smart cities and hundreds of other use cases related to digitisation.

The emergence of new technologies such as 5G confirm a paradigm shift in the digital ecosystem. **This is why it is time to redefine the USFs to close the digital divide.**

The balance between fund beneficiaries and contributors is now completely broken. **Connectivity objectives for the funds originally focused on telephony services but now focus on broadband internet – a service with a much larger ecosystem.** Connectivity funds are still being

financed by contributions exclusively from telecoms operators. In addition, the balance of revenues between providers of connectivity and online service providers has changed dramatically in the region; telecoms operators' revenues have remained largely flat while online service players have seen their revenues increase significantly. Moreover, the inefficacy in the operation and use of USFs is clear. Disbursement rates over the last few years have been deficient, with partially funded projects and inactive funds the norm in several countries. The efficiency and effectiveness of the use of the funds is also questionable.

Achieving universal connectivity will require not only tax reforms to help promote affordability for citizens, but also alternative funding mechanisms to help expand market frontiers.



USFs – the traditional policy instruments in the region – are obsolete and do not contribute effectively to achieving universal connectivity goals. Urgent USF reform is needed.



If there are no significant changes, universal connectivity goals will not be achieved by the end of this decade.



Closing the connectivity gap is possible. It will require measures to allow for the expansion of supply and, most importantly, demand.

Roadmap: four steps towards universal connectivity

Plans to achieve universal internet connectivity will vary from country to country, but they should all do the following:

1 Boost demand by eliminating taxes on connectivity.
Redefine sector-specific taxation and consider the elimination of VAT and other taxes on devices and plans for low-income segments.

2 Consider alternative solutions to expanding connectivity.
Reach beyond what is currently possible in terms of coverage by adopting new business models such as “Internet para Todos” in Peru, by using resources financed by the State such as with the Telecommunications Development Fund in Chile, and by adopting other innovative solutions.

3 Expand the USF contribution base.
This must include players from the wider internet digital ecosystem, as well as an allocated budget directly from the public sector.

4 Maximise the effectiveness of USF investment.
Improve disbursement rates and select projects based on systematic investment evaluations – for example, people connected per amount of money invested. Measuring the efficiency of programmes is vital in order to adopt additional decision-making tools.



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