

DEBrief

The Evolution of Mobile Telecommunications in Latin America and the Caribbean

✓ **Telecommunications** are crucial for development by supporting job creation, increasing firm productivity, and improving lives.

✓ **The number of mobile phone subscribers** in Latin America and the Caribbean (LAC) has increased exponentially, from 10% of the population in 2000 to over 70% in 2017.

✓ **Yet, challenges remain.** Coverage remains low in the poorest countries, and average download speeds are less than half the average in more advanced economies.

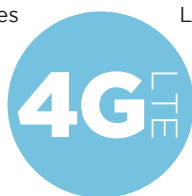
✓ **LAC's telecom expansion** has been private sector driven and has required large capital expenditures. CapEx tripled from less than 0.08% of GDP in 2000 to over 0.24% since 2012.

✓ **Additional investments** are needed to catch up with more advanced economies and to close gaps within countries. Multilateral Development Banks (MDBs) can support this process by providing financing and technical assistance.

WHY IS TELECOM IMPORTANT?

Telecommunications can help countries reach the United Nations Sustainable Development Goals (SDGs). For example, improved broadband connectivity helps firms increase productivity, contributing to SDG 8 (decent work and economic growth). Catastrophe coordination centers help cities become more resilient, in line with SDG 11 (sustainable cities and communities). Mobile literacy courses help children learn, contributing to SDG 4 (quality education).

The evidence base confirming the importance of telecom for development is solid. For example, placing public pay phones in rural areas of Peru was associated with higher incomes.¹ Similarly, the introduction of mobile phones in Kerala (India) was associated with less price variability and waste in the fishing sector.² The use of text message reminders to improve literacy, healthcare delivery, and loan repayment has also been well documented in multiple countries.



PROGRESS AND CHALLENGES IN THE REGION

While the telecom sector has advanced in LAC, substantial challenges remain for unleashing its full potential.

a) Market penetration

The number of mobile phone subscribers in LAC has increased from 10% of the population in 2000 to over 70% in 2017. Despite this surge in users, mobile phone penetration across countries remains unequal. Figure 1 shows that countries with the lowest GDP per capita also have the lowest mobile subscription rates.

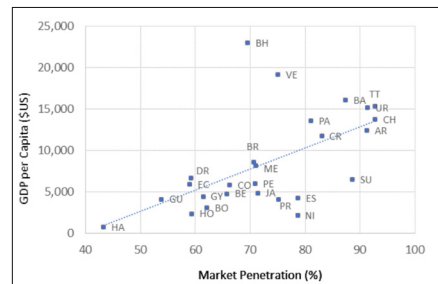


Figure 1: Market Penetration and GDP

b) Technology Adoption

LAC has seen several waves of mobile phone technologies, from pioneering 1G to the introduction of 4G in 2012. Still, less than 20% of the population uses 4G, compared to 69% in more advanced economies. Usage is particularly low in certain

LAC countries (Figure 2). This lagging uptake of more advanced 3G or 4G technologies reflects two main barriers: access and adoption. Ten percent of the population in LAC does not have access to these technologies. And of those with access, 57% have not adopted them due to the high cost or other factors. A better understanding of the barriers to 4G adoption is needed to foster greater use.

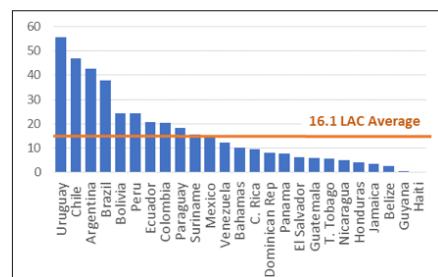


Figure 2: Use of 4G (% of population)

c) Quality of Service

Even for those who have access to 4G, service quality is an issue across the region. The average user in LAC faces download speeds of only 5 Mbps, compared to 17 Mbps in developed countries. Download speed matters to reap the full benefits of telecom. For example, 4 Mbps allows full web browsing and the use of online payment applications, 6-8 Mbps are required for video conferences,





and 25 Mbps allows HD video streaming. With such slow speeds, multiple applications are not available to the average user in many LAC countries. The situation is even worse for those without 4G access, which also tend to be the most vulnerable segments of the population, such as micro- and small businesses and the rural poor.

INVESTMENTS IN THE SECTOR

The expansion of access to mobile phones and the evolution of technologies have required massive investments by the telecommunications industry. The sum of capital expenditures (CapEx) across all 26 IDB-borrowing member countries increased from less than \$1 billion per quarter in 2000 to more than \$3 billion per quarter since 2012. Investments increased even after considering the region's rising economic activity. CapEx increased from about 0.08% of GDP in 2000 to over 0.24% in most years since 2012 (see Figure 3). The industry has been allocating an increasing share of revenues to CapEx, from less than 10% of revenue in 2000 to close to 25% in 2017. These spending trends suggest that even more investment may be needed in the future.

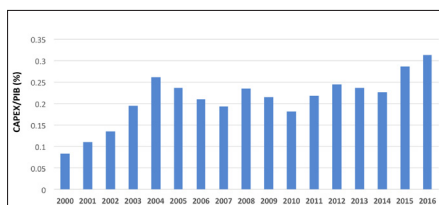


Figure 3: Annual Capital Expenditure over GDP

MARKET STRUCTURE

Unlike other infrastructure sectors in LAC, the expansion of the telecom industry is unique for being largely private sector driven. In the last nine years, the private sector has accounted for almost 80% of telecom investments, compared to 51% in energy and 3% in water and sanitation. ³

However, the private sector is not alone in the industry, as state-owned enterprises (SOEs) have a significant market share in some countries (Figure 4).

All LAC countries have at least one private operator and at least two firms in the market. However, markets are not necessarily competitive as most countries have only a few operators. And more firms does not necessarily mean less concentration, particularly when few firms account for most of the subscribers. In 2017, LAC had 85 different telecom operators (counting each individual operator in each country as an independent firm). But, most of these "independent" operators belong to one of a few conglomerates with extensive reach across the region.

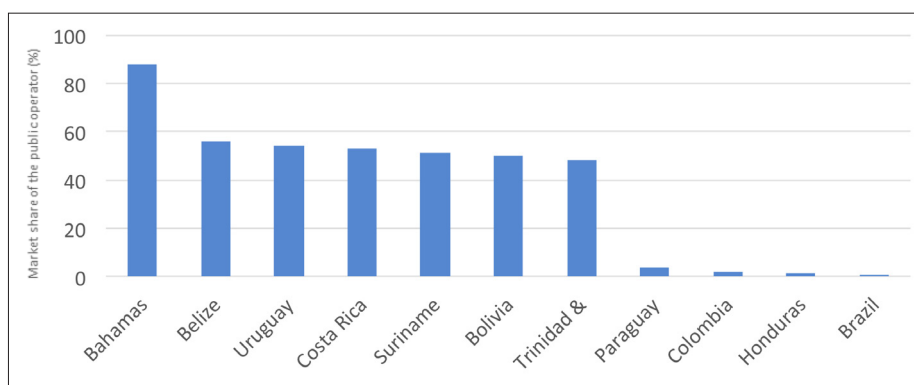


Figure 4: Market share of the public operator (%)

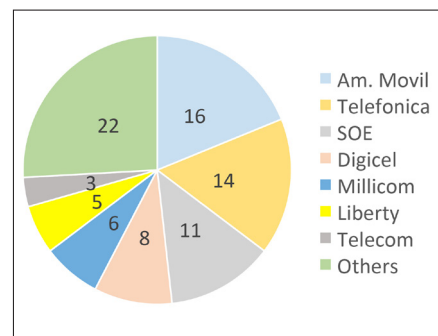


Figure 5: Operators by Conglomerate

Figure 5 shows the number of operators of the main conglomerates.

THE WAY AHEAD...

If the region does not change course, the gap relative to developed countries may continue to widen and the quality of service will remain low. Alternatively, the region and MDBs can take action to address ongoing challenges by:

1. Making investments to catch up with the most advanced economies in terms of access, adoption, and quality.
2. Investing in closing gaps within countries so that the most vulnerable populations are not left behind.
3. Providing financing to augment country investments and mobilize additional resources from others.
4. Generating knowledge to better understand the barriers to 4G adoption. ■

Additional Information

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This brief summarizes the findings of the study by D'Almeida, F. and D. Margot (2018), "The Evolution of Mobile Telecommunications in Latin America and the Caribbean", which is part of IDB Invest's Development through the Private Sector Series. The study uses a novel dataset from Groupe Spéciale Mobile Association (GSMA) Intelligence.

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References

- ¹ Galdo, V.; Torero, M.; and Chong, A. E. (2005) "Does Privatization Deliver? Access to Telephone Services and Household Income in Poor Rural Areas Using a Quasi-Natural Experiment in Peru" IDB working paper.
- ² Jensen, R. (2007) "The Digital Divide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector". The Quarterly Journal of Economics, vol.122, iss.3, pp.879-924.
- ³ Based on the Infralatam database.