TELECOMMUNICATIONS IN MEXICO
THREE YEARS
AFTER THE CONSTITUTIONAL REFORM
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Introduction

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More than 40% of Households in Mexico have Internet Services

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INTRODUCTION

For many years, the high levels of concentration that were prevalent in the various Mexican telecommunications and broadcasting markets led to high prices, a reduced offering, poor service penetration, substandard quality, and low levels of investment. To address this situation, on June 11, 2013, a constitutional reform in telecommunications and broadcasting was issued.

Not enough time has passed since the constitutional reform was approved for a substantial structural reconfiguration of the telecommunications and broadcasting sectors to have occurred, and although there are still several challenges ahead, the implementation of the reform has already brought significant results during this period:

Greater competition
Significantly reduced prices
A broader service offering
More investment in infrastructure
More foreign direct investment
Technological improvements
Better quality of service

A brief description of the evolution experimented by the sectors regulated by the IFT during the three years following the constitutional reform is provided below.
Despite inflation growth by 9.1% in Mexico between June 2013, the year the telecommunications reform was passed, and December 2015, telecommunications prices fell by 23.2%, yielding a differential of 32 percentage points between telecommunications prices and those of other products in average.

Source: Federal Institute of Telecommunications (IFT), based on data from the National Institute of Statistics and Geography (INEGI).

N.B. Base Period December 2013 = 100. The Communications Price Index (COMPI) is integrated by the price indices of the following services: mobile phone, landline, internet, domestic long-distance calls, international long-distance calls, and landline handsets. The abbreviations stated above refer to the CPI: Consumer Price Index; COMPI: Communications Price Index; LD: Long Distance; and AAGR: Average Annual Growth Rate.

During the same period, due to the elimination of domestic long distance call fees, international long-distance call rates fell 40%, while mobile phone call prices decreased more than 32%.
MORE THAN HALF OF HOUSEHOLDS IN MEXICO HAVE PAY TV SERVICES

Pay TV services in Mexico have grown more than 30% since the telecom reform. Consequently, nearly 60% of households and companies in Mexico now have cable or satellite Pay TV services.

The establishment of the Must Carry/Must Offer obligation regarding Free-to-Air television content has led to the elimination of a significant barrier to entry in the Pay TV market.

Source: IFT based on information provided by the operators, current as of March 2016.

N.B. Overall subscriptions for 1Q–16 were estimated from information provided by Axtel, Cablecom, Cablevisión, Cablemás, Dish, Maxcom, Megacable, and Sky, which accounted for a combined share of 88% of the market in 4Q–15. Data include residential and non-residential subscriptions, calculated under the methodology established by the International Telecommunication Union (ITU). Residential subscriptions are estimated to account for 85% of all subscriptions, with non-residential subscriptions accounting for the other 15%, according to the 2015 National Survey on Household Availability and Use of Information Technology (ENDUTIH).
Before the telecom reform, the growth of fixed broadband (FBB) services was practically stagnant. Between the fourth quarter of 2013 and the end of 2015, household internet services experienced a growth of 12.5%.

By March 2016, the FBB penetration rate had climbed to 47 subscriptions per 100 households, signaling a growth of more than 20% in household internet services during the last five years.

Source: IFT based on information provided by the operators, current as of March 2016.

N.B. Overall subscriptions for 1Q-16 were estimated from information provided by Axtel, Cablemás, Cablevisión, Maxcom, Megacable, and Telmex, which accounted for a combined share of 88% of the market in 4Q-15. Data include residential and non-residential subscriptions, calculated under the methodology established by the International Telecommunication Union (ITU). Residential subscriptions are estimated to account for 88% of all subscriptions, with non-residential subscriptions accounting for the other 12%, according to the 2015 National Survey on Household Availability and Use of Information Technology (ENDUTIH).
MEXICO NOW HAS FASTER INTERNET WHITH BETTER INFRASTRUCTURE

There has been a significant improvement in reported internet speeds for households over the last two years. As of early 2015, 85% of households had an internet speed between 2 and 9.9 Mbps. By late 2015, only 22% of households had internet services with speed below 10 Mbps, while more than 75% of households had an internet speed of between 10 and 99.9 Mbps.

This provision of increased internet speed has gone hand in hand with operators investing in more modern technologies. For instance, the prevalence of twisted-pair copper cable based broadband declined from a 66% share in early 2014 to 54% by late 2015, contrasting with the rise in the use of coaxial cables from 24% at the beginning of 2014 to a 33% share by late 2015. Over the same period, the percentage of fiber-optic internet increased by nearly 65%.

Source: IFT based on information provided by the operators, current as of December 2015.

N.B. Data include residential and non-residential subscriptions. Although the technology changes started in previous quarters, subscriptions for internet speeds that ranged between 10 Mbps and below 100 Mbps were reported to the IFT until the 3Q-15.
MORE THAN 50% OF POPULATION HAVE MOBILE INTERNET

Mobile broadband has experienced significant growth during the last five years. While only 7% of the population had an internet access through their cell phones in 2011, by mid 2013, 23 per 100 inhabitants could surf the web through their mobile handsets.

Two and a half years after the telecommunications reform, more than half of the population in Mexico could make use of this service, and by March 2016, 54% of the population had mobile internet services.

Subscriptions per 100 inhabitants

<table>
<thead>
<tr>
<th>Quarter (Q)</th>
<th>Before the Reform</th>
<th>After the Reform</th>
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<tbody>
<tr>
<td>2011 II</td>
<td>7</td>
<td>46</td>
</tr>
<tr>
<td>2011 IV</td>
<td>12</td>
<td>43</td>
</tr>
<tr>
<td>2012 II</td>
<td>16</td>
<td>46</td>
</tr>
<tr>
<td>2012 IV</td>
<td>21</td>
<td>53</td>
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<td>2013 IV</td>
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<td>2014 IV</td>
<td>43</td>
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<tr>
<td>2015 II</td>
<td>46</td>
<td></td>
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<tr>
<td>2015 IV</td>
<td>53</td>
<td></td>
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</tbody>
</table>

Source: IFT based on information provided by the operators, current as of March 2016.

N.B. Overall subscriptions for 1Q-16 were estimated from information provided by AT&T, Telcel, and Telefónica, which which accounted for a combined share of 99% in 4Q-15. Data include residential and non-residential subscriptions, calculated under the methodology established by the International Telecommunication Union (ITU). Residential subscriptions are estimated to account for 91% of all subscriptions, with non-residential subscriptions accounting for the other 9%, according to the 2015 National Survey on Household Availability and Use of Information Technology (ENDUTIH).
The radio spectrum allocated for mobile telecommunications before the constitutional reform was just 222 Mhz.

Following a string of public tenders awarded by the IFT, the radio spectrum allocation has increased by over 40%, and more tenders are anticipated during the next two years, which would enable the use of a total of 604 Mhz for mobile telecommunications, allowing to ensure better quality services.
MORE DIGITAL FREE-TO-AIR TV CHANNELS WITH BETTER QUALITY OF TRANSMISSION

Mexico was the first country in Latin America to successfully switch off its analogue television signal and migrate to digital terrestrial television (DTT). The rollout of DTT allows viewers to watch up to 676 digital television channels, compared to the 311 digital channels they could access before the constitutional reform.

This enables the reception of better quality signals and a more efficient use of the radio spectrum while also offering more free-to-air programming to the public through multiprogramming.

A new free-to-air national TV network that will broadcast digital content will begin operations shortly.

**Digital Channels**

Source: IFT, based on information current as of March 2016.

**N.B.** Only includes television stations with analog transmission systems that use VHF or UHF frequencies, or with digital transmission systems (DTT).
The average revenue of the telecommunications sector before the reform was MXN $366 billion, and by December 2015—after the reform—was MXN $427 billion.

Moreover, as the domestic economy was growing at an annual rate of 4% over the last five years, the telecommunications sector increased 11%, thus growing three times faster than Mexico’s Gross Domestic Product.

Source: IFT, based on data from INEGI.

N.B. GDP is in constant 2008 Mexican Pesos (MXN). The abbreviations stated above refer to the AAGR: Average Annual Growth Rate. Figures in billions of Mexican pesos. The IFT estimated the Telecom GDP figures for 1Q–16 based on information from INEGI.
Telecommunications have increasingly contributed to the domestic economy in the years following the reform than before it.

This is a telling sign of the growth the sector has experienced in recent years. Even if we focus only on 4Q-15 or 1Q-16, we see that the share of the telecommunications sector as a percentage of the Gross Domestic Product reached record proportions, which is a reflection of the importance the sector has in the lives of the Mexican public.

<table>
<thead>
<tr>
<th>Year of the Reform</th>
<th>Before the Reform 2011-2012</th>
<th>Year of the Reform 2013</th>
<th>After the Reform 2014</th>
<th>2015</th>
<th>4Q-15</th>
<th>1Q-16</th>
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<tbody>
<tr>
<td>2011-2012</td>
<td>2.56%</td>
<td>2.90%</td>
<td>3.03%</td>
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<tr>
<td>2014</td>
<td>2.97%</td>
<td>3.21%</td>
<td>3.40%</td>
<td></td>
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<td>3.6%</td>
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<td>2015</td>
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<td>4Q-15</td>
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<td>1Q-16</td>
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</tbody>
</table>

Fuente: Source: IFT, based on data from INEGI.

N.B. GDP is in constant 2008 Mexican Pesos (MXN). The IFT estimated the Telecom GDP figures for 1Q-16 based on information from INEGI.
Telecommunications GDP and private infrastructure investment practically experienced no significant growth between 2013 and 2014. However, investment during 2015 grew by 34.8% on 2014, while telecommunications GDP increased by 11% over the same period.

This means that 2015 was a year in which there was a remarkable rise in the sector’s GDP together with strong growth in investment, which is a positive signal for the telecommunications in Mexico for 2016.
TELECOMMUNICATIONS ATTRACT MORE FOREIGN DIRECT INVESTMENT (FDI) TO MEXICO

The legal and institutional changes that have taken place in the telecommunications sector have made Mexico an attractive prospect for foreign investment.

Before the reform, the FDI on the Telecommunications sector was less than 1% of the total FDI. This figure stood at nearly 5% for the year in which the reform was passed, and during 2015 it accounted for almost 10% of the total foreign direct investment, making it the third most attractive FDI proposition, only behind the manufacturing and the finance and insurance services.

Source: IFT, based on data from the Ministry of Economy as of 4Q–15.

N.B. Figures in millions of U.S. dollars.

Total FDI during 2015: USD $28,376
INCREASED INVESTOR CONFIDENCE IN THE MEXICAN TELECOMMUNICATIONS SECTOR

The increase in foreign direct investment, combined with a rise in production levels, investment on infrastructure, and telecommunications sector revenue, have brought increased investor confidence, as can be seen from the upward trend of the Telecom Services Index on the Mexican Stock Exchange.

Before the reform, this index grew at a level far below that of the IPC. However, for the quarter after the constitutional reform was passed the Telecom Services Index recorded growth rates that were higher than that of the IPC, and also trended positively during the first quarter of 2016, which is a reflection of the increased confidence on the profitability of the Mexican telecommunications companies.

Source: IFT, based on data from the Mexican Stock Exchange (BMV). Base Period December 2013 = 100.

N.B. The abbreviations stated above refer to the AAGR: Average Annual Growth Rate; and IPC: Mexican Stock Exchange Price Index.
The industry has also benefitted from the telecommunications reform

In addition to users and viewers having benefitted from the constitutional reform through a wider offering, better prices, and a greater diversity of content, the telecommunication companies have also increased their revenues.

Income reported by telecommunications operators combined was nearly MXN $400 billion in 2013, whereas this figure reached MXN $435 billion by 2014. In 2015, these operators generated more than MXN $442 billion in revenue, thus achieving a growth of nearly 12% between 2013 and 2015. Furthermore, greater revenues were reported for the first quarter of 2016 than were recorded during the same period of 2015.

Source: IFT based on information provided by operators.

N.B. The data for 1Q–16 were estimated based on the information reported to the IFT by the operators and the information reported in the financial statements of the following operators: Grupo Televisa, Telefónica, América Móvil (Telmex, Telmex, and Telcel), and AT&T. Figures in billions of Mexican Pesos.