Chapter 2.

Market developments in telecommunication and broadcasting in Mexico

This chapter reviews changes in the telecommunication and broadcasting sectors in Mexico as well as market developments, particularly since the 2013 reform. It reviews market performance, market participation and the competitive environment in both the telecommunication and broadcasting sectors and concludes with developments in convergence.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
Five years after the *OECD Review of Telecommunication Policy and Regulation in Mexico* (OECD, 2012), and four years after the reform in the area was initiated, substantial changes can be observed in the Mexican telecommunication and broadcasting markets. The number of people with a mobile broadband subscription, for example, increased from 24 million in 2012 to over 74 million in 2016. Prices have decreased for mobile telecommunication services. Significant growth in revenues in the telecommunication and broadcasting sectors can be observed and foreign investors have entered the telecommunication and satellite markets. The availability of spectrum for mobile services has improved and is expected to increase further in the coming two years. Investment in telecommunication increased and the Red Compartida – a shared wholesale wireless network with Long-term Evolution (LTE) mobile telecommunication technology (also known as “4G” fourth-generation) – will likely continue to spur investments in the mobile market.

**The telecommunication and broadcasting sectors in context**

Following the 2012 OECD review, the constitutional reform and subsequent legislation, including the Federal Telecommunications and Broadcasting Law (Ley Federal de Telecomunicaciones y Radiodifusión, LFTR) and the Federal Economic Competition Law (Ley Federal de Competencia Económica, LFCE), have changed the legislative and regulatory frameworks significantly (see Chapter 4). The constitutional reform mandated the Ministry of Communications and Transports (Secretaría de Comunicaciones y Transportes, SCT) with the responsibility for Mexico’s telecommunication and broadcasting policy. Most notably, these services were declared as a fundamental right for the Mexican population and fostering competition was put at the forefront of the reform agenda. As a result, the constitutional reform granted the SCT with the responsibility to establish the policies to achieve these goals as well as the formation of a number of strategic projects. In addition, two independent bodies – the Federal Telecommunications Institute (Instituto Federal de Telecomunicaciones, IFT) and the Federal Economic Competition Commission (Comisión Federal de Competencia Económica, COFECE) – were created (see Chapter 4) while the SCT undertook several important actions and programmes aimed at the transition to digital terrestrial television (DTT), a critical step in moving forward on a range of further changes to address policy objectives. All of these changes raise the question of how the evolving markets have performed under the new frameworks.

A range of indicators can be examined to assess progress in meeting policy objectives in Mexico. While indexes containing multiple indicators compared across countries can be informative, the implementation review rather considers individual indicators to closely track targeted policy and regulatory actions. Considered together, these individual indicators can be used to assess outcomes and highlight areas that deserve closer attention. By way of example, trends in sector revenue, the number of Mexicans who can access services, the price and quality of these services, as well as the choices consumers have in selecting service providers are all relevant. Moreover, indicators that measure enabling factors such as the amount of spectrum available to meet growing demand or the efficiency with which consumers can change service providers can all assist in assessing progress in meeting objectives.

A key starting point is the size of the telecommunication and broadcasting sectors in terms of revenue and contribution to gross domestic product (GDP). From the time of the 2012 OECD review to the close of 2016, both the telecommunication and broadcasting sectors had enjoyed an increase in revenue. Revenues in the Mexican telecommunication and broadcasting sectors increased from MXN 392 billion in 2011 to MXN 456 billion
in 2016, which is equal to a growth rate of 16% over that period (Figures 2.1A and 2.1C). This high growth rate can be partly explained by the fact that revenues in the two sectors were below the OECD average. Still, it represents a remarkable growth in a relatively short amount of time.

Figure 2.1. Developments in the Mexican telecommunication and broadcasting sectors

A. Telecommunication and broadcasting revenues in Mexico

B. Contribution of telecommunication and broadcasting to Mexican GDP

C. Revenue growth in the Mexican telecommunication and broadcasting sectors compared to the OECD average

D. Revenue growth of the telecommunication and broadcasting sectors compared to GDP growth in Mexico


The observed growth rate is in contrast to flattening or lower revenues for the OECD as a whole, with an average negative growth rate across the OECD area of -10% between 2011 and 2015 (Figure 2.1C). Notwithstanding the slight negative growth in OECD-wide industry revenue, the number of subscriptions to telecommunication services continued to grow in the OECD area, as it did in Mexico, though from lower penetration rates in that country. The differences in the revenue trends between Mexico and the OECD are likely to be in part due to Mexico meeting unmet demand. This was a key objective of the
reform in terms of improving productivity and addressing inequality: offering existing users improved services or providing new users with service for the first time.

Improved sector performance since the 2012 review can also be observed when comparing the growth of the telecommunication and broadcasting sectors in Mexico to overall GDP growth. From 2011 to 2016, Mexican GDP grew from MXN 12 774 billion to MXN 14 461 billion (in constant 2008 MXN), with a growth rate of 13.2% over that period (Figure 2.1D). The share of the telecommunication and broadcasting sectors in the Mexican economy outperformed this measure, with a rise in its share of total GDP from 2.7% in 2011 to 3.5% in 2016.

Some key indicators to be set against revenue growth – which is one of the ways to reflect competition in the market – are the prices Mexicans pay for communication services. A wealth of data is available from official sources, such as consumer price indexes and the OECD’s telecommunication baskets.

Several price indexes for telecommunication and broadcasting services are part of the Mexican consumer price index, including national and international calls to mobile telephony; this national price index is tracked by the National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía, INEGI). From June 2013, the year of the reform, to 2016, the overall consumer price index increased from 97.4 points to 109.9 points, which represents a growth of 12.8% during this period (Figure 2.2). This contrasts with the developments of the communication price indexes.

Figure 2.2. Evolution of the Consumer Price Index and the communication services price indexes in Mexico

Index 2013 =100


There were sharp drops in the price indexes on mobile services, long-distance international calls and charges for long-distance calls. The drop in mobile prices reflects
an increase in competition in this market. The index for national long-distance calls reflects the elimination of charges for such calls which was introduced by the LFTR. This had an indirect effect on the price index for international calls as operators started at that time to include additional minutes for international calls in their fixed telecommunication bundles, which translated into a price decline of 40% over three years (IFT, 2015). By way of example, several fixed-line operators offer unlimited international calls to most regions of the world today. Finally, the price index for pay TV services increased by 5%. This was lower than the increase of the overall consumer price index, although it was the only communication service that increased.

The OECD’s telecommunication baskets provide more detailed information on how Mexico’s prices have changed for fixed and mobile communication services in recent years. The gains have been the strongest in mobile services, reflecting greater competition in this market. Between 2013 and 2016, the prices for three different mobile broadband baskets witnessed a sharp decrease. The price for the low-usage basket of 100 calls and 500 Megabytes (MB) declined by 65%, from 44.05 USD PPP (purchasing power parity) to 15.39 USD PPP. Price declines for the medium-usage basket are at a similar level (-61%). The high-usage basket saw the sharpest drop in prices, from 101 USD PPP to 24.93 USD PPP, which represents a decline of over three quarters of the original price (Figure 2.3).

![Figure 2.3. Trends in mobile broadband prices in Mexico, USD PPP and USD](image)

**Note:** Data for 900 calls + 2GB are for Nov. 2014 instead of May 2014.


These levels can be compared to the averages from the same baskets across the OECD (Figure 2.4). Departing from higher price levels than the OECD average in 2013, the price decline in Mexico was greater than for the OECD average for all three mobile baskets. In addition, for the three mobile baskets, prices in USD PPP are now lower than the OECD average. What these data confirm is that mobile prices have evolved from being relatively high before the reform to being among the lowest in the OECD after the reform.
The gains are less evident for fixed telecommunication services, likely reflecting less progress in introducing competition in this market either via alternative infrastructure providers or local-loop unbundling. Between 2013 and 2016, although the price for the low-usage (20 Gigabytes [GB]), fixed broadband basket decreased from 31.52 USD PPP to 29.47 USD PPP, it is still higher than the OECD average (Figure 2.5). The price for the higher usage basket of 200 GB declined more than the price for the low-usage basket (-22.6%), a trend that is commonly observed across the OECD. As mentioned above, prices for long-distance calls were eliminated, which partly explains the decline in prices for fixed services. Furthermore, competition, particularly from online service providers, has resulted in some elements being added to bundles without any additional charge, such as on-demand video or increased speed. Again, these changes reflect different levels of competition in these bundled services.
The decrease in mobile prices has undoubtedly helped address one source of inequality in access to telecommunication services in Mexico. At the same time, lower prices are opening up opportunities for existing and new users to make greater use of telecommunication services in their daily life, but also to expand businesses, which is critical for both economic and social development. In this regard, two price changes are particularly worthy to note. The elimination, by regulation, of domestic long-distance pricing and the removal, through competition, of stand-alone prices on calls to some international destinations or while users were roaming in selected countries. These two services exhibit significant changes in what were historically very high prices.

In 2011, when the OECD surveyed the price of data roaming across all of its member countries, Mexico had the third-highest average price for the use of 1 MB, at USD 19.85 (Bourassa et al., 2016). Since mid-2015, however, all Mexican mobile operators now offer a growing number of “roam like at home” plans, enabling users travelling to countries in North and South America to use 1 MB of data at the same price as if they were in Mexico. Such changes are highly advantageous for both business and consumers. Overall changes in mobile pricing make it possible for some to afford a subscription for the first time, for others to increase their use of services such as Internet access or international telephone calls, as well as for those travelling to other countries to use their service in the same way they would if they were still in Mexico.

As might be expected, price and quality changes in the Mexican market reflect the level of competition in a service, or in anticipation of future changes brought about by the reform. A critical change was the elimination of restrictions for foreign direct investment (FDI) in telecommunication and satellite services (while the restriction in broadcasting was reduced but not eliminated, see Chapter 4). In both the telecommunication and satellite markets, the entrance of foreign companies was allowed and important investments have been made by these companies: AT&T entered the Mexican telecommunication market through acquisitions of Iusacell-Unefon and Nextel in 2014 and 2015, respectively, and Eutelsat entered the satellite market through the acquisition of SATMEX in 2014.
The entry of both of these companies is reflected in the growth of FDI in these sectors since 2015. Before the reform, FDI in the telecommunication and broadcasting sectors amounted to USD 1.2 billion, or 6% of total FDI in 2012. In 2015, FDI grew to USD 2.813 billion, representing 8.5% of total FDI (Secretaría de Economía, 2017). Of this, USD 2.5 billion and USD 1.9 billion were due to AT&T’s acquisition of Iusacell-Unefon and Nextel, respectively.

In 2015, the telecommunication and broadcasting sectors ranked third in the FDI share by sector, behind the manufacturing industries sector (Figure 2.6). Increased FDI not only represents greater confidence in the governance of the market, but also an important channel for meeting policy objectives, such as stronger competitors and increased investment to expand and improve networks. It is noteworthy that the two markets that have attracted the most FDI – mobile and satellite services (pay TV) – are also the ones that have experienced the highest increases in subscriptions following market reforms.

**Figure 2.6. Foreign direct investment by sector, Mexico, 2015**

![Bar chart showing foreign direct investment by sector for Mexico in 2015. The manufacturing industries sector is the largest contributor, followed by broadcasting and telecommunications, financial services and insurance, wholesale trade, construction, and other sectors.]

*Note:* For comparative purposes, the Broadcasting and Telecommunications sectors were kept separate from the Massive Media Information sector, as per the North American Industry Classification System. These are preliminary figures and may therefore vary from information published subsequently by the IFT.


**Developments in telecommunication**

**Market performance**

The Mexican telecommunication sector has undergone significant changes and developments in terms of investments, number of subscriptions, quality of service (QoS), innovation in the form of new services and industry composition, and has seen changes in market structures and shares, although at different levels across telecommunication services.

As with FDI, investments in the telecommunication sector have risen since the reform (Figure 2.7). In 2013, telecommunication investment per capita was USD 12.33, which was lower than the OECD average of USD 15.13. This number rose to USD 16.28 by the end of 2015, slightly higher than the OECD average of USD 15.81, but well below that of
the Netherlands, which was the leading OECD country with USD 53.28 per capita at the end of 2015. While progress has been made since the reform, it will be important to foster further investments. Red Compartida, which has already attracted additional FDI, is expected to spur investments in the mobile market with the deployment of a shared wholesale network and a coverage target of 92.2% of the Mexican population by January 2024. In light of increased convergence, it will be equally important to foster investments in the fixed telecommunication markets in order to bring fibre closer to customers, irrespective of whether the final connections are fixed or wireless.

![Figure 2.7. Telecommunication investment per capita in OECD countries](image)

In terms of access, the most substantial changes in the telecommunication market have been the increase in mobile subscriptions, and particularly the transition to mobile broadband. Between 2011 and 2016, the penetration rate for (all) mobile subscriptions went from 81.8 to 91.4 per 100 inhabitants (Figure 2.8B), which equals an additional 17 million subscriptions. Over the same time, the number of mobile broadband subscriptions went from 12.4 to 60.9 per 100 inhabitants, which is a total growth of just less than 390% (Figure 2.8D). The majority of Mexico’s mobile broadband is made up of voice and data subscriptions (around 99% of subscriptions), with very few data-only plans.

Average data use has increased as a consequence of higher mobile broadband penetration and lower prices. Between 2015 and 2016, the average mobile data use per mobile subscription increased from 388 MB to 740 MB at a growth rate of 91%. The higher usage reflects business users and consumers making greater use of their mobile services in their daily activities and lives.

Fixed telephony subscriptions have slightly decreased, which is a trend that can be observed across the OECD, as some users replace traditional voice services with mobile telephony. In 2016, fixed telephony penetration in Mexico was 16 per 100 inhabitants, compared to 17.3 in 2011 (Figure 2.8A). Fixed broadband subscriptions raised from 10.6 subscriptions per 100 inhabitants to 13.3 in 2016 (Figure 2.8C). Despite the increase of 32% in the number of fixed broadband subscriptions since 2011, Mexico had the lowest penetration among OECD countries in December 2016. That being said, the growth rate from 2013 to 2016 of fixed broadband penetration in the three years following the
reforms is easily double that of the OECD (26% for Mexico and only 10% for the OECD). This marks a positive trend towards closing the gap with other OECD countries in terms of penetration. In addition, as in other countries, fixed telephony services are being incorporated into broadband bundles.

Figure 2.8. Fixed and mobile subscriptions in Mexico

A. Fixed telephone lines per 100 inhabitants

B. Mobile subscriptions per 100 inhabitants

C. Fixed broadband subscriptions per 100 inhabitants

D. Mobile broadband subscriptions per 100 inhabitants

Note: The fixed broadband figures for Mexico are the number of connections as the technology disaggregation is not available for subscriptions, which by definition refers to contracts between operators and customers.

Sources: Calculations based on OECD (2017b), OECD Broadband Portal (database), www.oecd.org/sti/broadband/oecdbroadbandportal.htm (accessed July 2017); and unpublished material provided by the IFT.

Fibre connections in total fixed broadband subscriptions rose from 3.8% to 16.1% between 2012 and 2016 (Figure 2.9A), growth which is significantly higher than the OECD average growth rate: in 2016, Mexico had the third-highest growth rate (from December 2015 to December 2016) across the OECD (Figure 2.9B), of 73%. Despite this progress, Mexico still lags far behind the OECD average (14.5% in 2012 and 21.2% in 2016) and needs to make further progress in overall fibre connections.

The geographical locations where fibre has been deployed and where there is infrastructure competition remain limited. Some cable networks have not been upgraded to compete in the provision of Internet access. These cable networks seemingly reflect more a consolidation of the pay TV market rather than a strategy to compete for Internet access.
Figure 2.9. Fibre connections in Mexico compared to the OECD average

A. Fibre as a percentage of total fixed broadband subscriptions

B. Indexed growth of fibre subscriptions

Notes: Fibre subscriptions data include fibre to the home (FTTH), fibre to the premises (FTTP) and fibre to the building (FTTB), and excludes fibre to the curb (FTTC). The fixed broadband figures for Mexico are the number of connections as the technology disaggregation is not available for subscriptions, which by definition refers to contracts between operators and customers.


In addition, the delay between the first reference offer for local-loop unbundling in the fixed broadband market and a subsequently improved offer by the end of 2016 means that the market did not receive a boost from the commencement of local-loop unbundling, as occurred in other OECD countries that lacked sufficient alternative infrastructure competition. This contributes to the low rate of fixed broadband subscriptions in Mexico compared to other OECD countries.

A key indicator in relation to fixed and mobile broadband is the increased quality associated with higher speeds. For fixed broadband access networks, Akamai, a major content distribution network, provides indicators for speeds available in all OECD countries. For Mexico, Akamai’s data reveal an increase in average peak speeds from 11.5 Megabytes per second (Mbps) in the last quarter of 2011 to 35.2 Mbps in the second quarter of 2016 (Akamai, 2017). While average peak speeds were below those of other regional peers such as Brazil (12.11 Mbps) and Colombia (12.13 Mbps) in 2011, Mexico caught up and reached higher speeds than both countries by the second quarter of 2016 (Brazil: 33.7 Mbps, Colombia: 23.5 Mbps) (Akamai, 2017).

Meanwhile, Mexico’s average connection speeds have tripled, from 2.4 Mbps at the end of 2011 to 7.4 Mbps in the second quarter of 2016 (Figure 2.10A). This compares to an OECD average of 13.6 Mbps for the second quarter of 2016. Despite substantial improvement, Mexico’s goal of attaining the average OECD speed in the fixed broadband market will require further progress as other OECD countries are rapidly progressing.

Internet speeds can reflect many factors and represent the perspective of the network that undertakes the measurement. For example, since 2012, Netflix has provided time series on its experience delivering services during prime-time periods in Mexico (Figure 2.10B). Over this time, speeds have increased for all broadband access networks and Netflix breaks down these data by company and network technology (i.e. FTTH, cable, fixed wireless or a combination of these). Between 2012 and 2016, the three fastest networks increased their speeds from 1.78 Mbps, 1.91 Mbps and 1.95 Mbps to 3.17 Mbps,
3.36 Mbps and 3.9 Mbps respectively (Netflix, 2016). Over that same period, the number of Internet service providers (ISPs) tracked by Netflix grew from five in 2012 to ten at the end of 2016. As might be expected, the three fastest networks are Totalplay, Axtel Xtremo and Izzi, which are FTTH, followed by networks that use a mix of both fibre and cable (or just cable), then digital subscriber line (DSL) and finally fixed wireless.

Aside from improving the QoS, such as access speeds, the Mexican telecommunication market is also benefiting from increased innovation. Some of this has come from operators upgrading their networks, such as investment in 4G networks, enabling a new range of services to be offered. That being said, time to market for new developments is notably shorter. Though this may sometimes be challenging to quantify, examples can be given. In the case of Long-term Evolution for Machines (LTE-M), a mobile service aimed at machine-to-machine (M2M) communication, at least one provider expects to have its entire network upgraded by the close of 2017. This is roughly less than a year since the first such network was launched in an OECD country, and ahead of many. At the same time, Mexico was one of the first countries to experience mobile “roam like at home” offers, which is still the exception rather than the rule in many countries. Moreover, a critical thread that links both these developments is their ability to stimulate further innovation in international communication services, with all the associated benefits for trade and travel. The Red Compartida is a further major development in Mexico and, in many ways, a first among OECD countries. While there are many structurally separate wholesale and retail providers, be it through regulatory or voluntary approaches in the fixed telecommunication market, the Red Compartida will be the first purely wholesale mobile network in the OECD.

**Usage indicators**

Between 2013 and 2016, the number of individuals accessing the Internet in Mexico increased by 20 million people (Figure 2.11A), driven in large part by the increased use of mobile devices with Internet access (Figure 2.11B). The influence in people’s daily lives is also evident. Whereas just over 2 million people made online transactions
in 2014, this number has begun to rapidly accelerate, reaching around 10 million by 2016 (Figure 2.11C). The most used areas for transactions include e-shopping and banking services as well as household spending, e-government and e-learning (Figure 2.11D). In many ways, all of these services are nascent; however, they signal the potential stemming from the reform as suppliers begin to respond to the growing demand and more users gain the skills to access services.

Figure 2.11. Internet users and usage in Mexico

A. Total Internet users

B. Individual Internet users per type of equipment

C. Internet users doing online transactions (purchases and/or payments)

D. Internet usage by type of online service


Some key indicators for assessing progress both on supply and demand policies are the penetration of Internet access by households; the availability of computers in households; the take-up and use of devices such as smartphones; and the use of Wi-Fi and access to the Internet across different geographical regions. In terms of Internet access, including narrow band and broadband, fixed and mobile, the number of Mexican households reporting that they had some type of access to the Internet rose from 7 million in 2011 to 15.7 million in 2016 (Figure 2.12A). This represented an increase from 23% of households reporting access to 47% of the total number of households. This is a remarkable achievement with the pace accelerating post-reform.
The types of devices Mexican households use to access the Internet are also changing. In 2011, 9 million households, or 30% of the total, had a computer (Figure 2.12B). By 2016, this had increased to 15.2 million households, the equivalent of 45.6% of total households. While this number experienced a surge following the reform, it levelled out between 2015 and 2016, and when looking at the individual use, the number of people using a computer decreased by 4.3%. By way of contrast, however, the level of smartphone ownership experienced a surge in 2016.

Figure 2.12. Households with access to Internet, computers and mobile phone equipment in Mexico

A. Households with access to the Internet, 2011-16

B. Households with a computer, 2011-16

C. Mobile phone ownership


Between 2015 and 2016, the number of smartphones in Mexico increased from 50.6 million to 60.6 million (Figure 2.12C). This means that roughly three in four mobile users had a smartphone. The increase in the use of smartphones owes a great deal to the increased competition in the mobile broadband market. More people can afford for the first time a service that provides them with Internet access, which is reflected in the increased take-up and use of smartphones. In addition, the ability of some users to use Wi-Fi without a subscription also allows some to access the Internet with a smartphone or other device. Indeed, in 2016, 10.4 million people with a smartphone solely used it with Wi-Fi.
Despite remarkable progress, the distribution of household access to the Internet is very uneven across Mexico. From a high of over 70% of households with access, this falls to below 30% in some Mexican states (Figure 2.13). These differences underline the need for policies that promote competition to expand commercial services to the maximum extent possible while leveraging programmes such as the Red Compartida to both assist in developing competition and to address challenges in underserved areas.

![Figure 2.13. Percentage of households with Internet access, by state, Mexico](image)

**Market participants**

The composition of the telecommunication sector has changed over the past five years, most notably in the mobile communication market with the entry of AT&T and of several mobile virtual network operators (MVNOs) providing mobile telephony and mobile broadband. The number and type of MVNOs is expected to further increase once the Red Compartida is operational, including in areas such as M2M and for the Internet of Things.

AT&T has entered the Mexican mobile market through the acquisition of Iusacell and Nextel. Iusacell operated both the Iusacell and Unefon brand names and was jointly owned by the Televisa Group and Grupo Salinas. The Televisa Group sold its ownership to Grupo Salinas, who then sold the company to AT&T for USD 2.5 billion in January 2015. Later that year AT&T closed a deal to acquire Nextel from the bankrupt NII Holdings for USD 1.875 billion, minus approximately USD 427 million of the company’s existing debt. AT&T has combined the two companies and plans to expand the existing networks for greater national coverage and to challenge the existing players in the mobile market. The company cited Mexico’s 2013 reform to encourage competition and foreign investment as a key determinant in the company’s decision to expand into Mexico (AT&T, 2014).

The other major change in the mobile market is the entrance of MVNOs over the past few years. Large players include Flash Mobile, Maz Tiempo, Qbo Cel, Cierto (Teligenia), Virgin Mobile and Weex, all of whom operate using Telefónica’s Movistar network. Maxcom and Megatel recently entered the market and use Telcel’s network. The entry of MVNOs not only allows for more competition and gives customers more choice, it is also a vehicle for service plan innovation in the market. Weex, for example, gives prepaid customers greater flexibility to create their own “plans” according to how much they are...
willing to spend. This type of choice can be extremely useful for low-income users. Such changes, alongside lower prices and new services such as mobile money transfer, assist in meeting the goal to increase access to and use of communication services as a tool to address inequalities.

In Mexico, the largest player in the telecommunication market is América Móvil. It is made up of Telcel, a mobile telephony and mobile broadband provider, and two fixed telephony and broadband providers, which together constitute the only fixed network with national coverage. The company is owned by Grupo Carso, with the Slim family being the main shareholder. Given their ownership ties, for the purposes of the following analysis of market shares, it is grouped together. In other areas of América Móvil’s activities in recent years, the company divested some of its businesses through the spin-off of Telesites into a new business unit. The Slim family holds 61% of Telesites’ capital stock, making them effectively the principal shareholders. Regarding the preponderance resolution (see Chapter 3), a number of measures are applicable to Telesites, which include, but are not limited to, infrastructure sharing. Opsimex is a subsidiary of Telesites, therefore the company must uphold the IFT’s preponderant resolution of infrastructure sharing. A more complete overview of the current market players is given in Table 2.1.

A further important entrant into the mobile market is the Indigenous Communities Telecommunications (Telecomunicaciones Indígenas Comunitarias, TIC), which was granted concessions by the IFT to connect indigenous groups, many of whom live in sparsely populated areas. The TIC has been empowered by this regulatory change and been able to provide telephony to some previously unserved or underserved areas. For example, a village that may have had no connection or only a payphone can now offer a 2G mobile telephony service at a lower price than a payphone and untimed local calls, with all the concomitant social and economic benefits.

In the fixed market, Alestra and Axtel merged together under the name of Axtel at the end of 2015. The combined company offers fixed telephony, fixed broadband and pay TV, including through FTTH. The merged company serves the consumer market through its Axtel side, while Alestra focuses on the corporate and government market. Totalplay, which positions itself in the premium segment relying on fibre infrastructure and providing FTTH access, invested USD 400 million for the expansion and improvement of its fibre infrastructure in 2015-16 (Prensario Internacional, 2016). Another important development in the fixed telecommunication market is the acquisition of several cable companies by the Televisa Group. Acquisitions of Cablecom, Cablevisión, Telecable and the remaining 50% of Televisión Internacional have been undertaken by the Televisa Group since 2013. These acquisitions were facilitated through Transitory Article 9 of the LFTR, which did not require the authorisation of the IFT for market concentration, rather only a post-merger notification, as well as an impact analysis at the sectoral level – not at the level of relevant markets – and compliance with certain conditions at the sectoral level, all conditions rather easy to fulfil as long as there is a preponderant agent in the sector.
### Table 2.1. Overview of key market participants

<table>
<thead>
<tr>
<th>Company name</th>
<th>Ownership</th>
<th>Telecommunication services</th>
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</thead>
<tbody>
<tr>
<td><strong>Mobile network operators (MNOs)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>América Móvil (Telmex, Telcel, Teléfonos del Noroeste or “Telnor”)</td>
<td>Owned by: Grupo Carso</td>
<td>Fixed telephony; fixed-wired broadband; mobile telephony; mobile broadband; dedicated links</td>
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<tr>
<td>AT&amp;T Mexico (Unefon and Iusacell “GSF Telecom”, Nextel Mexico)</td>
<td>Owned by: Publicly traded, stockholders with &gt; 5% of outstanding common stock: BlackRock Inc. (5.5%); Vanguard Group (5.83%)</td>
<td>Mobile telephony; mobile broadband</td>
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<tr>
<td>Axtel</td>
<td>Owned by: Alfa (51%); existing Axtel shareholders (49%)</td>
<td>Fixed telephony; fixed-wired broadband; pay TV; dedicated links</td>
</tr>
<tr>
<td>Dish Mexico</td>
<td>Owned by: MVS Comunicaciones (51%); EchoStar Corporation (49%)</td>
<td>Pay TV</td>
</tr>
<tr>
<td>Megacable Group (Megacable, MCM)</td>
<td>Owned by: Mazon family through trust managed by Nacional Financiera S.N.C. Institución de Banca de Desarrollo (99%)</td>
<td>Fixed telephony; fixed-wired broadband; pay TV; dedicated links</td>
</tr>
<tr>
<td>Televisa Group (Bestphone, Cablecom, Cablemás, Cablevisión Red, Sky, TVI)</td>
<td>Owned: Bestphone (subsidiary of Bestel) (100%); Cablecom (100%, acquisition in 2014); Cablemás (100%, acquisition in 2011); Empresas Cablevisión (51%); Sky (58.7%); Telecable (“Cablevisión Red”) (100%, acquisition in 2015); TV Internacional (TVI) (100%, acquisitions in 2006 and 2016)</td>
<td>Fixed telephony; fixed-wired broadband; pay TV</td>
</tr>
<tr>
<td>Indigenous Communities Telecommunications (Telecomunicaciones Indígenas Comunitarias, TIC)¹</td>
<td>Owned by: 16 local community non-profits</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Telefónica (Grupo de Telecomunicaciones Mexicanas, Movistar)</td>
<td>Owned by: Grupo Telefónica</td>
<td>Fixed telephony; mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Totalplay</td>
<td>Owned by: Grupo Salinas</td>
<td>Fixed telephony; fixed-wired broadband; pay TV; dedicated links through its subsidiary Enlace TPE</td>
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<tr>
<td><strong>Mobile virtual network operators (MVNOs)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maxcom³</td>
<td>Owned by: Maxcom Telecomunicaciones S.A.B. de C.V.</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Qbo Cel²</td>
<td>Owned by: Canaliza Software S.L. (100%)</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Teligentia (Cierito)²</td>
<td>Owned by: Teligentia</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Virgin Mobile Latin America²</td>
<td>Owned by: Privately held; in partnership with Virgin Group; key investors: Temasek Holding, IFC and CAMIF</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Virgin Mobile Latin America²</td>
<td>Key investors: Coca-Cola; Antoni Lelo de Larrea Venture Partner</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Flash Mobile²</td>
<td>Owned by: Logística ACN México, S. de R.L. de C.V.</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
<tr>
<td>Megateli³</td>
<td>Owned by: Quickly Phone S.A. de C.V.</td>
<td>Mobile telephony; mobile broadband</td>
</tr>
</tbody>
</table>

¹. Granted two concessions from the Federal Telecommunications Institute to connect indigenous groups.

². Operating on the Telefónica-Movistar mobile network.

³. Operating on Telcel’s network.

Source: Company data.
Competition

Aside from pricing, which was discussed earlier in this chapter, changes in market shares are a further indicator of the level of competition in the market. When the first OECD review was undertaken in 2012, both fixed and mobile markets were dominated by one large company owned by the same group. Since the reform, the concentration in the fixed and mobile markets has been reduced to a certain extent, although at a different pace across different markets. The biggest changes can be observed in the mobile broadband market.

In fixed telephony, Telmex-Telnor, América Móvil’s branch operating in this market, held 69.1% of the market in 2012, which had decreased to 63.2% in 2016 (Figure 2.14). Over the same period, the Televisa Group increased its market share from 8.9% to 16.1% as did Megacable, who saw a rise in its share from 3.4% to 7.2%. Telefónica, Axtel and some other small players had incremental decreases in market share over the five-year period with the exception of Totalplay. This should, however, be taken in the context that the size of the market itself decreased from 20.6 million fixed telephony subscriptions in 2012 to 19.6 million subscriptions in 2016. The lower change in the market share since 2012 for this service compared to others may reflect less competition in the geographical areas only served by the historical telecommunication network, with less choice for users from alternative networks, or the fact that unbundling or access to other essential inputs are only nascent.

Figure 2.14. Fixed telephony market shares, Mexico

Since the reform was introduced in Mexico, Telmex-Telnor’s market share of 67.1% of the fixed broadband market in 2012 fell to 57.5% in 2016 (Figure 2.15). Megacable and the Televisa Group both increased their market shares, from 6.4% and 10% to 13.3% and 21.5% respectively. Totalplay garnered a 3.5% market share from 2013 to 2016. Axtel and other smaller players collectively lost market shares over the period, while the market itself grew significantly by 23%, from 13 million to 16 million fixed broadband subscriptions. Some of the shift in market shares reflects the increased quality of new offerings in the market that are based on faster fibre connections as well as an increasing amount of bundled offers. Once local-loop unbundling is in effective operation, further changes in the composition of market shares can be expected, especially in areas where

there is insufficient alternative network provision. The real benefit of unbundling, however, will be for the competitive stimulus it supplies to further expand take-up in areas that currently only have a single provider.

![Fixed broadband market shares, Mexico](image)


Telcel, América Móvil’s branch operating in the mobile telephony market, held 69.9% of the market in 2012. This share fell slightly, to 64.9%, in 2016 (Figure 2.16). Telefónica saw an increase from 19% to 23.3% over the same period. A number of MVNOs entered the market between 2014 and 2016, including Virgin Mobile, QboCel, Weex, Maz Tiempo, Flash Mobile, Megatel, Teligentia (Cierto) and Maxcom. Virgin Mobile is the largest of the group, with an increase from 0.1% to 0.75% of the market since its entry in 2014. In total, the MVNOs’ market share increased from 0.14% in 2014 to 1.1% in 2016. Iusacell, Unefon and Nextel held collectively 11.2% of the market share in 2012; AT&T acquired the three brands in 2014-15 under the AT&T Mexico name. In 2016, AT&T Mexico claimed 10.7% of the market, up from 8.1% the year before.

While the changes to the overall mobile market shares have been modest to date, the same cannot be said for mobile broadband, which has witnessed the largest shifts in market shares and has been a dramatically growing market since the reform. The number of subscriptions over the four-year period since the reform has almost tripled, from 24.5 million to 74.5 million mobile broadband subscriptions (Figure 2.17). In other words, from 2012 to 2016, over 50 million new subscribers were connected to the mobile Internet, with many exercising their new choice from more competitive providers.

Since the reform, AT&T, through its acquisition of Grupo Iusacell and Nextel, entered the market along with several MVNOs. Telcel still had the largest market share in both 2012 and 2016, but it dropped by 12%, from 83.8% to 71.8%, over that period (Figure 2.17). Telefónica almost doubled its market share, from 8.8% to 14.2% over the same period, maintaining the second-largest market share in both instances. In 2012,
Grupo Iusacell and Nextel combined had a market share of 7.4%; AT&T closed deals to acquire the two companies in 2015, and posted a market share in the mobile broadband market of 12.4% a year later (Figure 2.17).

Figure 2.16. Mobile telephony market shares, Mexico


The MVNOs listed for the mobile telephony market all operate in the mobile broadband market as well. The MVNO Maxcom was the first operator to introduce a quadruple-play bundle in Mexico (IFT, 2017b). Virgin Mobile is the largest MVNO, with 1.1% of the market. Total market share combined from all MVNOs went from 0.08% in 2014 with only two MVNO operators to 1.6% in 2016 with eight MVNO operators. As for the mobile telephony market, driving factors have certainly been the sharp decline in prices, which made mobile broadband services more affordable to a larger part of the population, as well as an increased number of competitors in the market.

Figure 2.17. Mobile broadband market shares, Mexico

Another important factor and underlying condition for the growth of the mobile market is the availability of spectrum. Since its creation as the new independent regulator, a major objective of the IFT has been to increase the amount of spectrum as well as the efficiency of the existing available spectrum to allow mobile operators to improve the connectivity in the country and foster the introduction of new services.

Before the reform, the spectrum that was available for operators amounted to a total of 222 MHz, the majority of which was in the 1900 MHz Personal Communications Service (PCS) band, followed by 60 MHz in the Advanced Wireless Service (AWS) band (1.7/2.1 Gigahertz [GHz]). Since the reform was introduced, the IFT has put out a spectrum auction for the AWS band. Out of the 80 MHz offered during the auction, 70 MHz of the AWS band were allocated, doubling the availability of spectrum in this band for operators (Figure 2.18). Furthermore, by the end of April 2017, the IFT Board approved a transaction by which América Móvil acquired a subsidiary of MVS, which held 60 MHz of the 2.5 MHz band and were unused.

A further increase of available spectrum is planned for the near future. The Mexican government made 90 MHz of continuous spectrum available for the shared wholesale network, the Red Compartida, in the 700 MHz band, which is especially suited to extend coverage in rural areas. This spectrum was freed from the transition to DTT. The first operations of the network are scheduled to start at the end of March 2018 at the latest. In addition, the IFT is planning a spectrum auction of 130 MHz in the 2.5 GHz band in 2017, which is well suited for the deployment of LTE services. The bidding process, planned for 2016, was delayed to enable the participation of the winning bidder of the Red Compartida, as this spectrum is well suited to complement the spectrum in the 700 MHz band. Finally, the IFT has initiated actions to refarm and reband the 800 MHz band with the aim of increasing available spectrum in this band.

Figure 2.18. Developments in spectrum availability in Mexico

Source: Author’s calculations based on unpublished material provided by the IFT.

Developments in broadcasting and pay TV

Market performance

Free-to-air (FTA) television remains the video medium with the most substantial reach in Mexico. In 2016, some 93% of households had a television set (INEGI, 2017a). This penetration rate is consistent with regional averages: 94% in Latin America and 98%
in North America. The high reach of FTA in a country that had lower penetration rates for other communication services was one of the reasons why the 2012 OECD review highlighted the necessity to increase the choice made available from the then commercial national duopoly. The launch of a third commercial FTA provider with a national licence in the latter part of 2016 commenced that process and has expanded viewer choice. Multiprogramming is also now available for the FTA market, providing a more efficient way to use spectrum, and enabling FTA operators to diversify their business models without having to acquire new spectrum. This is especially noteworthy for those people that do not have access to a wide range of alternative sources of information and video entertainment.

The time devoted by Mexicans to viewing different video media, however, is rapidly changing. Between 2013 and 2016, the take-up of subscriptions for pay TV service increased from 47% to 61% of households (Figure 2.19A). In 2016, pay TV subscriptions were split between 56% for satellite television subscriptions and 44% for cable networks (Figure 2.19B). Disparities across regions, however, remain. In 2016, while 83% of households in Quintana Roo stated having pay TV services, only 34% in Chiapas did. Mexico City comes in eighth position at 74% of households with a pay TV subscription, i.e. 13% above the national average (Figure 2.19C).

Figure 2.19. Pay TV penetration and subscriptions in Mexico
A. Pay TV penetration rate
B. Pay TV subscriptions by technology, 2016
C. Pay TV penetration by state, 2016

Leading up to the reform, pay TV struggled to gain the attention of viewers. Between 2005 and 2011, pay TV’s share of airtime viewed increased from just 12% to 19%. Between 2012 and 2016, however, the share shifted from 24% to 41%, with the largest gains of audience made in 2015 and 2016. As a consequence, FTA’s share of viewers’ attention declined from over 80% to less than 60% (Figure 2.20).

Figure 2.20. Pay TV and free-to-air broadcast market shares in Mexico


After many years of slow growth, the surge in pay TV take-up is undoubtedly associated with several interrelated factors. The existence of a clear unmet demand for choice of video services and the changing market conditions around the reform have prompted different players to increase the attractiveness of their offers or to launch new services and bundles. However, on average, prices have not followed the decline seen in other “telecommunication services”.

The consumer price index for pay TV services increased from 100 points in 2010 to 107 points in 2016. From 2013 to 2016, prices for these services increased by 5%, up 3.2% in 2016 alone (Figure 2.21). The falling value of the Mexican peso may have contributed to this price increase, through an appreciation of the cost of foreign programming, although all telecommunication markets faced this devaluation and did not transfer (all) the increase in costs to end users. If the exchange rate explains the increase in costs to acquire and produce content, the “part” of that increase that is transferred to prices for final users depends on market competition conditions and demand responsiveness. In this respect, the pay TV market has experienced substantial consolidation of ownership in recent years. In some geographical locations, especially with limited broadband access and the greater choice it provides, this has likely reduced competition.

Along with subscribers and prices, the revenues of pay TV operators have also continued to increase, reaching MXN 85 billion in 2016 (Figure 2.22A). From 2013 to 2014, investments in infrastructure and intangibles by these players grew by 18%, from 2014 to 2015 by 27%, and from 2015 to 2016 by 7%. In 2016, these investments represented 24.7% of pay TV operators’ revenue and 4.6% of total telecommunication revenue (Figure 2.22B).
While pay TV is rapidly growing, the commercial FTA market is feeling the effects of changing demand and the loss of its nationwide duopoly status. The DTT transition, completed in December 2016, has enabled the entry of new market players. Some also suggest that the lower quality of FTA broadcasting during the simulcast period of DTT could have benefited pay TV operators (IFT, ITAM and CEC, 2016), although this is challenging to assess given the many concomitant changes in the industry.

Certainly, the analogue to digital transition has affected the way in which people consume video services. Since 2011, when some 83% of Mexican households had an analogue set as their primary television, the share of households with a digital television set dramatically increased, from 16% in 2011 to 68% in 2016 (INEGI, 2017a).
is also reflected in data for households with a pay TV subscription. The proportion of households owning only an analogue device while having pay TV decreased from 75% in 2009 to 36% in 2015. In contrast, the proportion of households with pay TV services and owning a digital TV set almost tripled from 2009 to 2016, from 25% to 72% (Figure 2.23).

Figure 2.23. Share of households with pay TV, by type of television set, Mexico

![Chart showing the share of households with pay TV, by type of television set, Mexico]

Note: Between 2009 and 2014, the data are based on INEGI (2014). Data for 2015 and 2016 are from INEGI (2017a).


The changes in Mexican’s viewing habits are reflected in advertising revenue. FTA advertising revenues, for both the Televisa Group and Azteca, fell 10% in 2015 (Castano, 2016). Although they rebounded in 2016, this can be set against a longer term trend of declining market share as Mexican FTA revenues historically had the highest share of the overall advertising market in the OECD. Some have attributed this in part to a preference in Mexico for broadcasting over print media (such as newspapers and magazines), which may have enabled the two commercial FTA players to extract higher rents (Noam and the International Media Concentration Collaboration, 2015).

FTA broadcasters are facing challenges in all OECD countries, as people shift consumption away from traditional linear television to on-demand services. This is most conspicuous in countries with the highest broadband penetration, faster speeds, and generous data allowances or unlimited services. As broadband access increases in Mexico, the expectation is that more people will take-up pay TV and so-called over-the-top (OTT) services, as illustrated by recent changes in consumption patterns in the country (IFT, 2017b). Increased access to broadband at higher speeds, whether fixed or mobile, can assist in meeting this demand and provide increased choice to viewers of video services.

For the moment, however, the still-pervasive nature of FTA and the increasing take-up of pay TV mean that they will remain the media with the most influence among Mexican audiences. This recognises current consumption time (an average of 4 hours 10 minutes per day of FTA and 3 hours 47 minutes per day of pay TV in comparison to.
1 hour 20 minutes per day of digital media), as well as coverage, marketing efficiency and ability to create brand loyalty (Ernst & Young, 2015).

Market players

Free-to-air television

Leading up to the communication reform, the Mexican national commercial FTA market was characterised by a duopoly with one of the two parties having the “lion’s share”. The duopoly market structure had existed for more than two decades (Box 2.1). Between the Televisa Group’s Channel 2, with the largest network producing a combination of telenovelas, sports and news; TV Azteca’s Channels 13 and 7 (the latter showing many imported foreign dramas and children’s television, the former telenovelas); and the Televisa Group’s Channels 5 and 9, the split in advertising revenues has been roughly 70/30 in the Televisa Group’s favour.

Box 2.1. The origin of the Mexican free-to-air commercial duopoly

Mexican free-to-air (FTA) television began broadcasting in 1950 when Channels 2 and 4 were granted broadcasting licences by presidential decree, followed by a third license for Channel 5 in 1952 (Sinclair, 1986). By 1955, however, the three channels merged into Telesistema Mexicano (TSM). Ten years later, in 1965, a new licence was granted to the Monterrey Group, who created Channel 8 under Televisión Independiente de Mexico (TIM). In 1969, TSM was granted a licence for cable subsidiary Cablevisión. Despite the introduction of new licenses, the broadcasting sector again witnessed new concentration when in 1972 the Television Via Satellite (Televisa), covering the totality of the country, was created by the merger of TSM and TIM, who shared a 75% to 25% ownership, until 1982, when TSM bought out the Monterrey Group (Sánchez Ruiz, 1991).

Since 1972, the Televisa Group has dominated the FTA market in Mexico, with a continuing 60% to 70% market share and the most popular national channels (OECD, 2012). The Televisa Group’s Channel 2 (branded Las Estrellas, since 2017; formerly, Canal de las Estrellas) has been the most popular channel for over 60 years. The only competitor to the Televisa Group, which has maintained 20% to 30% of the FTA market for many years, has been TV Azteca with its Channels 13 and 7, although now its share has dropped below 20%. TV Azteca was founded with the privatisation in 1993 of Channel 13, which after being expropriated for bankruptcy by the federal government in 1972, had been broadcast nationally as a public channel, along with Channel 7, by Televisión Rural Mexicana (Mexican Rural Television) and then the Instituto Mexicano de la Televisión or Imévisión (Toussaint Alcaráz, 2009; Sánchez Ruiz, 2009).


As might be expected with an FTA duopoly, this was a highly profitable market for the two companies. In addition, there were not any licences or spectrum fees for many years. Rather, from 1968 onwards, by presidential decree, a 12.5% ratio of programming time was to be made available for use by the government (i.e. 180 minutes/day). As a
result there was little incentive for reform, which could have led to greater plurality and a strengthening of the democratic role played by FTA television. That being said, in 2002, the official requirements for government time were reduced to 48 minutes/day for FTA and 65 minutes/day for radio (private concessionaries), and 30 minutes/day for public or social concessionaries (SEGOB, 2002). During elections some of the time is allocated to the different political parties but is otherwise available for the sole use by the government of the day.

Public free-to-air broadcasters

The largest national public FTA networks – that is, those of the Public Broadcasting System (Sistema Público de Radiodifusión, SPR) and Canal Once – have relatively low audience shares compared to commercial players. The most successful in terms of audience is Canal Once, run by the Politécnico Nacional since 1959, with 9% of the audience (IFT, 2016a). Additionally, there are 23 state broadcasting networks which operate under a private licence and 2 other public television channels that operate on pay TV platforms, Canal Judicial and @prende TV. As in many countries, public broadcasters face challenges in increasing their audience share due to the limited resources available to meet demand (e.g. expenditure on infrastructure deployment, operational budgets, employees and content production). In Mexico, they are not permitted, as in some countries, to offer advertising, or as in others to be funded through a television license model. However, they are permitted to obtain revenues by selling their own productions and from offering services. They can also be sponsored. Their annual budgets are set by the Congress, dependent on either state or municipal governments if not exclusively under the federal budget, and therefore compete for available public revenue. For a sense of scale, Canal Once has an annual budget of about USD 100 million, while the federal government itself spends USD 400 million for advertising on commercial broadcasters, which is in addition to the mandated time available to it (Brambila, 2016).

Given their limited resources compared to commercial players, the 9% audience share indicates relatively strong demand for the service offered by some FTA public broadcasters. The third national commercial network owned by successful bidder Imagen TV (Channel 3) started operations in October 2016. To the extent that the public broadcasters are meeting demand unmet by commercial players, they may be less susceptible to audience fragmentation for linear television. On the other hand, to the degree they face the same increased competition for audience attention, they may have less flexibility to adapt than the commercial players. The FTA audience share, for both commercial and public broadcasters, is expected to decrease in audience share as the use of pay TV and digital media grow.

Pay TV

The largest national pay TV operator in Mexico is Sky Mexico. Sky was launched in 1996 as a Ku-band direct-to-home satellite service, originally as a joint venture between the Televisa Group, Liberty Media, News Corporation and the UK direct-to-home operator BskyB. The Televisa Group remains the majority stakeholder with 58.7% and DirecTV (a subsidiary of AT&T) holds the other 41.3% (Sky, 2017). AT&T acquired its stakes in Sky Mexico as a result of a merger carried out in the United States with effects in Mexico, by which AT&T acquired DirecTV. This concentration was authorised in Mexico by the IFT in November 2014, subject to compliance with some conditions. In Mexico, DirecTV and Sky were competitors from 1996 to 2004 but after the entities merged in 2005, only Sky subsisted. Sky faces satellite service competition from Dish, launched in December 2008, and owned 51% by MVS Communications and 49% by the US investor Echostar. Telmex
and Dish signed a series of contracts by which Telmex participated in sales and distribution activities for Dish. In January 2015, the IFT ruled that a series of contracts between the two parties in 2008 constituted a merger and should have been notified. While this was not deemed to be anticompetitive, the IFT imposed a fine of USD 4.6 million for the merger not being notified and for the provision of false information to the authority. To this day, the IFT has yet to rule if Telmex benefited from the must-offer condition by its merger with Dish.

Apart from Sky, Dish and Megacable, the other actors in the Mexican pay TV market are Cablemás, Cablevisión, Televisión Internacional, Cablevisión Red and Cablecom – all subsidiaries of the Televisa Group, in addition to the new network operators Totalplay and Axtel, which started operation in 2013, and the new satellite entrant StarTV, which started operations in 2016. The remaining portion of the market is split among several small cable systems, some of which emerged historically in locations where FTA could not be received via aerial signals.

As noted, pay TV was relatively underdeveloped in Mexico, even after Dish entered the market in 2008. While the initial competition between Sky and Dish brought down prices for satellites and for some of the areas with cable network coverage, albeit tempered by cable network consolidation, the largest increases in subscription growth have occurred since 2012, coinciding with the reform and its anticipation by different players. In those markets where there is greater competition, such as Mexico City, penetration for households had reached 74% by 2016 while in Chiapas it was 34% (IFT, 2017a).

**Competition**

In October 2016, an important landmark was achieved in the reform of the broadcasting market in Mexico with the launch of a third commercial FTA channel, Imagen TV. As might be expected, it will take time for this player to achieve a wider reach as it builds its own facilities or gains access to existing ones. Competition in the FTA market is expected to be further improved through the awarding of regional broadcasting licences. In addition, further choice can be introduced by increased access to broadband from different pay TV players and OTT services. For the moment, however, the FTA and pay TV markets remain highly concentrated.

The process to introduce new players in the FTA market revealed differences in treatment between new entrants and incumbents. The existing FTA channels were awarded their new spectrum licences without charge. On the other hand, the new third channel paid a fee, following an auction (MXN 1.8 billion). The fourth potential entrant did not proceed, after unsuccessfully endeavouring to raise the necessary capital. Some believe that this player bid too highly for the license (MXN 3.1 billion).

As there are no official data for FTA and commercial sources exclude public broadcasters, a precise analysis of market shares in the sector can be challenging. In 2013, the preponderant decision on the broadcasting sector was based on a commercial estimation of the Televisa Group holding 67% of the FTA ratings (which exclude public broadcasting). In terms of spectrum, in 2016, the Televisa Group held 54.3% of commercial FTA channels, followed by TV Azteca with 39%. In 2017, the estimation is that, as soon the new third national channel finishes deploying its network, it will hold 21% of the commercial FTA channels, lowering the Televisa Group’s share of spectrum to 43% and TV Azteca to 31% (Figure 2.24).
Figure 2.24. **Share of commercial free-to-air channels, by national broadcaster, Mexico**

![Diagram showing share of commercial free-to-air channels by national broadcaster in Mexico for 2016 and 2017.]


For pay TV, the concentration in the market remains elevated. Since 2006, the pay TV market has seen increasing consolidation, with the Televisa Group acquiring the first 50% of Televisión Internacional (2006), then Cablemás (2008), Cablecom (2014), Cablevisión Red (2015) and, lastly, the remaining 50% of Televisión Internacional (2016).

The series of pay TV purchases by the Televisa Group have witnessed its market share increase. In 2010, the Televisa Group had 46% of the market, due to its ownership of Sky, Cablevisión, VDT Comunicaciones, Cablemás and its partial ownership of Televisión Internacional (50%), making further acquisitions in the following years. By 2016, its market share had increased to 61%. Dish follows with 16.7% and Megacable with 14.6% (Figure 2.25).

The consolidation observed is reflected in increasing concentration in the pay TV market and elevated Herfindahl-Hirschman Indexes (HHIs). In 2011, the HHI for pay TV services passed the 3 000 threshold and continued to increase, reaching 4 241 points in 2016 (Figure 2.26).

Although the Televisa Group has come to dominate the pay TV market through acquisitions in recent years, there has been only a slight decline since the reform was introduced in terms of its overall market share. If the Televisa Group is assumed to have controlled the same companies in previous years that it owned as of 2016, then the group would have had the same share in 2016 that it had between 2011 and 2012 (61%) (Figure 2.27). Notably, however, from a peak in 2013, the Televisa Group’s share has declined, from 63.1% to 61% in 2016. This approach to examining changes in market share is a way of assessing the performance over time of several market players, by filtering out acquisitions.

The consolidation of the Mexican pay TV market has been associated with increases in service prices, though as noted, the rising cost of foreign content due to the falling value of the peso is also a factor. The regional nature of some pay TV provision, such as via cable networks, means consumers have fewer choices in those locations without competing providers following consolidation. Wider take-up of broadband, including the use of unbundled local loops or additional entry of competitors in both FTA and pay TV
markets, would improve choice for consumers. In its absence, however, the challenge remains of how to increase plurality and provide greater choice of service providers.

Figure 2.25. Market shares in pay TV, Mexico

1. The Televisa Group acquired full ownership of Cablemás in 2011 (majority ownership was acquired in 2008).
2. The Televisa Group acquired Cablecom in 2014.
4. The Televisa Group acquired majority ownership of Televisión Internacional in 2016 (the initial 50% were acquired by the Televisa Group in 2006). For the 2010-15 market share calculations of the Televisa Group, only 50% of the subscriptions of Televisión Internacional were added; in 2016, market shares of the Televisa Group included the totality of subscriptions from Televisión Internacional.


Figure 2.26. Market concentration in pay TV services, Herfindahl-Hirschman Index, Mexico

Developments in convergence

**Bundled offers**

One of the most important objectives of the reform for the Mexican market has been to expand access and take-up of communication services. The subscription data for mobile services, particularly mobile broadband, have shown gains and, more importantly, the higher speed subscriptions provide access to multiple services (e.g. telephony, Internet access, OTT video).

Household surveys such as those undertaken by INEGI provide indicators of progress in the consumption of a variety of communication services. One such survey covers household use of traditional landline telephony service, Internet access and pay TV, whether taken as a single subscription or in a bundle. These data exclude mobile services to better assess progress in these areas. Between 2015 and 2016, the proportion of households without any of these services declined from 28.9% to 18.6% (Figure 2.28). In addition, the proportion of households taking two or three services also increased. For those with a single subscription, pay TV is the most common, Internet access is increasing and landline (i.e. fixed telecommunication lines) subscriptions falling. When these data are considered against mobile broadband increases they can point to where there is substitution and complementarity. The data can also be broken out such as for households subscribing to two services, either by bundles provided by the same operator or by two stand-alone services by different operators (the largest proportion among these being of households that have a traditional landline telephony connection and also an Internet access subscription, with 8.5%), and for households subscribing to all three fixed services. Overall, the data reflect increased take-up of different communication services and a reduction in the number of households with no service in these categories.
All seven of the largest cable operators offer triple-play services (Figure 2.29). A few offer double play and, although there have been announcements of future offers by Axtel and Megacable, as of June 2017 only one operator, Maxcom, was found to offer quadruple play (i.e. telephony, pay TV, Internet access and mobile services). Integrated quadruple-play offers are still an exception in many OECD countries, with the differentiation mostly being as to whether a triple-play service is delivered via a fixed or mobile subscription. In other words, both fixed and mobile operators offer triple-play bundles, with some offering a discount on a fourth service. However, it is less common in OECD countries to have all four services on the same bill (OECD, 2015). Nonetheless, while triple-play services are prevalent in the Mexican market, not all cable television networks have been upgraded to provide broadband access and remain television-only facilities in some locations.

**Video and television services via IP platforms**

Internet Protocol television (IPTV) is the delivery of television content using signals based on the Internet Protocol (IP), rather than through traditional methods such as FTA broadcasting, satellite services or cable television. IPTV and video carriage services via IP platforms are unregulated in Mexico, whether offered by cable pay TV operators on upgraded broadband networks (such as the Televisa Group’s Izzi), fixed or mobile telecommunication operators (such as Telmex or Telcel), or by service providers that do not provide the “middle mile and last mile” paths to the user (such as Netflix). Both of the preponderant economic agents (the Televisa Group and Telmex) have proprietary video carriage services via IP platforms called Blim and Claro Video, respectively.

Mexico is one of the largest markets for platform-independent (so-called OTT) video services in Latin America. The bundling of services by some mobile networks as well as increasing access speeds in some locations with fixed broadband access are also factors at play. In addition, the profile of the users of these services is younger, more affluent and more exposed to foreign programming than a traditional FTA channel offering of telenovelas.
While there are no official data for video carriage services via IP platforms, Telmex (Claro/UnoTV), the Televisa Group (Blim) and Netflix seem to be the leading providers. In 2016, Televisa ended a five-year partnership with Netflix, announcing Televisa’s new streaming service Blim. The new platform offers the Televisa Group’s programming, such as telenovelas and their comedy shows, and competes in Mexico and Latin America with Netflix and Claro/América Móvil/Telcel.

The growth of the use of these services has been one of the major changes since the reform opened the Mexican market to more competition around convergence. Subscriptions to IPTV and video carriage services via IP platforms are widely believed to be growing rapidly, driven by increased access to fixed and mobile broadband services. In 2011, for example, Netflix launched its streaming service in Mexico as part of a wider roll-out in Latin America and the Caribbean, second only to Canada in 2010 and ahead of the United Kingdom and Ireland in 2012.

Netflix does not break out data for subscriptions to its streaming service beyond a split for those in the United States and internationally (Figure 2.30). One notable feature of the Mexican market, however, was that Netflix chose it to be the first location for a Spanish-language Netflix original series (Club de Cuervos, which had its premiere in August 2015). This would suggest that it regards Mexico as an important market and one where it needs to produce some local content to attract customers when up against players that produce such content for local and international consumption. A second season of Club de Cuervos has been commissioned, suggesting that the initiative was successful.

Household surveys also show that in 2016, 12.5% of the Mexican population had used the Internet to access paid video content (INEGI, 2017a). Furthermore, estimates suggest that the OTT market reached 5 million subscribers in 2016, with Netflix and Dish OTT having the largest shares, 46% and 36%, respectively, and with Claro Video following with 14%, Blim with 1.2% and VivoPlay with 0.5% (Figure 2.31). Netflix costs MXN 99 per month, with approximately 610 titles, Dish OTT costs MXN 139 with 2,500 titles and HBO GO, Claro Video costs MXN 69 per month with 2,091 titles while Blim was launched at MXN 109 per month with 760 titles. Notably, the OTT players, including the foreign-owned ones, have started producing local content or international content aimed at Mexican users.
The on-demand and linear video market will continue to rapidly evolve around new technological possibilities and commercial strategies. While the pay TV, broadband IPTV and FTA markets are all unique in some ways, they are converging in ways that create new opportunities to meet the policy objectives set out when the reform was introduced to the Mexican communication market. OTT audiovisual services, such as YouTube, Netflix and Spotify, are competing for attention and subscription with the traditional FTA and pay TV players. As a result, the traditional players are diversifying their content and aiming to serve a more connected audience. While the various services use platforms that have different levels of reach (i.e. FTA has greater coverage than broadband), all indications are that OTT players are becoming more significant actors in the market.
Notes

1. One of these offers unlimited international calls in general, the other offers unlimited calls to Canada, the United States, Europe and Latin America.

2. The fixed broadband figures for Mexico are the number of connections as the technology disaggregation is not available for subscriptions, which by definition refers to contracts between operators and customers.

3. Between 2001 and 2014, the data for individuals and households came from the National Survey Module on the Availability and Use of Information and Communication Technologies in Households (MODUTIH). Data for 2015 and 2016 are from the National Survey on Availability and Use of Information and Communication Technologies in Households (ENDUTIH).

4. For historical reasons in Mexico, pay TV services have been classified as telecommunication services.

5. The HHI is a commonly accepted measure of market concentration calculated by squaring the market share of each competing firm in the market and summing up the resulting numbers. The index ranges from 0 to 10 000, where it is close to 0 it would indicate perfect competition, and if it were equal to 10 000 it would indicate a monopoly in the market. The US Department of Justice uses the HHI to evaluate merger cases, and considers an HHI lower than 1 500 to be a competitive market, an HHI between 1 000 to 2 500 to be a moderately concentrated market, and an HHI greater than 2 500 to be a highly concentrated market. As a general rule, a merger case that increases the HHI by more than 200 points raises antitrust concerns and would be scrutinised.
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