Chapter 4.

Policy and regulation in telecommunication and broadcasting in Mexico

This chapter examines the design of regulation and policies of the telecommunication and broadcasting sectors in Mexico, most of which have been introduced since the 2013 reform, based on the changes to the legal framework discussed in Chapter 3. It covers issues such as wholesale and retail regulation, digital inclusion strategies, competition aspects and enforcement as well as consumer protection and empowerment. It also reviews the second round of asymmetric measures imposed on the preponderant agents announced by the Federal Telecommunications Institute (Instituto Federal de Telecomunicaciones, IFT) in March 2017.
Wholesale regulation

The regulatory framework in Mexico has undergone a substantial transformation since the 2012 *OECD Review of Telecommunication Policy and Regulation in Mexico*. It distinguishes preponderant agents and agents with substantial market power (SMP) from other operators, such as concessionaires or entities, which have been authorised to provide telecommunication services (e.g. mobile virtual network operators, MVNOs). Since the reform, the Federal Telecommunications Institute (Instituto Federal de Telecomunicaciones, IFT) has declared América Móvil in telecommunication services and the Televisa Group in broadcasting as preponderant and has imposed asymmetric measures upon them. In February 2017, the IFT further determined that the Televisa Group also had SMP in telecommunication services due to its position in pay TV, which is considered part of the telecommunication market. However, thus far, the IFT has not imposed asymmetric measures on Televisa for pay TV.

Asymmetric measures, imposed on the preponderant players through either legal or regulatory instruments, encompass measures such as zero interconnection rates for traffic terminating in the preponderant telecommunication operator’s network, or the compulsory unbundling of Telmex’s and Telnor’s local loop. The mandatory sharing of passive infrastructure and the ability of concessionaires to request access to the preponderant agent’s network to co-locate equipment are other measures which may be applied asymmetrically.

Critically, the compulsory publication of reference offers in regards to wholesale services helps to provide legal certainty and transparency to operators that request such access. Since the reform, the IFT is able to regulate *ex ante* wholesale prices under cost-based methodologies. These wholesale prices concern services such as interconnection, the sharing of passive infrastructure and the leasing of dedicated links. The new preponderance measures establish that the public offerings must contain the applicable tariffs, with the exception of the reference offer for infrastructure sharing for mobile services. In this regard, the registration of contracts for the provision of wholesale services concluded between concessionaires and the public nature of the prices stipulated therein is a positive development. In addition, the IFT may impose accounting, functional and structural separations, which are crucial tools for fostering greater competition and improving market access in the telecommunication sector. In 2017, the IFT introduced accounting disaggregation for Telcel, Telmex and Telnor and functional separation for Telmex and Telnor.

In addition, changes to the rules on rights of way aim to enable concessionaires and other economic agents to access key infrastructure elements and facilities. This will hopefully accelerate further investment to provide consumers with broader access to telecommunication services at a reasonable price through the more efficient use of existing assets. Finally, once initiatives such as the Red Compartida and the use of the Federal Electricity Commission’s (Comisión Federal de Electricidad, CFE) dark fibre capacity by Telecomunicaciones de México are up and running on a widespread basis, existing and new service providers will gain access to extremely valuable network facilities. This can be used to expand their businesses and thus contribute to attaining the universal and social coverage objectives enshrined in the 2013 Decree amending the Constitution on Telecommunications and the Federal Telecommunications and Broadcasting Law (Ley Federal de Telecommunicaciones y Radiodifusión, LFTR).

Notwithstanding significant progress and the adoption of good practices consistent with other OECD countries, some substantial challenges remain concerning the practical implementation of these measures. As the IFT has acknowledged, information asymmetries
still persist between the preponderant agent in telecommunication services and its competitors (e.g. access seekers wishing to use unbundled local loops). This is due in part to delays in implementing the Electronic Management System (EMS) by the preponderant operator.\(^1\) Delays stemmed from the slow progress made in the committee that the IFT presides over on the one hand and from deadlines not met by the preponderant agent, sometimes due to meeting additional requests from the IFT, on the other hand.\(^2\) This tool is meant to provide concessionaires and other players with complete and updated information on the preponderant’s network and those facilities subject to shared access or co-location.

The industry has, however, been highly critical of the length of time the preponderant agent was permitted to disclose the required information to the market (IFT, 2016a).\(^3\) Due to the lack of an informative and functional EMS, market players have underscored the impossibility to map where the preponderant agent’s services are available and to know at which level of quality these services are provided. In addition, competitors have highlighted that it is not possible for the IFT to ensure that a preponderant agent effectively complies with its obligations, or to enforce these obligations as required. Such obligations include that a preponderant agent must not discriminate, in terms of contractual conditions and quality standards, between access seekers and its own operations, including its subsidiaries, affiliates and companies belonging to its economic interest group.

In this regard, the limited use and adoption of services derived from the reference offers suggest that the preponderant agent has not responded adequately to the needs of telecommunication service providers as potential customers (IFT, 2016a). For its part, América Móvil rejects such claims and uses its commercial agreement with Telefónica for national mobile roaming as an example. While it was required to reach such an agreement, the company nevertheless points out that the terms were agreed via commercial negotiations. This must, however, be assessed against the slow progress of key elements for effective competition, such as the lack of an operational and effective EMS and whether the current regulatory conditions enable the effective enforcement of obligations and provide the right incentives. It must be highlighted that compliance in theory is not equivalent to compliance in practice, especially if the absence of an effective EMS makes it impossible to monitor if a preponderant agent is meeting its obligations. This element is critical to making further progress and was central to considerations by the IFT in its 2017 preponderance review and the subsequent decisions that were taken.

Besides the purported ineffectiveness of the reference offers, some market players have reproved other measures adopted by the IFT (e.g. the creation of an Unbundling Technical Committee). Also, there have been unnecessary delays in the publication of said offers; the initial unbundling reference offer was only approved in December 2015 and required to be revised almost a year later. As such, many participants in the telecommunication sector have questioned some of the IFT’s determinations leading up to the 2017 preponderance review. They claim that the measures taken have not effectively addressed the regulatory asymmetry that should exist between the preponderant agent and access seekers (IFT, 2016a).

The determinations criticised include: the methodology adopted by the regulator to establish default rates for wholesale services such as call termination;\(^4\) the inclusion of interconnection services that go beyond the scope of what the LFTR considers must be provided by non-preponderant operators in the Agreement on Minimum Technical Conditions for Interconnection (e.g. co-location); and the application of the same accounting separation requirements for all operators (Telefónica, 2016a). In their view, access seekers should not be subject to *ex ante* regulation, and the cost methodologies
employed by the IFT to calculate interconnection rates should be reviewed to ensure that they effectively cover their costs and recoup their investments (CANIETI, 2016).

Although many objections have been put forward by telecommunication service providers, the aforementioned points may serve as a useful starting point for the analysis of the current wholesale regulation in Mexico. In many ways this regulation appears to be adequate, but it has encountered substantial obstacles in its practical implementation, particularly in meeting objectives for fixed networks.

**Interconnection regulation**

According to the LFTR, all concessionaires operating public telecommunication networks must adopt open network architecture aimed at guaranteeing the interconnection and interoperability of their networks under transparent and non-discriminatory conditions. However, the legal and regulatory regime in force levies specific asymmetric rules on the preponderant agent in telecommunication services. Additionally, the preponderant agent must provide the following interconnection services: transit, co-location, shared infrastructure, ancillary services, billing and invoicing. Notwithstanding, the following interconnection services are to be compulsorily provided for all concessionaires: traffic conduction, transmission links, access ports and signalling.

The preponderance framework states that the preponderant agent is obliged to publish an Interconnection Framework Agreement annually, with the IFT’s previous review and authorisation. The agreement is in force for a year, and shall contain a series of minimum technical, economic and legal conditions, including, among others:

- **Technical conditions:** signalling protocols; transmission capacity; number and capacity of interconnection ports, as well as their geographical location; capacity requirements for the interconnection and interoperability of public telecommunication networks; estimated capacity demand; quality of service (QoS) parameters; and the procedures and deadlines in the management of failures and incidences.
- **Economic conditions:** unbundled rates for each interconnection service; individual invoicing of each telecommunication service; and dispute-resolution mechanisms.
- **Legal conditions:** the explicit inclusion of concessionaires’ right to receive non-discriminatory treatment in the provision of interconnection services and the ways to make it enforceable under potentially discriminatory situations; and the mechanisms to ensure continuity in the provision of interconnection services.

In this context, the preponderant is obliged to share the conditions outlined in the Interconnection Framework Agreement with requesting concessionaires, under non-discriminatory terms and within a maximum time frame of 20 working days (IFT, 2014a, Annex 1: n. 11 and Annex 2: n. 2).

To sum up, the preponderant agent is obliged to conclude interconnection agreements with requesting concessionaires within a maximum period of 20 working days from the filing of the request. A copy of all contracts must be sent to the IFT, which registers them and makes them public, including the price. Finally, the IFT has issued regulation pertaining to the minimum technical conditions applicable to interconnection between concessionaires operating public telecommunication networks. This regulation incorporates rules such as the signalling protocol, co-location, and traffic exchange in interconnection points.5

In regards to interconnection pricing, one of the most important measures applied to the preponderant agent in the telecommunication sector relates to the zero termination
rate it must charge other operators for traffic termination on its network, namely, mobile voice, fixed voice and SMS. In this sense, pursuant to the preponderance regulation, the interconnection rates corresponding to services non-regulated therein or by law (e.g. the aforementioned zero termination rates), as well as those which must be paid by the preponderant agent to other concessionaires for services provided by the latter, are freely negotiated between the parties (IFT, 2014a, Annex 1: n. 59 and Annex 2: n. 6). In general terms, non-preponderant concessionaires shall freely negotiate the terms and conditions applicable to the interconnection of their networks. However, the IFT is empowered, by Article 131 of the LFTR, to intervene in the event of a dispute (IFT, 2014a).6

Under such circumstances, the IFT determines the interconnection rates by using a long-run incremental cost approach (LRIC), which can nonetheless undergo adjustments depending on the specific interconnection services (IFT, 2014a). Pursuant to the LFTR, the rates determined by the IFT based on such methodologies must be transparent, reasonable and, if applicable, asymmetrical, taking into account factors such as market share, network congestion times and traffic volume.

As per the preponderance regulation, rates referring to traffic origination, transit and termination to be paid by the preponderant are established by taking a pure LRIC, as determined by the IFT in subsequent decisions (IFT, 2014b). On the other hand, the IFT has defined that remaining interconnection services such as co-location, transmission links, invoicing and collection and so forth, should be based on a long-run incremental cost plus approach (LRIC+) (IFT, 2014b).

The most recent agreement issued by the IFT determines the interconnection rates applicable in the event of a dispute in relation to interconnection services provided by non-preponderant concessionaires, and establishes specific rates on the following services: local services terminating in mobile lines under a “calling party pays” scheme; mobile termination rates regarding SMS services; and local services terminating in fixed lines. Default rates for services supplied by the preponderant operator are established by taking into account local services originating in fixed networks, as well as transit services.

In this regard, the IFT has published an agreement defining the preponderant agent’s interconnection points, in which it distinguishes between mobile and fixed networks, and specifies the corresponding signalling technologies.7 As a result, 198 fixed interconnection points and 46 mobile interconnection points were defined for the SS7 signalling protocol. Additionally, 11 interconnection points for fixed and mobile networks with SIP-IP signalling protocol were defined. It should be noted that all of the aforementioned points are on a national level, which means that they enable traffic exchange irrespective of the origin or destination of the call within the national territory.

To complement the aforementioned provisions, the asymmetric regulation requires the preponderant operator to implement an EMS accessible at all times for the IFT and access seekers. In theory, though not yet fully in practice, this should enable these parties to be able to remotely access the system in order to consult updated information on the preponderant agent’s network and its passive infrastructure (IFT, 2014a, Annex 1: n. 65 and Annex 2: n. 42). Furthermore, the EMS should enable requesting operators to conclude contracts referring to wholesale services and spare capacity of passive infrastructure; to report and track failures and incidents that arise with respect to the contracted services; to perform consultations on the status of their contracting requests and all the measures necessary for the proper operation of wholesale services (IFT, 2014a). On this matter, the preponderance regulation also requires the preponderant agent to enable a call centre and an email address to perform the EMS tasks in the event of failure. Furthermore, the
preponderant agent is obliged to utilise this system for operations carried out by itself, its subsidiaries and affiliates.

The EMS should have been implemented six months after the technical elements for its operation were defined, at the latest (IFT, 2014a, Annex 1: Transitory Article 12 and Annex 2: Transitory Article 4). This was to be undertaken by the IFT presiding over a Technical Committee, in which multiple aspects of the EMS were to be determined, based on a proposal from the preponderant operator. Unfortunately, although the preponderance regulations were issued in March 2014, the implementation of the system was severely delayed. This has been one of the major complaints from industry participants against the competitive conditions in the Mexican market. The status of EMS elements as at May 2017 is available here (Table 4.1).

Table 4.1. Status of the implementation of the Electronic Management System (May 2017)

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 March 2016</td>
<td>The mobile virtual network operators’ module became fully operational.</td>
</tr>
<tr>
<td>27 April 2016</td>
<td>The roaming module became fully operational.</td>
</tr>
<tr>
<td>15 September 2016</td>
<td>Telmex’s and Telnor’s interconnection services module became fully operational.</td>
</tr>
<tr>
<td>3 February 2017</td>
<td>The leased lines services module became fully operational.</td>
</tr>
<tr>
<td>18 May 2017</td>
<td>Telcel’s interconnection services module became fully operational.</td>
</tr>
</tbody>
</table>

Finally, both the LFTR and the respective regulation dictate that concessionaires operating public telecommunication networks must conclude interconnection agreements within a period of 60 calendar days. If not, the IFT is empowered to intervene upon request to establish the terms, conditions and rates subject to differences between parties, applying the cost methodologies it has previously defined in the latter case, without prejudice to the sanctions it may impose based on the LFTR rules. The IFT must resolve the aforesaid disputes within a maximum period of 30 working days following the conclusion of the allegation period. To conclude, the preponderance regulation stipulates that in the event of a rate-related controversy regarding the measures imposed, the IFT may order the preponderant agent to provide the respective service, regardless of whether or not it will settle the dispute at a later time (IFT, 2014a, Annex 1: n. 75 and Annex 2: n. 62).

The IFT has made very limited progress since the reform was introduced to ensure that wholesale services are available to access seekers. Certainly, there have been notable exceptions, such as the commercial agreement reached between América Móvil (Telcel) and Telefónica for Telcel to provide Telefónica with domestic mobile roaming. The agreement was signed in compliance with the roaming reference offer authorised in 2015 by the IFT and the rates were agreed upon through negotiations between the parties. In addition, the availability of the shared wholesale mobile network Red Compartida, beginning in 2018, may have been a longer term consideration given it will provide wholesale 4G access. However, there has been little to no progress in other areas. The law itself is likely not the primary issue, rather it is the incentives the preponderant agent has to comply with practical implementation as opposed to reporting compliance. In an environment where there is insufficient alternative infrastructure to furnish wholesale services and in the absence of tools such as an EMS to enable wholesale access, assess progress and ensure compliance with obligations, it is reasonable that the IFT seeks further functional separation. This was addressed in the 2017 preponderance review to act on the underlying causes of the slow progress.

In terms of interconnection, the LFTR states that, for as long as there is a preponderant agent in the telecommunication sector, that agent will not charge the other concessionaires for the traffic ending in its network. Regulation of interconnection should be flexible, and
should promote and facilitate the efficient use of networks, allow the expansion of existing competitors, and incorporate new technologies and services. The LFTR is not best placed to anticipate the tariff policy, either “bill & keep” or any other for the future, since the costs to modify it are very high.

The trend in OECD countries for many years has been to reduce termination rates. Mexico is following that pattern and its continuance would be welcome. At the same time, the IFT is best placed to determine the applicable tariffs, considering the technical aspects of the interconnection and the natural asymmetries of the networks to be interconnected. Consideration could be given to repealing the current asymmetric approach, though in practice it may be more effective to adopt a bill and keep approach or reduce rates to the point where they are negligible. Article 131 of the LFTR provides for this, but only when effective competition is in place.

**Resource issues**

**Infrastructure sharing**

Infrastructure sharing can be analysed from two perspectives: in relation to the preponderant agent in telecommunication services and with regards to non-preponderant undertakings. For the former, the preponderance regulation requires the preponderant agent to provide access to and share its passive infrastructure (e.g. ducts, poles, towers) with other concessionaires, on a non-discriminatory basis, including the conditions it offers to its own operations, and without conferring exclusive rights for their use or exploitation (IFT, 2014a, Annex 1: n. 15 and Annex 2: n. 23). These measures are enforceable regarding both fixed and mobile services. Accordingly, although Telcel, the preponderant agent’s mobile service provider, divested its telephony tower assets through the creation of a new company (Telesites) in April 2015, the asymmetric measures are still applicable.8

By the same token, the preponderant operator must issue reference offers for access and shared use of passive infrastructure, which must comply with the same minimum content as required for interconnection offers, in addition to observing the rules geared towards preventing anticompetitive behaviours (IFT, 2014a, Annex 1: n. 16 and Annex 2: n. 41). Moreover, such reference offers must be assessed and approved by the IFT, prior to their implementation. In this sense, the IFT is empowered to introduce any modifications it deems pertinent, so as to ensure the reference offers are consistent with the asymmetric regulation, and with the purpose of fostering competition in the telecommunication sector.

In addition, the preponderance regulation stipulates that the reference offers of wholesale services have a validity of one year, and must include the following information, at a minimum: technologies available in the preponderant agent’s network; identification of the interconnection points; coverage area maps; the infrastructure’s characteristics and technical requirements; procedures for requesting services, fixing failures and managing incidences; and QoS parameters (IFT, 2014a, Annex 1: n. 16). Moreover, the preponderance regulation prohibits the following anticompetitive practices by the preponderant operator, when defining the conditions to be comprised within the reference interconnection offer:

- To apply discriminatory or abusive conditions in the delivery of wholesale services. Hence, the same prices, terms, conditions and discounts shall be applied to all requesting parties.
- To employ conditions diverging from those stipulated in the reference offer to itself or to enterprises encompassed within its economic interest group.
• To tie-in sales, either by conditioning the provision of wholesale services to the purchase, acquisition, sale or provision of an additional or different good or service, or by subjecting such provision to not acquiring, selling, commercialising or providing services supplied by a third party.

At the same time, access and passive infrastructure-sharing services must be provided by the preponderant agent under satisfactory quality conditions. Hence, they are obliged to indicate parameters pertaining to: delivery times; times for cable laying and installation of infrastructure; times for failure repairs and management of incidences; and quality indicators (IFT, 2014a, Annex 1: n. 35 and Annex 2: n. 29).

As with interconnection, the preponderant agent is obliged to conclude infrastructure-sharing agreements with requesting concessionaires within a maximum period of 15 working days from the filing of the request (IFT, 2014a, Annex 1: n. 17 and Annex 2: n. 43). Furthermore, a copy of any such contract must be sent to the IFT, who will place it in the Public Telecommunications Register.

Also pursuant to its asymmetric measures, the preponderant agent must maintain an EMS that can be accessed by the IFT and concessionaires, where it publishes updated information on its facilities and infrastructure (IFT, 2014a, Annex 1: n. 32 and Annex 2: n. 26). The system, which has been fully operational since April 2017, incorporates, among other aspects: the exact location of its facilities, including maps of elements such as ducts; the technical characteristics of the infrastructure; and the spare capacity of passive infrastructure (IFT, 2014a).

The measures compel the preponderant agent to address requests pertaining to access and shared use of passive infrastructure in the same manner as it does for its own operations and for companies belonging to the same economic interest group (IFT, 2014a, Annex 1: n. 42 and Annex 2: n. 35). Therefore, it must possess a single procedure for addressing requests in the order in which they are received.

In accordance with the preponderance regulation, infrastructure-sharing agreements are to be preceded by a technical visit after which additional work may be required to accommodate the infrastructure (IFT, 2014a, Annex 1: n. 37 and Annex 2: n. 31). In these cases, the preponderant operator must execute the work on the new facilities, which it then owns unless agreed otherwise (IFT, 2014a). The access seeker must then pay for any additional work required, such as the laying of cable or the installation of other network elements (IFT, 2014a, Annex 1: n. 38 and Annex 2: n. 32).

Additionally, if there is no spare capacity in any duct or alternative route, the preponderant agent shall decide whether it makes available either the provision of optical high-capacity transport channels or the rental of dark fibre to the requesting concessionaire (IFT, 2014a, Annex 1: n. 40 and Annex 2: n. 34). Finally, when the preponderant carries out new civil works which require permits from public authorities, it must notify public telecommunication network concessionaires prior to their commencement, so as to enable them to request the installation of their own infrastructure (IFT, 2014a, Annex 1: n. 30 and Annex 2: n. 24).

Under the initial preponderance regulation, the rates applicable to access and shared use of passive infrastructure services were freely negotiated between the preponderant agent and the requesting concessionaire, notwithstanding the IFT’s power to settle disputes (that cannot be resolved by the parties within a maximum of 60 days), employing an average LRIC methodology (IFT, 2014a, Annex 1: n. 62 and Annex 2: n. 39). It should be noted that said rates must be offered in a non-discriminatory manner, but may be
differentiated according to geographic area. Finally, the rates convened between the preponderant agent and concessionaires, or those established by the IFT following a disagreement, shall be public (IFT, 2014a). The new preponderance measures, discussed later in this chapter, revised these rules, stating that all of the fixed wholesale prices are to be prescribed by the IFT based on an average LRIC methodology.

Furthermore, the disagreements concerning technical aspects shall be resolved by the IFT, taking into account two or more expert opinions sent by both the preponderant operator and the requesting concessionaire (IFT, 2014a, Annex 1: n. 74 and Annex 2: n. 61). As a final remark regarding fixed services, the preponderant agent must also allow the shared use of the infrastructure necessary for the provision of leased line wholesale services, when it proves technically feasible (IFT, 2014a, Annex 2: n. 14). The provision of leased lines as per the preponderance regulation shall be analysed later in this chapter.

In June 2016, the IFT issued the Fixed Access Network Cost Model for Access and Passive Infrastructure Sharing Services (Modelo de red de acceso fija para servicios de desagregación y compartición de infraestructura – Aplicable para 2016), which enables the IFT to determine the rates the preponderant agent charges other concessionaires for its access and infrastructure-sharing services in the event of disagreements. 9 Conforming to the preponderance regulation, the IFT uses an average LRIC approach that considers both the topology of an efficient hypothetical access network, as well as the approximated costs incurred by the preponderant operator in the provision of such services. To date, however, there are no specific rules concerning the sharing of multi-dwelling buildings’ inside wiring.

In reference to the rules applicable to non-preponderant agreements, the LFTR specifically establishes that co-location and shared infrastructure use shall be settled between concessionaires. Should any controversy arise, the IFT may intervene to define the terms and conditions for said co-location or infrastructure sharing, including rates. The IFT may intervene only when co-location and shared infrastructure use are deemed essential to provide telecommunication services, there are no substitutes and there is available capacity.

Furthermore, all concessionaires and authorised entities are obliged to present to the IFT their information on their active infrastructure and transmission means, as well as on their passive infrastructure and rights of way, for their registration in the National Infrastructure Information System (Sistema Nacional de Información de Infraestructura, SNII). The guidelines for this system are currently under development. In any case, disputes regarding access and infrastructure-sharing services must be resolved by the IFT within a maximum of 30 working days, 10 regardless of whether they emerge between the preponderant agent and other concessionaires or between non-preponderant concessionaires.

In summary, the LFTR commands the federal executive to establish the conditions for providing concessionaires non-discriminatory access to real estate pertaining to the federal public administration, infrastructure associated with broadcasting stations, energy and radiocommunications transmission towers, energy distribution posts and poles and ducts, among others. Moreover, by law, any concessionaire may install infrastructure on public assets under non-exclusive conditions.

In compliance with said mandate, the federal executive has established an Agreement on the Building Policy and Coordination Bases to allow the Deployment of Telecommunication and Broadcasting Infrastructure (Acuerdo que establece las bases y lineamientos en materia inmobiliaria para permitir el despliegue de infraestructura de telecomunicaciones y
radiodifusión) (SFP, 2016, Art. 18). The policy was launched in May 2017 and underscores how operators may only use and exploit such assets provided they share the spaces and infrastructure they install therein, as well as confer the same conditions in access to their own infrastructure (SFP, 2016, Art. 3). Although the Institute for Administration and Appraisal of National Property (Instituto de Administración y Avaluos de Bienes Nacionales, INDAABIN) is the competent authority for establishing the economic, technical, security and operating conditions for such use and exploitation, as well as for leasing any of the aforesaid assets, the IFT is the competent authority for resolving disagreements that may originate in the areas of access to infrastructure and infrastructure sharing.

In many ways, the same conclusions can be drawn around infrastructure sharing as for wholesale provision. Undoubtedly, progress has been made in terms of reforming regulation and introducing measures to promote competition through access to essential elements, such as passive infrastructure. There remains, however, an asymmetric deficit in regard to information and co-operation. This must be addressed if access seekers are to effectively compete. As with the measures proposed by the IFT to address the challenges in respect to wholesale provision, increased functional separation is likely to change the incentives the preponderant agent has to effectively co-operate in this area.

Telecommunication resources

Rights of way

Consistent with the LFTR, preponderant agents or agents with SMP are obliged to share their rights of way. Additionally, as previously stated, the guidelines on the SNII will include useful information pertaining to rights of way geared towards allowing concessionaires to deploy telecommunication infrastructure within those assets.

In this regard, both concessionaires and public agencies must inform the IFT of all relevant information on the federal public sites, ducts, posts and rights of way for their registration in the SNII and its eventual availability to telecommunication and broadcasting operators to expedite the deployment of their networks.

Conforming to the LFTR’s mandates, the Agreement establishing the Building Policy and Coordination Bases to allow the Deployment of Telecommunication and Broadcasting Infrastructure issued by the federal executive determines that the INDAABIN shall be in charge of establishing the economic, technical, security and operating conditions to make available rights of way related to the general communication pathways to all concessionaires on non-discriminatory and non-exclusive terms. It is also in charge of leasing any of the aforesaid assets in regards to the sharing of telecommunication or broadcasting infrastructure installed in said facilities. Although the rates for the leasing of federal public assets are established by INDAABIN, those corresponding to other facilities are to be determined by the competent entities in each case. Additionally, the agreement reiterates that the IFT is the competent authority for resolving any disagreements that may occur between concessionaires (SFP, 2016, Art. 17).

Pursuant to the Electric Industry Law (Ley de la Industria Eléctrica, LIE), the Energy Regulatory Commission (Comisión Reguladora de Energía, CRE) is empowered to issue the necessary provisions to allow access to the facilities and rights of way pertaining to the national electric system to public service providers acting in other industries, such as telecommunication services (LIE, 2014, Art. 12). Such public service providers will be expected to compensate the CRE at a fair rate (LIE, 2014, Art. 12).
According to the law, access to the facilities and rights of way belonging to the national electric system infrastructure, comprised of over 11 million energy distribution posts installed throughout the country (IFT, 2016b) and 820,000 kilometres of lines (Larocca, 2016), shall be made available to the largest possible number of public service providers from industries diverging from the energy sector, as long as it does not jeopardise the security and continuity in the provision of services in the latter (LIE, 2014, Art. 72). However, such a regulation is yet to be issued by the CRE. A forum related to this topic was held in August 2016, in which multiple institutions gathered to express their views for the regulation planned to be under public consultation by the Federal Regulatory Improvement Commission (Comisión Federal de Mejora Regulatoria, COFEMER) in the near future (IFT, 2016b). This is an area of critical importance for maintaining the momentum of progress in the Mexican telecommunication market. A national policy is, therefore, needed to reduce obstacles to infrastructure deployment, as there are multiple challenges for this at the local level. The abovementioned regulations will be issued by the CRE before the end of 2017.

Local-loop unbundling

One of the most important aspects of the reform in Mexico refers to the unbundling of the preponderent operator’s local loop, which entails the lease or transfer of “last mile” infrastructure connecting the telephone exchange to users’ homes or offices. In this regard, América Móvil is obligated to provide unbundling services to requesting concessionaires, which includes: total unbundling of the local loop and sub-loop; shared unbundling of the local loop and sub-loop; indirect access to the local loop; resale services, including lines, Internet and service packages, virtual unbundled local access, and co-location service as well as ancillary services (IFT, 2017a, Annex 3: n. 4). Moreover, it must grant the necessary permits, technical facilities and network elements, including the civil works elements required to access unbundling services or to connect equipment with a point of presence of the requesting concessionaire’s public network (IFT, 2014a, Annex 3: n. 15).

The measures specify that unbundling services must be provided in all cases in which an end user has telephony or data services that are supplied by the preponderent agent, or if there are connections within the residence enabling the provision of unbundling services (IFT, 2014a). If the preponderent operator possesses all the necessary network resources to provide services to a user’s residence, then the preponderent operator must provide unbundling services, even if there are no current connections in the residence (IFT, 2014a). However, in these events, the requesting concessionaire shall be in charge of installing the respective connection (IFT, 2014a). To sum up, unbundling services are to be provided at any point where it is technically feasible, and under the same quality parameters the preponderent agent applies to its own operations, subsidiaries, affiliates or companies within its own economic interest group (IFT, 2014a, Annex 3: n. 28).

As with other wholesale services, the preponderent operator must submit to the IFT, for its approval and subsequent publication, a reference offer pertaining to all of the services mentioned above, complying with the mandatory minimum content that must be stipulated therein (e.g. quality standards; deadlines and conditions for delivery of the loops or sub-loops; conditions for co-location services aimed at unbundling; failure reporting and incidence management; rates and so forth) (IFT, 2014a, Annex 3: n. 5). According to the last revision of the preponderance rules, this offer has a validity of one year (IFT, 2017a).
Unbundling rates must be approved by the IFT, taking into account the local loop’s and sub-loop’s delivery points to the requesting access seeker (IFT, 2014a, Annex 3: n. 38-39). There is thus no free negotiation between the parties, as with other wholesale services. There are specific methodologies depending on the type of unbundling service: an average LRIC approach is adopted concerning total and shared unbundling of the local loop and sub-loop, as well as co-location services for unbundling, while a retail minus methodology is employed in the case of indirect access to the local loop and resale of lines (IFT, 2014a, Annex 3: n. 39).

The preponderant operator must finalise unbundling agreements within 15 working days following the request (IFT, 2014a, Annex 3: n. 6). A copy of the agreement then must be sent to the IFT for registration and dissemination within 15 working days following the conclusion of the agreement (IFT, 2014a, Annex 3: n. 20). Any differences between parties regarding the provision of the abovementioned unbundling services shall be resolved by the IFT (IFT, 2014a, Annex 3: n. 41). In addition, although the preponderant operator has a duty to perform all the technical tests solicited by the requesting concessionaire, this may not be employed as a means to delay or withhold the delivery of unbundling services (IFT, 2014a, Annex 3: n. 32).

Grounded on efficiency and competition principles, the preponderant operator must allow that two or more requesting concessionaires be able to co-locate, as well as to share their infrastructure when it is technically viable (IFT, 2014a, Annex 3: n. 10). Moreover, the preponderant operator must use all the available space that may be required to address the requests related to co-location services for unbundling, and adopt all the measures aimed to ensure that the concessionaires who have been granted such spaces effectively use them, including non-discriminatory reallocation or recovery thereof (IFT, 2014a, Annex 3: n. 9). In any event, the IFT is in theory empowered to monitor the situations in which the preponderant agent decides there is no capacity to meet the demand for co-location facilities, though the lack of an EMS means that this is yet to occur in practice (IFT, 2014a).

Indirect access to the local loop and line resale services must be offered under technical conditions that enable the requesting concessionaire to replicate the services provided by the preponderant operator to end users (IFT, 2014a, Annex 3: n. 11). Furthermore, the preponderant operator must make interconnection points and relevant information available to the requesting concessionaire, in addition to being obliged to supply the interface and protocol through which such concessionaires may be able to access all users to whom they provide their services (IFT, 2014a). Even if the requesting party’s equipment is in a distant location, the preponderant agent must share the corresponding permits, technical facilities and network elements so as to enable the former to effectively access unbundling services provided in a telephone exchange or equivalent facility (IFT, 2014a, Annex 3: n. 12).

Pursuant to the preponderance framework, the EMS that the preponderant agent is compelled to implement should also be operational for unbundling services (IFT, 2014a, Annex 3: n. 16). The system, when implemented, should enable users to access updated information on the preponderant agent’s network; to contract such services; report and follow-up on failures, incidences and so forth (IFT, 2014a). In particular, the minimum information required for unbundling that must be included within the EMS is: the exact location of facilities such as switches, remote nodes and distribution points; the characteristics of co-location spaces for unbundling that are available in each telephone exchange or equivalent facility; and the number and availability of loops and sub-loops,
their relevant parameters, as well as the geographic coverage of each network element in which unbundling services are available (IFT, 2017a, Annex 3: n. 16).

Once established, the IFT will have permanent access to the EMS, in order to verify that unbundling agreements are concluded in a neutral and non-discriminatory manner, to evaluate their efficiency, to note the evolution of unbundling services, as well as to detect possible breaches to the preponderance framework (IFT, 2014a, Annex 3: n. 21). These tasks cannot be met without an operational EMS.

On the subject of local-loop unbundling, the preponderant agent is obliged to make an unbundling Frequency Spectrum Management Plan available to requesting concessionaires (IFT, 2014a, Annex 3: n. 35). This is to ensure the deployment of different types of signals within the local loop, in order to minimise interferences and optimise frequency spectrum use (IFT, 2014a, Annex 3: n. 35).

Furthermore, any modification to the local network altering the possibility to make use of unbundling services must be sent to the IFT at least three years in advance for its authorisation (IFT, 2014a, Annex 3: n. 29). In the event of the closure of telecommunication exchanges or equivalent facilities owing to a more efficient use or modernisation in access technologies, the preponderant operator must notify the IFT and requesting concessionaires at least 12 months ahead of time (IFT, 2017a, Annex 3: n. 30).

To conclude, the implementation of local-loop unbundling measures which were established in the reform has been delayed. By way of example, the initial reference offer proposed by Telmex and Telnor in December 2015 was approved by the IFT with important modifications (IFT, 2014a, Annex 3: Transitory Article 5). However, several access seekers have reported that they have encountered challenges to begin using the preponderant agent’s local loop and have highlighted that practically no local-loop unbundling had taken place by the close of 2016. A second reference offer aimed at improving the situation was published towards the close of 2016 and became effective in January 2017.

The main changes to the first reference offer include access to the incumbent’s fibre lines and the virtual unbundling of local access. Telmex and Telnor are obliged to present a technical and operational proposal for virtual unbundled local access to allow other concessionaires access to their Gigabit Passive Optical Network point-multipoint fibre optic deployments. Furthermore, the second reference offer also includes changes with respect to different unbundled services:

- For wholesale service reselling where a retail minus methodology is applied, the discount from the retail price of the incumbent for Internet services and for a bundled Internet and voice service have increased. The discount for reselling voice only, however, has declined.

- For bitstream access, there is a larger variety of speeds that the access seeker can contract, mirroring all of the speed offers that the incumbent provides to the market (5, 10, 20, 30, 40, 50, 100, 150 and 200 Megabytes per second [Mbps]) and the retail discount is adjusted to reflect avoided costs by the incumbent, such as for the connection at premises and terminal equipment.

- For full local-loop unbundling, shared local-loop unbundling and sub-loop unbundling, the weighted average cost of capital has been updated, resulting in higher monthly tariffs, with increases ranging from 5% to 30%.

- For co-location, more options are provided.
• The obligation of the preponderant agent to present the Technical Committee with a technical and operational proposal for a wholesale line rental service that would allow other concessionaires to resell the telephone line and ask Telmex and Telnor to deliver the traffic in the interconnection points determined.

• For bitstream access (indirect access to the local-loop services), the preponderant agent has the obligation to include Voice-over-Internet Protocol, and the concessionaires have the chance to use their own end-user equipment based on the information Telmex and Telnor have to provide about technical specifications on their networks and equipment at the premises.

• Telmex and Telnor are forced to provide more detailed information about the infrastructure and technical characteristics of each local loop.

In sum, the preponderant agent must make all the necessary adjustments to its telecommunication exchanges, equivalent facilities or local network to be able to offer unbundling services, in accordance with the schedule defined by the Technical Committee (IFT, 2014a, Annex 3: Transitory Article 3). The IFT considered the effective access and unbundling of the local loop and core networks to be critical issues that have yet to be effectively implemented. Overall, there has not been sufficient progress in terms of actual lines being used by access seekers to provide services to their customers. As noted earlier, the proposal made by the IFT in the 2017 preponderance review aimed to change the preponderant agent’s incentives through increased functional separation, and to treat access seekers as customers. This is welcome in a country where most users otherwise have little choice in fixed broadband services.

Dedicated leased lines

The preponderant agent in the telecommunication market is obliged to provide requesting concessionaires with wholesale service corresponding to the leasing of dedicated links, under the same conditions – including quality – and deadlines as those applied to its own operation or to companies within its economic interest group (IFT, 2017a, Annex 2). Additionally, it must allow the shared use of the infrastructure necessary for the provision of such services, when technically viable (IFT, 2017a, Annex 2). For these purposes, the preponderant operator must annually present reference offers pertaining to the leasing of dedicated links to the IFT for its approval and dissemination, which shall be in force for a one-year period (IFT, 2017a, Annex 2).

The use of leased lines is a critical component of enabling access seekers to expand their services in areas where they do not have their own facilities and, thereby, contribute to meeting policy objectives. An example could include a mobile network operator (MNO) wishing to lease lines to connect a new wireless tower or provide backhaul to a wider geographical area and thereby expand coverage. Access seekers have reported challenges in obtaining leased lines and, as in other areas of wholesale provision, will undoubtedly welcome the IFT to increase the use of functional separation in order to ensure that they are treated as customers instead of rivals. In addition, challenges with infrastructure deployment, such as obtaining rights of way, make this an even more critical area to be addressed. For example, even where access seekers wish to deploy their own facilities, there may be unreasonable barriers that leased lines could otherwise address in a timely manner. A revision of the preponderance review which states that the rates will be determined in the reference offer, to be approved by the IFT based on a LRIC+ methodology, is thus welcome.
Broadcasting resources

Must-carry must-offer regulations

Must-carry must-offer (MCMO) rules are designed to ensure that free-to-air (FTA) broadcasting content is carried by a cable television network, or other platform such as a satellite (i.e. must-carry), and the FTA broadcasting content is available to such networks should they wish to offer it (i.e. must-offer). In other words, must-carry rules stipulate that network providers that may otherwise not wish to carry FTA content do so. In the alternate, must-offer aims to ensure that FTA providers are forthcoming in providing their content to other networks should they prefer not to do so.

In Mexico, the objective of the MCMO rules is to provide FTA content for free for pay TV subscribers, in order to improve competition in pay TV services and to guarantee access to content from public broadcasters and federal institutions. The MCMO rules are, therefore, aimed to provide a consumer-oriented and platform-neutral regulatory regime, intended to ensure all viewers, on either cable or satellite, can view the most popular and longest-established channels (local for terrestrial pay TV and national channels for satellite pay TV). In Mexico, retransmission is mandatory for non-multiprogrammed and for the multiprogrammed signal of greater audience in each transmission channel, and for the public federal institutions’ signals (both non-multiprogrammed and multiprogrammed). The remainder of multiprogrammed signals on each channel is left to the will of the pay TV concessionaire.

The most developed must-carry/retransmission consent rules have been applied in the United States since 1972, granting obligations on cable players (Cable Television Protection and Competition Act, 1992) to retransmit not only local FTA broadcast, but also public, educational and government access (e.g. C-SPAN) channels. Other OECD countries have also regulated the carriage of dedicated news and public service channels (Marsden, 1999). European Commission rules cover must-carry, but note that technological and market development may lead to substantial changes in these rules (European Parliament and Council, 2009). Their usefulness in a post-broadcast world, however, is debatable (Warner, 2008; García-Murillo and MacInnes, 2011).

When well designed, MCMO rules can encourage both localism, by requiring cable systems to carry the main FTA channels, and pluralism and diversity, by requiring public service channels to be carried. MCMO can also be used to encourage competition, by ensuring popular FTA channels and pay TV systems with SMP are required to negotiate carriage agreements. MCMO has to be modified for satellite distribution networks, given that the area covered by a satellite “footprint” is sometimes almost “continental” in scale, with national regulators that enforce MCMO typically only requiring a single signal (usually that of the largest market) to be carried by satellite broadcasters. Finally, MCMO can also be used to achieve universal service objectives, and some have suggested that network neutrality (“net neutrality”) is a condition placed on broadband networks to ensure all content providers can reach viewers and users.

MCMO fully enforced can mean that a broadcast channel is available on FTA, cable and satellite, which achieves much closer to ideal universal coverage than any single network. This is particularly important in a country as regionally diverse and topographically challenging as Mexico, with a large, dispersed and relatively low-income rural population. Often these people can only be reached by satellite and unidirectional wireless, though individual subscriptions may be beyond their incomes. As such, community reception is often used where individual households cannot afford subscription. In Mexico, for
example, only 31% of households in the state of Chiapas subscribe to pay TV (IFT, 2017b), with a much lower proportion in rural and mountainous areas.

FTA channels play a central role in the daily lives of many people in Mexico and this is the key to must-offer requirements. During the duopoly period from the 1950s onwards, in the absence of greater choice, the stations of the two incumbent networks established strong loyalties. For any new service this makes these FTA channels “must have” items, especially for viewers that have had these services most of their lives. While viewing habits are changing, particularly for younger people with a greater range of choice today, the popularity of FTA staples make them essential for some viewers.

Mexico is the most important producer of telenovelas, the Latin American form of a “soap opera”, which typically runs for less than a year, a format pioneered in 1958 by the Televisa Group. This genre provides some of the most popular programmes in the MCMO channels’ repertoire and is a core element in Mexican FTA industry exports, something that is especially true for the Televisa Group, in part through its United States investment in Univision. The Televisa Group and TV Azteca were once the leaders in the production and distribution of these popular programmes in the Mexican market, though independents (such as Argos, formerly the production unit of TV Azteca) and US producers (Telemundo-Comcast/NBC, Univision) now predominate.

MCMO is, however, rarely cost-free. In the United States, in 2012 alone, USD 2.1 billion was paid by local cable operators for retransmission for FTA programming (Beard et al., 2013). In contrast, in Mexico, under MCMO rules, no FTA channel can charge cable or satellite companies, unless the latter is ruled to have SMP. While this is designed to promote competition, the question remains as to whether public or commercial broadcasters should be compensated for making their channels available.

The importance of the four main FTA channels to viewers meant that the lack of effective MCMO rules until 2013 severely restricted development of pay TV take-up in the Mexican market. Some suggest that the incumbent FTA operators had asked for high fees from rival cable and satellite television companies to carry the broadcasters’ FTA channels to slow the growth of pay TV (Luhnow, 2014). Irrespective, in 2013, the Televisa Group and TV Azteca opposed the IFT’s right to create MCMO regulations, losing on appeal in the Supreme Court.

Following the entering into force of the MCMO rules in September 2013, players such as Dish and Megacable could access the FTA content of the Televisa Group to compete against the Televisa Group’s majority owned satellite service (Sky and Izzi) and its growing portfolio of cable networks. The content of TV Azteca also became available under the new rules.

For their part, satellite operators are obliged to retransmit broadcast signals covering the majority of Mexican viewers, that is, according to the LFTR, the broadcasting signals covering 50% or more of the national territory, as well as the public federal institutions’ signals: in practice, this means signals from the top 15 to 25 city broadcasts from the national networks (i.e. the Televisa Group, TV Azteca, Canal Once, Canal 22 and Una Voz con Todos). The Valley of Mexico, which contains the Mexico City Metropolitan Area, accounts for around 25% of Mexico’s entire population, meaning the audiovisual content viewed there is the most likely to be carried by the satellite providers. Some have suggested that in practice this means reduced local content availability for people relying on satellite reception (Elbittar et al., 2014).
Though various OECD countries have similar asymmetrical treatment of satellite and cable operators, such as the United Kingdom (Ofcom, 2007), if there is sufficient digital satellite capacity satellite operators could be required to carry FTA channels of the main local transmissions (for example in the United Kingdom the BBC broadcasts all 14 local variants of its 2 main entertainment channels on all platforms). Mexico is typically divided into 28 major urban conurbations, each with at least one local FTA station.

On 14 March 2017, the Televisa Group was declared to have SMP in pay TV services, which will affect MCMO application and enforcement. This decision will entitle FTA operators to charge the Televisa Group’s pay TV operators for the access to signals. It is also expected to call into question whether the charges and bundles from the operator with substantive market power are hindering the access to unbundled transmissions by its competitors.

Relevant broadcasting content

Potential resource constraints in broadcasting include issues related to exclusive ownership of relevant content, which, due to their popularity with viewers, can limit the access of competitors to audiences. Following the reform, the first measures to that effect were put into practice in the 2014 preponderant measures on the Televisa Group.

The measures apply to content determined by the IFT such as the broadcasting of the World Cup soccer finals, the opening and closing of the summer Olympic Games, and the Mexican soccer league championship games. The intention was to prohibit the preponderant agent from acquiring exclusive rights to highly popular audiovisual content, so it could not offer channels with exclusive content in a discriminatory manner to other platforms. This measure also relates to the specification prohibiting the preponderant agent from participating in “buyers’ clubs”. The goal is to ensure that “buyers’ clubs” are not used to restrict competition.

Two years after the original measures were introduced, the IFT concluded that the preponderant agent had continued to benefit from exclusivity in relevant content, through its vertical integration and agreements with subsidiaries of the Televisa Group and the ownership of sporting clubs (notably soccer). The rights to matches in the Mexican soccer premier league have historically been sold by individual clubs rather than the league, providing an incentive for the then duopoly FTA broadcasters to own multiple teams. Due to convergence, other players have also purchased teams to have a stake in the allocation of the broadcasting and online rights. In 2017, as an outcome of the review of the preponderant measures imposed by the IFT, changes were introduced to expand the reach of the relevant content rules. The efficacy of the measures is expected to improve both economic outcomes for the Televisa Group, as well as for the companies that it influences (from which it acquires indirect exclusivity). The regulatory power of the measures is strengthened by the addition of a requirement that the preponderant agent also acquires the rights to sub-licensing for any current exclusivity deal, which need to then be offered publically.

The IFT plans to further examine cross-ownership of media and any safeguards that may be necessary to prevent concentration, permit freedom of expression and ensure the right to information. Changes on the preponderance measures in the telecommunication sector may also affect the future appropriateness of relevant content measures on broadcasting and the cross-sectoral dynamics should be carefully analysed. Issues such as those emanating from convergence and the licensing of some content on a regional basis have already come to the fore.
The Spanish-language rights to the 2016 summer Olympic Games for most of Latin America were sold *en bloc* to América Móvil’s Claro Sport. As América Móvil had insufficient presence in the Mexican broadcasting market to fulfil its contractual conditions with the International Olympic Committee, the rights holder effectively gave away the rights to the public broadcasters in Mexico, as well as selling in part to ESPN and Fox Sports. América Móvil did this because of the restriction placed on it in the broadcasting/pay TV market and to implement the agreement that coverage be offered to the whole of Mexico, but without giving an advantage to any particular commercial competitor. This resulted in Canal Once, Canal 22 and other Public Broadcasting System (Sistema Público de Radiodifusión, SPR) channels broadcasting the Olympics in high-definition digital terrestrial television (DTT), mostly without any advertising, across their platforms and to the largest ratings boost in recent history for Mexican public broadcasting.  

This exceptional case illustrates both a likely challenge by América Móvil to the Televisa Group’s channel popularity, in the case the telecommunication preponderance measure prohibiting the pay TV services offer is lifted, and the potential for the relevant content preponderance condition to be reviewed in the event that more IPTV or pay TV competition to the Televisa Group emerges.

**Infrastructure deployment**

*Regulation on deployment of infrastructure: Local and federal regulations*

Pursuant to Article 115 of the Constitution, state and municipal authorities are designated to manage and oversee the use of public real estate and rights of way in their jurisdictions, save for those under the federal administration. Consequently, each local or federal government has the authority to dictate its own set of requirements, conditions and fees related to the use by third parties of the aforementioned real estate and rights of way. This situation has resulted in the establishment of different regimes (pertaining to requirements, conditions and fees) throughout the country. Several network operators report facing significant challenges at the local and municipal levels when trying to deploy new infrastructure such as fibre lines. They say these challenges include obtaining rights of way; obtaining access to passive infrastructure, such as ducts, poles and so forth; dealing with complex administrative procedures at different levels of government; and frequently being asked to cross-subsidise unrelated public facilities and services.

In addition to these claims, several studies have been conducted highlighting these difficulties at local and municipal levels. As stated in a recent report carried out by the Development Bank of Latin America (CAF) in collaboration with Analysys Mason, the lack of uniformity among state and local regulations constitutes one of the factors triggering imbalances in mobile broadband penetration in Mexico (Analysys Mason, 2017).

According to the Ministry of Communications and Transports (Secretaría de Comunicaciones y Transportes, SCT) and the IFT, the absence of clear rules on the concurrence of powers between federal, local and municipal authorities relative to civil works and rights of way generates significant barriers to infrastructure deployment and undermines legal certainty for service providers (IFT, ITAM and CEC, 2016). This, they say, is despite the LFTR’s provision deeming these topics as federal issues. While such a formal declaration does not eliminate the constitutional attributions of state and municipal governments, all actors in the telecommunication sector believe this is an area that can be improved (IFT, ITAM and CEC, 2016).
In this context, the IFT’s recent review of 25 states’ and 15 municipalities’ legal frameworks ascertained that there are few specific state or local regulations on telecommunication infrastructures, which results in these entities applying rules governing other general topics. Additionally, they ignore the degree of specialisation involved in telecommunication services. Even where there is a specific framework related to telecommunication infrastructures, these are not available to the subjects to whom the law is addressed, or even worse, they lack a legal foundation (IFT, ITAM and CEC, 2016).

When the rules and procedures are public, there is no homogeneity among the different municipalities or even within the same municipality or state. Accordingly, local authorities apply their regulation against their own criteria and interpretations, eroding legal certainty and greatly hindering operators’ ability to take reasoned, informed investment decisions with regards to infrastructure deployment (IFT, ITAM and CEC, 2016). Furthermore, some municipalities, especially small ones, do not have access to the necessary resources in order to issue rules on this highly complex and technical topic (IFT, ITAM and CEC, 2016).

As affirmed by the IFT, operators often face a high degree of uncertainty when deploying telecommunication infrastructure due to the difficulty to accurately estimate implementation costs. This is a result of the unclear and divergent local regulation pertaining to telecommunication infrastructure deployment, and the lack of information concerning existing infrastructure (IFT, ITAM and CEC, 2016). According to industry actors, cost overruns can range from 15% to 50% of each project’s base cost, depending on the company, the existing and projected infrastructure, the competent public authority and the municipality. Under some extraordinary circumstances, overruns have amounted to 500% (IFT, ITAM and CEC, 2016).

Broadly speaking, industry players have expressed their concerns to the IFT that the permits and fees demanded by local authorities can be excessive, incorrectly applied given the situation or lack a legal basis (IFT, ITAM and CEC, 2016). In addition to the existence of arbitrary requirements, it appears that some local governments have compelled service providers to execute “in-kind donations” to benefit the local community or, in some cases, civil or private gain, as a condition for the granting of permits for infrastructure deployment. Examples include requirements to carry out repairs to public spaces and buildings or funding civil associations (IFT, ITAM and CEC, 2016).

The aforementioned issues create barriers to new or upgraded infrastructure development, something which is key to foster market entry by new players and to further expand telecommunication access across the country (IFT, ITAM and CEC, 2016). Incumbent actors, such as the CFE, Telmex or local cable television companies, have a distinct advantage, having dealt with these issues in the past. Telesites, for example, has over 50% of the antenna towers in Mexico (IFT, ITAM and CEC, 2016). By way of contrast, entities striving to deploy new infrastructure face tremendous barriers. Apart from the challenges of dealing with local authorities, space in prime sites may be scarce and shared infrastructure is not always possible. The IFT has concluded, for example, that only half of Telesites’ towers can support a second operator.

As one response to these problems, the LFTR tasked the SCT to ensure the co-ordination among all real estate management departments or agencies of the federal government (LFTR, 2014, Art. 147). Therefore each state or local Secretary of Communications should give recommendations to their respective state or local government directed at reducing bottlenecks to infrastructure deployment (e.g. unnecessary procedures, fair access to rights of way, unjustified charges). Nonetheless, the existence of over 2 400 municipalities, within
32 federal entities, with ample autonomy to issue their own rules concerning territorial administration greatly complicates the viability of such deployment for service providers.

To address this challenge, the SCT is currently pursuing different mechanisms to synchronise the involvement of local and state authorities through a passive infrastructure programme containing four parallel projects, with the intention of lowering the costs for infrastructure deployment and increasing coverage across the country (SCT, 2017a). These projects are discussed in turn below.

Recommendations for states and municipalities

Co-operation mechanisms need to be developed between the different levels of government and the industry so as to help concessionaires obtain licenses and authorisations for deploying infrastructure at federal, state and municipal levels. Here, the SCT aims to develop co-ordination agreements between the different players. Under these agreements, local and municipal governments undertake to strictly implement a model statute that would apply to all requests submitted by operators and infrastructure developers in connection with the construction, installation, expansion and modification of telecommunication and broadcasting infrastructure in their territory. By doing this, the SCT seeks to simplify and standardise criteria, including requirements, procedures and fees, thus reducing bureaucratic barriers associated with the deployment of infrastructure. A second action undertaken by the SCT, through the Ministry of Agrarian, Land and Urban Development (Secretaría de Desarrollo Agrario, Territorial y Urbano, SEDATU), was the inclusion of telecommunication infrastructures as basic infrastructure, such as water or electricity, in the new General Law of Human Settlements, Territorial Order and Urban Development (Ley General de Asentamientos Humanos, Ordenamiento Territorial y Desarrollo Urbano, LGAHOTDU) (LGAHOTDU, 2016), ending zoning restrictions for the installation of telecommunication infrastructures.

Lease of government real estate as passive infrastructure

The SCT issued an inter-agency agreement on 4 May 2017 which allows for approximately 110 000 state-owned structures to be used and shared by concessionaires (licensees), permission holders and infrastructure developers as passive infrastructure for telecommunication networks under non-discriminatory, equal access and non-exclusive conditions. Information pertaining to the relevant properties, including geo-referenced location as well as physical, economic, technical, safety and operational conditions, are available on an online platform since May 2017, operated and managed by INDAABIN. The economic conditions (i.e. price of the space to be leased) aim at fostering competition in the sector to encourage more operators to use the infrastructure (i.e. prices should be low in conformity with Article 147 of the LFTR).15

The one-stop online portal, ARES, was launched in May 2017 with 10 507 geo-referenced federal government buildings available for lease. The leasing price depends on the municipality, but in average, operators will only pay around USD 160 for a maximum rented area of 190 square metres.16 The aim is to reach 20 000 buildings by the end of 2017, and 110 000 in the near future. As a result of this project, the government fulfils the policy objectives as established in Article 6 (the right to access of information and communication technologies [ICTs]) and Transitory Article 17 Numeral III of the constitutional reform (i.e. which stipulates that the government should identify the largest number of public spaces to make available to telecommunication and broadcasting operators in order to foster infrastructure deployment).
Interested parties can use this platform, which will serve as a one-stop portal and electronically process all the requests. This will include the ability to sign the lease contract. Apart from the federal buildings, other interested public institutions, such as those at the municipal level, can become a member of the portal and present their properties that fulfil the necessary technical conditions.

The portal is commendable and an innovative approach to ease the deployment of passive infrastructure. It increases the efficiency of locating properties that are suited for building up infrastructure by establishing contact, facilitating agreement with the properties and cutting out administrative processes. Not only that, it provides a platform that makes properties available throughout the entire country.

National inventory

The SCT is co-ordinating the creation of a national inventory of all passive infrastructures, which shall include a record of any sites, ducts, posts and rights of way, among others, belonging to the federal administration and decentralised agencies such as Mexican Petroleum and the CFE. The goal of the inventory is to reveal the availability and status of this infrastructure in order to increase efficiency in deploying telecommunication networks. According to the law, the design, development and implementation of the SNII correspond to the IFT. The system will have to include information about the passive infrastructure of diverse entities, including decentralised agencies. It will be critical that both the SCT and the IFT be careful not to generate unnecessary duplication of information requirements for those which will be obliged to submit data through the SNII.

Rights of way

The SCT is promoting the use of federal rights of way of roads and railways for the installation of telecommunication infrastructure. Further details were described earlier in this chapter. In order to achieve this objective, it is extremely important that the SCT co-ordinates, issues and promotes guidelines that approve criteria, requirements and procedures at the national, state and municipal level in conjunction with the IFT, INDAAABIN, CRE, the Federal Roads and Bridges Access (Caminos y Puentes Federales, CAPUFE), the National Bank of Public Works and Services (Banco Nacional de Obras y Servicios Públicos, BANOBRAS) and the SEDATU. This also includes developing prices based solely on the factors influencing the deployment in order to guarantee the existence of telecommunication infrastructure, the use of spaces in federal real estate, the obtainment of construction licenses, and the use of the right of way and the fibre optic backbone lines of the CFE.

For their part, private sector actors have noted they would welcome the establishment of stricter time limits for the consideration period of deployment requests; the streamlining of procedures of applications, for instance, by establishing a centralised platform to process deployment requests; and that in the case an application is rejected, it would be desirable to require authorities to explicitly mention the reason for the rejection in order to allow applicants to remedy potential issues.

Red Troncal: A national backbone network

One of the recommendations of the OECD review in 2012 was for Mexico to make better use of the CFE’s “dark” or unused fibre, as it covered 50% of the country (OECD, 2012). In a country with an underdeveloped telecommunication market, this resource could, the review suggested, greatly support development policy objectives. At that stage,
the main backbone provider in Mexico was Telmex – though other small telecommunication transportation network providers were also present – whose fibre transportation network covered approximately 85% of the territory. The 2012 review mentioned that relying on a single provider led to higher costs and the potential for quality degradation for competitors. This suggested that backbone and backhaul sometimes comprised up to 70% of the cost to provide service.

The 2012 review did, however, commend action taken prior to the reform that had started to auction unused CFE fibre to the market. In 2010, a pair of the CFE’s fibre optic strands were transferred to Grupo de Telecomunicaciones de Alta Capacidad (GTAC), a consortium formed by Megacable, the Televisa Group and Telefónica. By 2016, GTAC was using almost 20 000 kilometres of this fibre. Nonetheless, the review cautioned that further action was needed to prevent a potential duopoly once the market had settled, and that policy makers should strive to make more of the CFE fibre available.

Transitory Article 15 of the constitutional reform established that, for the deployment of a national backbone network, the CFE would assign to Telecomunicaciones de México (“Telecomm”) its concession to install, operate and exploit a public telecommunication network and transfer all the resources and equipment needed to exploit the concession and guarantee Telecomm an effective and shared access to such infrastructure.

The Red Troncal is a project under which Telecomm plans, designs and builds on the CFE fibre ceded to it to provide a high-capacity fibre optic national data transport network. Along with Red Compartida, Red Troncal aims to support the development of broadband telecommunication services to places currently unserved, as well as to promote competition in locations served by only one fibre optic operator. The project aims to play the critical role of reducing barriers to entry for both fixed and mobile telecommunication service providers thereby enabling and improving outcomes for end users in terms of price and service quality. In addition, Red Troncal aims to offer backbone transport to other projects of the federal government, such as Red Compartida.

Consistent with the Constitution, on 18 January 2016 the transfer of rights of the CFE’s concession in favour of Telecomm was completed and formalised. This has laid the foundation for the use and expansion of the CFE’s fibre optic backbone to build Red Troncal. The 30-year concession granted to Telecomm is for a wholesale network, thus it can only commercialise capacity, infrastructure and telecommunication services to other concessionaires or resellers. That is, Red Troncal cannot commercialise services to end users, either directly or through affiliates or authorised subsidiaries, except in those geographical areas where there are no other concessionaires that provide such services.

Telecomm now has the obligation to plan, design and implement a programme to further develop the network, which must be updated every three years. To that end, important safeguards have been put in place. According to the concession, Telecomm must comply with investment, quality and coverage commitments and with the parameters established by all applicable laws and regulations. Additionally, it must operate the network under the principles of infrastructure sharing, unbundling of services and capabilities, transparency and non-discrimination, so that all operators and authorised entities that contract any service of the Red Troncal will have full clarity on the conditions and prices of the contracted services. Notably, Telecomm has assigned the right to use two fibre optic strands to Red Compartida, as part of the contributions of the Mexican government to this project. This is in compliance with Transitory Article 16 of the constitutional reform, which states that Red Compartida may contemplate the use of the CFE’s fibre optic network.
The Red Troncal project is now underway, making an important step towards a more extensive, diverse and robust backbone network. Such a development is essential to support policy objectives such as expanded service in areas that were underserved and more effective competition in those areas that had existing service. Challenges remain, however, including finding necessary investment to light the remaining dark fibre as well as adding redundancy in such a way that ensures the QoS objectives for the network. Meeting these tasks will not be easy in an environment of scarce public resources, but is essential to support the telecommunication market as well as other government initiatives such as Red Compartida and México Conectado.

Much more can be done in Mexico to promote synergies in the deployment of optical fibre in large basic infrastructure projects such as electricity, roads, oil pipelines, railways and so forth. The Red Troncal can play a critical role in this area, as Telecomm can build on its existing strengths, such as access to established rights of way. Accordingly, Telecomm is looking for opportunities in the area of public-private partnerships to expand the network and leverage private investment, and should consider entering into fibre capacity swaps with private operators, given its unique position.

Moreover, the increasing convergence between transport and communication services (e.g. connected vehicles, machine-to-machine transport logistics) means that the SCT is uniquely placed to set policy and ensure co-ordination in this regard. The SCT administers rights of way along roads and rail and is aware of ongoing construction and maintenance work, thereby enabling “dig once” policies. Co-ordination with other agencies and entities managing real estate and other rights of way of the federal public administration, particularly the high-, medium- and low-voltage posts of the CFE, for their use for the deployment of telecommunication infrastructure will be increasingly critical. The SCT can also co-ordinate contributions from the federated states to Red Troncal, adding to the project’s use and sharing of passive infrastructure initiatives.

The extension of the backbone network is closely linked to the SCT’s passive infrastructure projects, given it is necessary to take advantage of the rights of way of existing transport infrastructures (road, rail, electric and hydrocarbon network) and other telecommunication infrastructures to reduce deployment costs. Finally, the relationship between Telecomm and the CFE will be increasingly critical, as the CFE retains the control of facilities such as power line poles. Fibre is being deployed deeper into networks in all OECD countries to support fixed and wireless services, with urban infrastructure (e.g. the posts for street lights) becoming even more strategic facilities for such connections.

In sum, among the strategic projects defined in the reform, the most challenging to implement so far is the Red Troncal. The initial analysis provided to the SCT indicated that the project would not be successful without financial support from public funds. At a time of constrained public resources, this has slowed development. It is commendable, therefore, that the SCT and Telecomm are open to revising the original approach to meeting policy goals. Red Troncal does not need to be a single backbone network, nor is Telecomm’s participation required on all routes. Some options include: capacity swaps on different routes or allowing third parties to illuminate dark fibre on some routes in return for sharing capacity on those routes. In addition, the use of rights of way could be opened up where CFE fibre is deployed or where it is not yet available. It is also possible to facilitate access to tower infrastructure and afterwards as a passive infrastructure for the installation of antennas to all the concessionaires, so as to promote competition and coverage without the need to create a new network at the national level.
Finally, in May 2017, a request for expressions of interest on the Red Troncal was launched, aimed at gauging interest by the private sector in the project. It is intended to conduct a plan similar to the one for Red Compartida, in which, as part of the process, a publication of the general criteria of the project and the preliminary basis of the tender will be carried out. This will be conducted to increase transparency and legal certainty. Accordingly, the project will be developed as a public-private partnership. The technical details of the project will be determined as a result of the aforementioned consultations.

**Retail regulation**

Broadly speaking, while several aspects concerning retail regulation have changed following the 2012 OECD review, others have remained the same. All telecommunication service providers are still compelled to register their prices prior to their implementation. In addition, Telmex-Telnor, as the preponderant agent in fixed services, is still subject to price-cap regulation, although new services have been added to the basket of services, such as broadband Internet.

Notwithstanding the above, one crucial change is that the LFTR mandates that the IFT has the power to impose asymmetric obligations on preponderant agents or firms enjoying SMP, and to require the preponderant agent to obtain the regulator’s approval of the proposed retail prices. However, mobile services provided by preponderant operators or enterprises with SMP are currently not subject to price caps or any other price control methodology.

**Price regulation**

Retail prices for telecommunication services are freely set by concessionaires as a general rule, provided they register their prices with the IFT prior to their implementation. However, preponderant agents or undertakings with SMP must submit their retail rates to the IFT for their approval and registration, before employing them in the market.

Furthermore, consistent with Telmex’s and Telnor’s concession titles, and to the IFT’s resolution by which it declares América Móvil and other enterprises within its economic interest group the preponderant agent in the telecommunication sector, some of the said agent’s fixed service offerings are subject to a price-cap regime (IFT, 2014a, Annex 2: n. 40). Indeed, the preponderance resolution establishes a ceiling on the average weighted prices referring to a basket of basic residential and commercial telecommunication services, which must include, among others (IFT, 2014a):

- fixed local service:
  - per line installation fee
  - per line basic rate
  - local measured service rates
  - rates for local calls originating in fixed phones and terminating in mobile ones under the “calling party pays” scheme
- fixed broadband Internet access service, disaggregated according to offered speeds
- international long-distance services.
In addition, Telmex’s and Telnor’s concession titles determine that the following services shall be subject to price control mechanisms through the establishment of caps on the weighted average rates of a basket composed of basic services, aimed at ensuring that Telmex passes on part of its productivity and efficiency gains to its customers:\(^{20}\)

- Installation fees, encompassing the rates charged for the installation and connection of terminal and backbone lines to Telmex’s-Telnor’s network, for residential and commercial basic telephony services.
- Per line basic monthly rates – for terminal and backbone lines – for basic telephony services, for residential and commercial users, comprising a maximum airtime or number of local calls which must be offered free of charge.
- Retail tariffs for local fixed telephone calls for residential and commercial users. This is referred in Telmex’s concession title as “local measured service rates”.
- International long-distance rates (domestic long-distance has been eliminated through regulation).

The preponderance regulation, in addition to preserving the rules on the abovementioned services as per Telmex’s-Telnor’s concession titles, appends the following two services: calls originating in fixed lines and terminating in mobile lines and, notably in an increasingly converged competitive landscape, broadband Internet access services.

Pursuant to the preponderance regulation, the price-cap scheme establishes a maximum limit on the increase of a set of service prices, which cannot exceed the difference between the increase of the economy’s price index and the value of a productivity factor (X factor) determined by the IFT. In particular, the X factor shall be defined by the IFT based upon a technical-economic study that considers: the preponderant agent’s productivity gains, the economy’s productivity gains, the evolution in prices of inputs necessary for the services pertaining to the basket and the evolution of the economy’s prices as a whole.

In this manner, the methodology yields a measure of the company’s productivity and compensates for its improvement, while also taking inflation into account. In essence, by employing this methodology, Telmex’s prices must be consistent with the trends reflected by the average prices in the economy, and should decrease in accordance with its efficiency improvements and the technological innovations it implements. Consistent with the rules currently in force, the X factor has been established at a level of 0.98% and is applied from 1 January 2017 until 31 December 2018.

As per the preponderance resolution, every two years Telmex must submit to the IFT a proposal related to which services should be considered within the basket. In this regard, it should be noted that the regulated services may also include sub-baskets of services. Moreover, and following the obligations from its concession title, every four years Telmex must deliver its proposal on the pricing structure that should be applied, consistent with the described price-cap methodology.

Under these circumstances, should the IFT deem Telmex’s price-cap proposal unreasonable, the regulation defines a procedure in which three experts will present their opinions on what should be the appropriate magnitude of the X factor. One such expert shall be selected by the IFT, another by Telmex and the third is designated by mutual consent. In the end, the experts’ opinions shall be considered a valid input into the definition of the price-cap parameter; nevertheless, it should be underscored that it is up to the IFT to issue a final determination on the matter.
Aside from establishing asymmetric price-cap regulation on the preponderant fixed operator, it should be emphasised that the LFTR levies specific obligations geared at preventing discriminatory practices, including among these, margin squeezing – and/or obstructionist practices upon preponderant agents and operators with SMP for call and short message termination. In the provision of such service, the following practices are prohibited for retail prices:

- To differentiate in prices applicable to on-net and off-net services.
- To charge other concessionaires of public telecommunication networks rates that are higher than those applied by the preponderant/agent with SMP to its end users.

To conclude, transparency in the preponderant agent’s pricing strategies referring to fixed and mobile services is ensured through the establishment of accounting separation obligations which must be submitted periodically to the IFT for review (IFT, 2014a, Annex 1: n. 68 and Annex 2: n. 55). Furthermore, non-compliance with this asymmetric measure is a just cause for revoking the preponderant undertaking’s concession (IFT, 2014a). The broader functional separation of the preponderant operator and its related companies put in place by the 2017 preponderance review should enable some retail regulation to be eliminated. By way of example, to the extent that functional separation enables a successful uptake in local-loop unbundling, this will offer increased choice for consumers, abrogating the need for retail regulation to substitute for insufficient competition.

**Contract registration**

All telecommunication service providers (i.e. concessionaires and authorised entities) must register their model contracts of adhesion with the Federal Consumer Protection Agency (Procuraduría Federal del Consumidor, PROFECO) prior to their implementation and commercialisation. The purpose of this obligation is to allow PROFECO to verify the reasonableness of the provisions stipulated therein, as well as to allow users to acquire an improved knowledge and awareness of the different service offerings available in the market through their publication.

**Concessions and spectrum management**

**Concessions regime**

Prior to the reform, differentiated regimes were applicable in the concessions for broadcasting and telecommunication services. As a result, providers wanting to offer both services had to initiate separate procedures with different authorities, while observing several regulations in each case. In order to simplify this situation, and consistent with the shift towards convergence in telecommunication markets, the LFTR integrated concessions for the provision of both broadcasting and telecommunication services.

Following the reform, the IFT was designated as the competent authority to grant all concessions, eliminating the intervention of multiple institutions in the process. In addition, the LFTR created the single concession, which allows concessionaires to provide telecommunication and broadcasting services in a convergent manner (LFTR, 2014, Art. 3, Numeral XII). That being said, single concessions must be accompanied by an additional concession for the use of spectrum or orbital resources.

The latter of these concessions describes the frequencies granted by the IFT as well as which services the concessionaire is allowed to provide, according to the National...
Frequency Allocation Table (Cuadro Nacional de Atribución de Frecuencias). In this sense, the LFTR establishes four kinds of concessions for the use of spectrum or orbital resources: 1) for commercial use; 2) for private use; 3) for public use; and 4) for social use (LFTR, 2014, Art. 67). The main difference between these types of concession is the process that must be carried out to request, and be granted, these titles. Namely, concessions for most commercial and private use are awarded by means of a public auction, while those intended for public and social use shall be assigned directly.  

As a transitory measure for concessionaires that had acquired their rights prior to the reform, the LFTR allows them to request authorisation to provide additional services (LFTR, 2014, Transitory Article 8). Alternatively, they may migrate to a single concession, provided they are in compliance with the requirements set out by the law and that this does not constitute a breach of the terms of their current concessions. As for the case of concessionaires that hold several concessions, these entities are entitled to either shift to a single concession or consolidate the existing ones into a single concession.  

Pursuant to Transitory Article 10, however, an exception applies to preponderant economic agents and concessionaires whose concessions include prohibitions or restrictions in relation to the provision of additional services. For example, Telmex may not provide television services under its current concession given that a provision therein specifically bars it from doing so. In the aforementioned cases, prior to the request for further authorisations, concessionaires must certify that their concession contracts and/or relevant administrative permissions are in compliance with the constitutional obligations introduced by the reform before the IFT for 18 uninterrupted months. Additionally, preponderant agents cannot migrate to the single license regime unless they prove that they have complied with the obligations established in their concession titles for 18 uninterrupted months.  

In December 2016, the IFT decided to extend Telmex’s concession title for an additional 30 years, commencing in March 2026 (IFT, 2016c). In 2023, three years prior to the current title’s expiration date, the IFT is due to disclose the terms under which the extension is conferred to Telmex and Telnor (IFT, 2016c). The IFT says quite reasonably that, due to the dynamic nature of the sector, there is currently insufficient market and operational information in order to appropriately define the conditions that shall govern Telmex’s concession a decade ahead of it coming into force (IFT, 2016c). Moreover, in its resolution, the IFT did not carry out any analysis pertaining to Telmex’s compliance with the preponderance framework, which, as has been underscored, is a prerequisite for it to be able to provide additional services, mainly television, noting that such evaluation would take place in a separate procedure (IFT, 2016c). Accordingly, Telmex is still not entitled to deliver television services to its customers or replicate the bundled offers of other competitors that contain television services in the market. As in many areas of the current regulatory framework, the successful implementation of increased functional separation resulting from decisions taken under the 2017 preponderance review may make lifting this restriction on the preponderant operator an option in the future.  

In sum, unifying procedures for concessions and establishing the IFT as the single authority to grant and remove them have been major steps forward since the reform. Under the new framework, the competition review of the telecommunication and broadcasting sectors that was previously undertaken by the former Federal Competition Commission (Comisión Federal de Competencia, COFECO) is now also done by the IFT. The role of the SCT is limited to issuing non-binding technical opinions; this has undoubtedly expedited such processes. Nonetheless, there is little clarity on which aspects should be addressed by the SCT in these technical opinions. Currently this seems limited to making pronouncements...
regarding the suitability of possible concessionaires and the origin of the resources for investment. In an environment where a whole-of-government approach is needed, this can also have drawbacks, as the SCT may have difficulties gathering relevant information from other parts of the administration. Presently, there is no mechanism or procedure contained in a law or regulation that clearly indicates the topics on which the SCT must issue an opinion or that enables the SCT to request information necessary for the issuance of technical opinions from security agencies and competent supervisory bodies.

Finally, as noted, Telmex’s concession title expressly prohibits the provision of television services to the public. This legal restriction has several consequences, such as reducing incentives for the preponderant agent to invest in broadband infrastructure if it cannot offer a full range of services and limiting a potential competitor entering this market. It may also reduce the incentives for other competitors to invest in infrastructure given they do not have to offer a full range of services in competition with Telmex.

Telmex’s concession title stipulates some universal service conditions, as well as the expansion and modernisation of the network, and an obligation to install and maintain coverage in urban and rural areas. As such, enabling the provision of a full range of services may provide incentives for these activities. In other words, as a result of these coverage obligations, the telecommunication network of the preponderant agent reaches localities that may be more financially attractive if a full range of services could be offered.

Spectrum management

Spectrum management has been an area that has had a notable transformation since the 2012 OECD review. Pursuant to the Constitutional Reform Decree and the LFTR, the IFT is the sole competent authority for the awarding of concessions relative to the use, development and exploitation of the radio spectrum, notwithstanding the SCT’s power to issue a non-binding technical opinion. The same rule applies to the revocation and the authorisation of transfers or changes in shareholder control, ownership or operation of companies related to concessions in broadcasting and telecommunication services.

Furthermore, the IFT is charged with other related tasks, such as: the elaboration and approval of the plans and programmes pertaining to the use of the radio spectrum; the establishment of the requirements which must be followed for frequency bands to be granted; the determination of the monetary amount to be paid by potential or existing concessionaires – prior to a non-binding opinion from the Ministry of Finance and Public Credit (Secretaría de Hacienda y Crédito Público, SHCP); and the use of oversight and sanctioning functions on spectrum use. As guiding principles in the execution of these functions, the IFT is tasked with pursuing diverse objectives, such as working to benefit end users; promoting effective competition in converging telecommunication and broadcasting markets; ensuring efficient use of the radio spectrum; and fostering effective investment in infrastructure, innovation and industry development of converging products and services.

Commercial and private-use spectrum concessions must be awarded through public tender procedures, the exceptions being related to frequencies for experimental purposes or for amateur radio operators, with the aim of guaranteeing maximum market participation, preventing concentration phenomena and ensuring low prices for retail services. However, purely economic factors cannot be used as determining aspects to select a winning bidder. In particular, when awarding telecommunication concessions, the IFT may consider elements such as: the economic proposal, coverage, quality and potential for innovation. In addition, a competition analysis is performed by the IFT. Prior to the reform, this was divided between the former bodies of COFECO and the Federal Commission of Telecommunications.
(Comisión Federal de Telecomunicaciones, COFETEL), which have now been replaced by the Federal Economic Competition Commission (Comisión Federal de Competencia Económica (COFECE) and the IFT; thus, defining the IFT as the body to undertake such analysis is welcome. Spectrum concessions are granted for up to 20 years, with the possibility of extensions for equal periods, except for public or social use concessions, whose renewable period may only be up to 15 years.

The determination of the annual fees for spectrum use are established by the Mexican Congress based on a proposal by the SHCP and must be paid each year over the lifetime of the license. This scheme came into effect in 2003. While some countries have annual spectrum fees related to the administrative costs of managing spectrum (or some other form of annual regulatory fee), when an auction mechanism is in place, annual fees beyond such cost recovery are not usually employed. Some may consider the United Kingdom as a recent exception, which placed annual license fees on spectrum in the 900 megahertz (MHz) and 1 800 MHz bands (Ofcom, 2015). However, Ofcom, as part of its spectrum-pricing principles, only establishes annual license fees for spectrum that was not initially auctioned with the aim of reflecting the opportunity cost of using spectrum efficiently in bands facing high-usage demand (Ofcom, 2010). For spectrum that has been auctioned, the rationale for not using annual license fees is that the auction mechanism already promotes the most efficient use of the spectrum band, reflected in the willingness to pay of the player that acquires the license, and thus, no additional fees are required as long as the license has not expired (Ofcom, 2015; 2010).

The employment of annual fees, in addition to the use of an auction to establish an up-front payment, sets Mexico apart from the more common practice in OECD countries of having an auction determine the full amount for payment.

While most countries use an initial auction to determine the total price of spectrum, over the lifetime of a license, some countries allow bidders to spread payments over a number of years. This method has some of the same benefits of Mexico’s approach for operators. These consist in lowering entry barriers to the auction, by reducing the amount that needs to be paid when the spectrum is auctioned, while taking on less debt, by aligning the payments of spectrum fees with the cash flow generated through annual revenues of the operators. However, it has the important difference of using the auction mechanism to set the total fee. In Mexico, the sums of annual fees over the lives of licenses granted under this practice have represented 70% to 92% of the total cost of spectrum (IFT, 2017c). While the annual fees can be considered as part of the auction reserve price, the question can be raised as to whether the market value is discovered under this method as the up-front payment determined through the auction has represented no more than 30% of the total amount eventually paid. While this approach has some of the benefits of using auctions, such as transparency and explainable outcomes, it may not establish the market value of spectrum. This opens the risk of the eventual price of spectrum being higher or lower than would be achieved through an auction solely being used to determine the final value. Higher fees over the lifetime of the licence may result in discouraging market entry or lack of spectrum being taken up, whereas lower fees could mean the full amount participants were willing to contribute to the public purse has not been discovered. These two points can be further elaborated.

There seems to be two main potential drawbacks of using a hybrid model (i.e. an up-front auction fee and an annual fee) instead of an approach which relies entirely on an auction. First, if the hybrid model leads to uncertainty in a contract (as perceived by the potential bidders), it may dissuade operators from properly revealing their value for spectrum during the auction, leading to a misallocation of this scarce resource (i.e. spectrum being
allocated to a player that will not make the most efficient use of it). Second, even in the scenario of complete certainty of the contract terms, if the sum of an annual fee over the lifetime of the licence together with the initial up-front fee paid from the auction is substantially higher than the market value determined from a single auction, it may discourage market entry and efficient use of available spectrum, hence hampering competition. That being said, any system with a reserved price set too high may encounter a similar problem.

While operators take into account the net present value of these annual fees when bidding in an auction, introducing uncertainty in this contract or license would not allow the process to distinguish the true value of spectrum, as operators have no incentive to properly reveal their valuation if contracts can potentially be renegotiated and if they are unsure about whether the annual fees will remain constant. In other words, if authorities “know” that a bidder has a high valuation for spectrum, which they discover through the tender process, they may have an incentive to raise the fees in the next period. Therefore, operators will not want to reveal in the first place how much they “truly” value spectrum. This is known in the economic literature as the “ratchet effect”, or the lack of commitment in dynamic contracts, which results in a “bunching of types” (Laffont and Tirole, 1988). This renegotiation does not need to take place ex post, but just the mere fact that operators think that it will happen ex ante can lead to this result. In fact, the Business and Industry Advisory Committee (BIAC) to the OECD, has expressed the view that annual fees cause uncertainty in the amount operators may eventually pay for licenses over their duration. This would be dependent on an expectation around potential change. That being said, it can be noted that the Mexican Congress has not changed the spectrum fee in real terms since 2003, diminishing contractual risk.

In the case that auction participants are completely certain of the levels of these fees during the lifetime of the license, then these annual fees will have similar effects of increasing the minimum reference price of the auction. That is, if the sum of annual fees plus the up-front reserve price set by the regulator in an auction is very high, it may cause lack of participation in the auction by players that, if given the chance, may have introduced more competition in the market. It may also cause spectrum blocks to go unsold.

If an administrative process results in it setting the largest proportion of a spectrum fee rather than an auction discovering market value, the system in some ways resembles an administrative selection process. In this case, the efficiency of the secondary market for spectrum could also be hampered. Indeed, Paul Milgrom, an economist specialised in auction design, has made a strong case against using administrative selection, pointing out that if the good is initially allocated to the “wrong hands” in the primary market, there is no way of designing a private bargaining process (i.e. secondary market) without delays or failures (Hazlett, Muñoz and Avanzini, 2012; Milgrom, 2000).

In sum, “… a policy that has an enormous impact in increasing license revenues need impose only tiny proportional costs in output markets to undermine its social utility. So, for example, a new auction design that (heroically) doubled auction revenues would, if it reduced consumer surplus by just one half of one percent, produce costs in excess of benefits” (Hazlett, Muñoz and Avanzini, 2012).

When examining the different annual spectrum fees, which are paid per megahertz, significant differences can be observed depending on the spectrum band (Table 4.2). While the 2.5 Gigahertz (GHz) band has not yet been auctioned, operators have stressed that the differences in the annual spectrum fees do not provide equal conditions for all players due to historical spectrum holdings across bands. They are further concerned that for the upcoming 2.5 GHz auction, expected to be concluded by the second quarter of
2018, the minimum reference price, comprised by the sum of the reserve price chosen by the IFT and the net present value of annual fees determined by Congress, may be set higher than final auction results around the world in that band, as it could potentially dissuade participation in this important auction.

Table 4.2. Overview of annual spectrum fees

<table>
<thead>
<tr>
<th>Frequency range (MHz)</th>
<th>Price/MHz (MXN)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Communication Services (PCS) band</strong></td>
<td></td>
</tr>
<tr>
<td>824-849 MHz</td>
<td>42 334 690</td>
</tr>
<tr>
<td>869-894 MHz</td>
<td></td>
</tr>
<tr>
<td>1 850-1 910 MHz</td>
<td></td>
</tr>
<tr>
<td>1 930-1 990 MHz</td>
<td></td>
</tr>
<tr>
<td><strong>Advanced Wireless Services (AWS) band</strong></td>
<td></td>
</tr>
<tr>
<td>1 710-1 770 MHz</td>
<td>42 334 690</td>
</tr>
<tr>
<td>2 110-2 170 MHz</td>
<td></td>
</tr>
<tr>
<td><strong>2.5 GHz band</strong></td>
<td></td>
</tr>
<tr>
<td>2 500-2 690 MHz</td>
<td>17 355 390</td>
</tr>
</tbody>
</table>


Ultimately, with a well-designed auction, there is a strong tendency for the licenses to go to the parties that value them the most, and thus will make the best use of the spectrum (Cramton, 2002). For future auctions in Mexico, the critical aspect to take into consideration is how to ensure a “well-designed auction” that enables the determination of the market value of the spectrum. In this sense, future auctions should take into account that significant annual fees may undermine the mechanism under which an auction allows the process to properly reveal the value of spectrum, and thus allocate it efficiently. If it is considered beneficial for spectrum fees, derived from future auctions that set the total amount upfront, to be paid over several years this could be part of the auction conditions. Such an approach would permit the market value to be discovered while at the same time enabling the attributes of deferred payments.

**Spectrum allocation procedures for telecommunication services**

The IFT has promoted auctions as a way to develop the telecommunication service market and to enhance competition. This includes establishing non-monetary factors as requirements to attain licenses, in order to allow for participation of diverse bidders, regardless of their size and actual presence in the sector. Notably, the winners of the latest spectrum auction for mobile telecommunication services (Licitación IFT-3) were announced in February 2016.

Under the Licitación IFT-3, the IFT intended to allocate up to 80 MHz of the AWS band (1.7/2.1 GHz) for mobile services, in eight 10 MHz spectrum blocks integrating three different sub-bands of national coverage, as follows (IFT, 2015a):

- AWS-1 sub-band: three blocks of 5+5 MHz, within the 1 710-1 725 MHz/2 110-2 125 MHz segments
- AWS-3 base sub-band: three blocks of 5+5 MHz, within the 1 755-1 770 MHz/2 155-2 170 MHz segments
- AWS-3 extended sub-band: two blocks of 5+5 MHz, within the 1 770-1 780/2 170-2 180 MHz segments.
In addition to awarding further spectrum to mobile operators, one of the underlying objectives of this procedure was to rearrange concession titles from fragmented, regional licenses to national, contiguous allocations in the AWS band. The aim was to enable operators to provide improved services to their customers through a more efficient use of the radio spectrum, which in turn would contribute to a more efficient development of the mobile broadband market. AT&T and Telcel made spectrum available in the 1 735 MHz/2 135 MHz block that was previously fragmented regionally between the two companies. This was added to the auction; the auction therefore planned to allocate 80 MHz of new spectrum (divided into eight blocks of 10 MHz), and an additional 10 MHz of previously allocated regional blocks of spectrum were made available at a national level to players.

Furthermore, the terms of the tender expressly provided for specific caps geared at preventing spectrum hoarding: 80 MHz (40+40 MHz) in the AWS band in general, and of 50 MHz in the AWS-1 sub-band (25+25 MHz), in any region of Mexico. This cap considered both the previously assigned spectrum and any spectrum the winning bidder should accede to by virtue of the Licitación IFT-3 (IFT, 2015a, n. 6).

Ultimately, upon conclusion of the tender process, 80 MHz of the AWS band were made available, with AT&T having won two AWS-1 lots, Telcel having acceded to two AWS-1 lots and four AWS-3 lots, with 10 MHz in the AWS-3 sub-band remaining available for future tendering procedures (IFT, 2016d). AT&T and Telcel ended up paying the reserve price determined by the IFT, since each of them had diverged their existing lots in the AWS frequency bands. However, it should be mentioned that AT&T, while only having been allocated two lots in the AWS-1 sub-band, ended up paying more than Telcel, due to the higher value of this asset derived from the pre-existence of functioning networks and equipment therein (IFT, 2016d). In sum, the spectrum allocated through the Licitación IFT-3 shall generate, during the following 15 years, income for the state amounting to approximately USD 2.4 billion (MXN 45 billion), considering the monetary consideration and the annual fees to be paid by the winning bidders (IFT, 2016e).25

Both AT&T and Telcel have deployed their Long-Term Evolution (LTE) networks in the AWS band; hence, they are able to exploit the radio spectrum in a more efficient manner, offering their clients higher data transfer rates (IFT, 2016f). At the same time, the IFT expects that the allocated spectrum shall result in increased innovation, investment and coverage of mobile telecommunication services across the country (IFT, 2016e). To conclude, as an outcome of the Licitación IFT-3, Telcel possessed 80 MHz of spectrum at a national scale in the AWS band, and AT&T had 50 MHz. Consequently, Telcel moved from having 29.8% of the total international mobile communications spectrum to having 41.2% thereof, while AT&T’s share decreased from 43.7% to 38.2%, as did that of Teléfono, moving from 25.1% to 19.5% (IFT, 2016e).

Finally, among the IFT’s plans for 2017 is the execution of a public tender procedure concerning the 2.5 MHz band, which is crucial for the provision of next-generation mobile services, eventually permitting existing network operators to deploy Advanced Long-Term Evolution (LTE-A) services through carrier aggregation (Castañares, 2016a). The auctioned spectrum shall be composed of a 130 MHz package, distributed in three bandwidths, one of them possessing a capacity of 50 MHz, and the remaining two with 40 MHz capacity (Lucas, 2016a). Initially scheduled to take place during the third quarter of 2016, the auction was delayed in consideration of the potential beneficial relationship with the Red Compartida.
The secondary market for spectrum

The LFTR creates a secondary market for concessioned spectrum frequency bands of commercial or private licenses, allowing concessionaires to transfer the rights to use the radio spectrum without changing the concession title holder, thus avoiding the need to enter into public tender procedures. However, spectrum leasing is subject to the IFT’s prior authorisation. In March 2016, the IFT issued rules aimed at fostering competition in services utilising spectrum as an input and reducing inefficiencies that occurred in the allocation of spectrum (e.g. spectrum that remains idle). Hence, the rules allow third parties to use spectrum to meet the demands of users, guaranteeing more efficient use. An additional objective inherent to this piece of regulation is to avoid harmful effects on competition, such as concentration, cross-ownership or hoarding.

One of the conditions under which spectrum may be leased is when the lease owner possesses a sole concession for commercial or private use, depending on the nature of the concession enjoyed by the leasing party. Moreover, it determines that the interested parties may freely determine the contract’s duration, provided it does not surpass any of their concession titles. Finally, the lease may be total or partial, as it may regard channels, frequencies or frequency bands.

Although there was a nascent secondary market prior to the reform, the lack of clear regulation on the subject gave concessionaires excessive discretion to determine the contractual provisions governing the lease of spectrum, thus creating a great deal of speculation (COFETEL, 2013). Consequently, as acknowledged in a study undertaken by COFETEL in 2013, there was a compelling need to issue specific legal and regulatory provisions in this area, which has finally been accomplished through the LFTR and the rules recently established by the IFT.

To conclude, the changes introduced to enable a secondary market through clearer regulation are commendable. Even during the process to develop the new Spectrum Leasing Guidelines, the IFT authorised the lease of spectrum, as well as the exchange of frequency bands, between AT&T and Telefónica (IFT, 2015b). These companies were authorised to exchange their assigned frequency blocks in the 1.9 GHz band in the case of AT&T and the 1.7/2.1 GHz band concerning Telefónica, in specific regions in Mexico. Subsequently, Telefónica was enabled to lease the frequency bands acquired within the same areas (IFT, 2015b).

In April 2017, the IFT approved an agreement between América Móvil and MVS Comunicaciones (MVS) that Telcel could use 60 MHz in the 2.5 GHz band assigned to MVS. Due to the SCT’s 2013 mobile network deployment condition, this spectrum has to be in use by 31 December 2017 to avoid losing the concessions it still possesses in this high frequency band (Lucas, 2016b). Some criticism has been raised in relation to this transaction, considering that it would enable Telcel to exploit the 2.5 GHz band before its competitors, without having to partake in a public tender procedure (Lucas, 2016b). Following a period for public consultation on the auction procedure for the 2.5 GHz band, in mid-2017, the auction is expected to be concluded by the second quarter of 2018. This means operators will likely be able to start using spectrum in this band from the beginning of 2019. By the same token, some have indicated that the transaction may pose some challenges to the IFT and the Red Compartida. Firstly, it accentuates the urgency of making the 130 MHz that the state currently controls in the 2.5 GHz band available to the market; and secondly, the Red Compartida’s winning bidder may lose a potential customer (Telcel) due to the latter’s control of spectrum in the 2.5 GHz frequency band (Lucas, 2016b).
Spectrum refarming

The IFT has taken action with respect to spectrum refarming, and recently initiated the rebanding processes in order to accommodate public protection and disaster relief narrowband services in the 806-814/851-859 MHz frequency band and broadband services in the 814-824/859-869 MHz band. At the same time, it intends to carry out similar initiatives in 2017 in relation to the 1 900 MHz band, foreseeably through contiguous and larger blocks for serving LTE networks (Lucas, 2015).

The dynamic use of spectrum

The IFT is currently conducting a study that reviews existing technologies that enable dynamic access to spectrum. The work examines which technologies are currently under development and which have already been successfully implemented to identify viable options for Mexico. A second stage of the research will assess the legal and regulatory framework and the economic and competition elements to assess their implementation in the context of the Mexican regulatory framework. If regulatory barriers are identified for the dynamic use of spectrum, the study will recommend actions to reduce such barriers. The outcome of the research, to be published in the second quarter of 2017, is timely. Given the growing demand for spectrum to be used by communication services, and in light of convergence, it is envisaged that the dynamic use of spectrum may lead to a higher degree of spectrum utilisation and thus better use of this scarce resource. Some OECD countries have started to look at the necessary conditions for such a dynamic use of spectrum; actions in this respect are timely (OECD, 2015).

Internet traffic exchange and network interconnection

The 2012 OECD review noted that Mexico was the only country in the OECD which did not have an Internet exchange point (IXP) and recommended that one or more be established by Internet service providers. IXPs allow Internet service providers to exchange domestic traffic more efficiently and at a lower cost, rather than sending traffic outside the country only to return for termination. An IXP allows for the exchange of traffic at a single point, reduces transit costs, eliminates cross-border transportation costs, and provides an incentive to create national content and a data centre infrastructure in the country. Since the 2012 OECD review an IXP has been created in Mexico; however, traffic exchange is reportedly low. Additionally, at the close of 2016, the preponderant agent in telecommunication services had not participated in the exchange. Ideally, IXPs are voluntary, co-operative and industry-driven entities that benefit all players. The exception can be where a single player has an overwhelmingly large share of a market and decides not to participate in any IXP in that country.

It is important to remember that while asymmetric regulation is used at this stage with the preponderant agent, in the long run, Internet traffic resolutions should aim to promote a market-led traffic exchange model based on a diverse combination of neutral and community-based IXPs, as well as for-profit and private ones, with different pricing models and services. This will be increasingly critical in Mexico considering the convergence towards Internet Protocol (IP) networks and the growing volumes of traffic to be exchanged. There is no need for domestic traffic to be exchanged at foreign IXPs if effective domestic equivalents are established; this is one of the objectives of the National Digital Strategy.
Policies and programmes towards increasing access and usage of ICTs

The National Digital Strategy and the Digital Connectivity Programme

The National Digital Strategy

In 2013, a department within the Presidency was created whose purpose is to formulate, co-ordinate and periodically evaluate the first National Digital Strategy undertaken in Mexico: the National Digital Strategy Department of the Presidency (Coordinación de la Estrategia Digital Nacional de la Presidencia de la República) (Gallegos, 2013). The National Digital Strategy (México Digital), launched in November 2013, contains the goals and actions to be undertaken by the federal government over the subsequent five-year period (2013-18). The aim is to boost the quality of life for all Mexicans by maximising the economic, social and civil benefits derived from access to and use of ICTs (Government of Mexico, 2013).

The strategy aims to make Mexico a leader in digitalisation among Latin American countries, as well as to raise performance as measured by key indicators of digitalisation in the OECD (Government of Mexico, 2013). Furthermore, the strategy responds to the provisions listed in Transitory Article 14 of the 2013 Constitutional Reform. Namely the National Policy for Universal Digital Inclusion must guarantee that at least 70% of households and 85% of all micro, small and medium-sized enterprises at a national level have access to broadband with actual download speeds consistent with the average in OECD countries.

The National Digital Strategy establishes five objectives to be fulfilled by 2018 in the areas of governmental transformation, digital economy, quality education, effective and universal health, and civic innovation and engagement. Under the topic of governmental transformation, the strategy is geared to building a new relationship between society and government through the adoption of ICTs. This is currently undertaken through the Ventanilla Única Nacional and the open government initiatives. The digital economy objective is directed towards applying ICTs in economic processes as well as stimulating productivity, economic growth and job creation. The Programme for the Development of the Software and Innovation Industry (PROSOFT) and the Public Challenges (Retos México) initiative support this objective.

The quality education goal aims to integrate ICTs into the educational process, by virtue of initiatives such as @prende2.0, MéxicoX, Online School (Prepa en Línea) and the Open and Distance University of Mexico (Universidad Abierta y a Distancia de México). In the area of effective and universal health, it is intended to generate a comprehensive digital health policy that increases coverage, effective access to and the quality of health services, so as to make infrastructure in this sector more efficient. The most important project in this context is the National System for Basic Health Information, which aims to manage the identity of an individual throughout the health sector and the efficient use of the capacity of all the institutions of the public sector. The RadarCiSalud mobile application is based on the National System for Basic Health Information and the Guidelines of Information Exchange on Health have been implemented within the framework of the Sectoral Health Programme (Programa Sectorial de Salud). Finally, under the theme of innovation and citizen participation, the aim is to enable citizens’ involvement in the development of governmental public policies (Government of Mexico, n.d.). This is the Mexican government’s initiative for fostering digital citizen participation aimed at improving public policy, making its process more effective, inclusive and collaborative. The “gob.mx/participa” has five key components and is aimed at simplifying citizen and
government engagement by providing multiple paths to participation. It is also aimed at improving the accessibility, quality and response cycle to citizens’ petitions.36

While the areas mentioned above go beyond the scope of this review, the National Digital Strategy acknowledges that, in order to attain its objectives, an enabling environment must be created, through: connectivity; inclusion and digital skills; interoperability; the legal framework; and open government data (Government of Mexico, 2013).

A key goal in promoting next-generation access is fostering greater connectivity throughout Mexico. The strategy envisages several initiatives to support this aim, including the expansion of the fibre optic backbone network (Red Troncal); the deployment of a shared wholesale mobile network (Red Compartida); the promotion of broadband access in public sites through the México Conectado initiative; the sharing of infrastructure and rights of way between operators, concerning the state’s passive infrastructure; the efficient use of the 700 MHz and 2.5 GHz bands, and in general of the radio spectrum; and the establishment of IXPs, among others.

As these initiatives are covered in other sections of this chapter, only the Mexican Satellite System (Mexsat) will be considered here, together with the draft National Satellite Policy. Mexsat is viewed as a crucial asset to provide broadband services in remote and underserved areas, as well as to meet requirements in fields such as defence or emergency services.

**Satellite use in the National Digital Strategy**

Mexsat is the third generation of the country’s satellite system. It currently consists of two satellites. Bicentenario, launched in 2012, is geared towards providing fixed communication services. The other, Morelos 3, which was launched in 2015, is aimed at supplying mobile services. A third satellite, Centenario, was originally planned but lost during launch. The SCT plans the establishment of a third satellite in the Mexsat system. There are two in-country Telemetry and Control Centres for their operation, located in Mexico City and Hermosillo (Sonora), respectively. The satellites fall under the auspices of the federal government and are required to be operated by Mexican citizens (Posada, 2016).

Mexsat offers numerous communication services, including:

- through the Bicentenario satellite, connectivity for 5 000 rural schools and other public “hot spot” sites pertaining to the México Conectado programme
- the operation of the Morelos 3 satellite, which provides nationwide real-time voice, data and video services on land, at sea and in the air, over the entire area covered, with the capacity to deliver mobile telecommunication services to up to 110 000 users
- the provision of capacity for defence and emergency services, something that was uppermost in the design of the satellite and required higher security levels as well as enabling a standardised communication platform across such use.

The Mexican government is further developing a National Satellite Policy (SCT, 2017b). The draft, which is based on five main objectives, was out for public consultation until March 2017. The main objectives are: 1) social inclusion; 2) economic prosperity; 3) national security; 4) technological development; and 5) international co-operation. These five objectives are articulated through lines of action – policy, financial and regulatory – and are elaborated in accordance with the National Digital Strategy. In order to develop a
coherent vision and ensure co-ordination, the draft policy states that the SCT shall establish an Inter-institutional Satellite Committee to:

- define the targets and indicators needed to measure the progress and effectiveness of the Mexican satellite policy
- design and implement plans for the implementation and follow-up of actions suggested by the satellite policy
- advise the government on satellite issues.

The current draft policy has yet to provide details on the composition of this committee. In order to be effective, the committee should include all of the different governmental entities currently involved in satellite policies, as well as other stakeholders, such as the satellite and related communication industry and civil society.

Overall, the development of a National Satellite Policy is commendable given that the current governance framework is complex and that investments, especially from the private sector, have been modest in recent years. The current draft, however, is general in nature and contains few concrete actions or measures. Some of the pillars, such as economic prosperity and national security, will need to balance different sets of interest and, so far, the priorities or weighting of the different pillars are yet to be defined.

The private sector has raised concerns related to the policy determining the reserved capacity they are required to grant to the state. Currently the SCT determines the Satellite Capacity Reserved to the State (Capacidad Satelital Reservada al Estado, CSRE), which the operators must make available to the federal government for its use in national security, civil protection and social coverage, based on Article 150 of the LFTR.

If the satellite service provider is the holder of an authorisation to exploit the rights of emission and reception of signals from foreign satellites, a lower CSRE is required than that from concessionaires of Mexican orbital resources. Concessionaires exploiting signals from foreign satellites generally must provide 8 MHz of capacity as CSRE, though a contribution of 5% of total income is an alternate option. This 8 MHz contribution corresponds to a much lower percentage of total capacity on foreign satellites. For concessionaires of Mexican orbital resources, the contribution varies from 2% to 12%, but it is on average around 7% of the total capacity. When considering this reserved capacity, the way in which the CSRE is “delivered” by each operator causes the reserve capacity to be segmented and distributed among several satellites. This in turn makes its use inefficient.

Especially when national slots are occupied, the reserved capacity requirements are said to be high, which could be a barrier to further investment and competition in the market if such arrangements make projects less attractive. The current draft acknowledges that the existing regulation needs to be revised, but does not elaborate a proposal for such a revision. A first step could be evaluating the capacity that is needed by the government to meet policy objectives in the future. This could look at what is now available through the Mexsat system to meet demand and will become available in the future through the planned third satellite. It could also assess needs that could be met through other networks, such as the Red Compartida. This assessment, together with calculating a value for the state reserved capacity, could be viable next steps to make the policy more concrete and to revise the reserved capacity requirements. With respect to the reserved capacity requirements for existing satellites, the government should take into account that these were priced in when establishing the conditions for the current operators of the
satellites. In addition, where the reserved capacity is currently being used and cannot be eliminated without negative effects on the provision of social services or national security matters, these considerations would also need to be taken into account. If it is decided to lower the requirements and to establish neutral requirements across different orbital slots, existing operators could be given the choice to lower the requirements on their satellites by paying a fee, which reflects the value of the freed capacity.

In relation to México Conectado, the Bicentenario satellite plays an important role in providing connectivity to schools and other public locations. It was not, however, initially designed with broadband connectivity in mind; rather other public policy requirements were at the forefront. Given the higher degree of specification in terms of security required for areas such as defence, the provision of services over this satellite is more complex than over satellites dedicated to civil use.

As the demand for communication services increases, multiple governmental agencies and public entities are requesting capacity on the Bicentenario and Morelos 3 satellites. This capacity is also in high demand for commercial use, which could generate additional revenues. While a careful assessment is needed of the different satellites and their properties to ensure sufficient capacity is available for public policy priorities, this could provide a source of income when different entities need to bid for capacity on the satellite at commercial rates, taking into account the overall capacity available. This additional income could be used to fund alternative connectivity for users under México Conectado. For example, if the capacity currently being used for schools was made available at commercial rates to other users, this revenue could be used to connect schools to providers using the Red Compartida, at a more economic rate and higher capacity, as it expands into their locations in rural areas.

The satellite capacity reserve provided for in the LFTR restricts domestic and foreign investment in the country and is a disincentive to occupy orbital resources allocated to Mexico. In addition, it is an entry barrier in the exploitation of the orbital resource and associated spectrum. It is therefore advisable to revise or eliminate it. In any case, the policy should carefully consider how to guarantee the continuity of current services that are provided on these resources.

The Digital Connectivity Programme

Spurring connectivity is a key enabling factor of the National Digital Strategy. The SCT has recently disseminated its Digital Connectivity Programme, encompassing ten projects – some of which have already been executed and some of which are underway – geared at expanding the Mexican population’s access to broadband services, founded on the fundamental right to access ICTs stated in Article 6 of the federal Constitution. The programme’s main objectives are severalfold: first, to promote access to ICTs by ensuring the existence of fixed and mobile telecommunication infrastructures across the entire national territory that are compliant with international standards respecting quality and availability thereof; and second, to foster service affordability, so as to guarantee that all persons, regardless of their income, are able to access broadband services (SCT, 2017a).

The ten projects that compose the SCT’s Digital Connectivity Programme are: 1) the DTT transition, which has already been completed, making Mexico among the first country in the Americas to release its digital dividend; 2) the shared wholesale network, Red Compartida, aimed at boosting availability and access to quality mobile broadband services throughout the country at affordable prices; 3) the availability of passive infrastructure pertaining to the state (real estate and rights of way that could be employed
in infrastructure deployment); 4) the fibre backbone network, Red Troncal, a high-capacity data transport network under the responsibility of public service provider Telecomm; 5) the Mexican Satellite System (Mexsat); 6) Mexico’s Satellite Policy, through which it is intended that Mexico consolidates its leadership in Latin America by means of encouraging investment, promoting competition and advancing co-operation between public and private entities; 7) México Conectado, directed towards providing free broadband Internet access in public sites; 8) Puntos México Conectado, directed to increase digital literacy and skills among the Mexican population; 9) the National Network for Scientific and Technological Research and Education (Nicté), focused on interconnecting Mexican higher education and research institutions with the global community; and 10) the National Spectrum Programme, bolstering availability and efficient use of the radio spectrum (SCT, 2017a).

To meet the Mexican federal government’s digitalisation and connectivity objectives, it is crucial that broadband access availability and take-up is expanded throughout the country. Reforms introduced in recent years in many ways rightly harness market forces to do the “heavy lifting” to meet this requirement. In part this is because public resources are always scarce relative to other priorities and because by using competition to grow that part of the market those scarce resources can be targeted to where they are most needed to address inequalities and promote inclusion.

Since 2012, in this respect, the outstanding change in Mexico’s connectivity and usage has been in mobile broadband. Progress has been made but is slower in fixed broadband penetration, such as in the area of prices and take-up. Some may see this as a natural progression given changing technological capabilities and demand. However, in many ways the technologies are complementary for users that can afford both services. If increased competition in fixed markets can be raised to the level of mobile service, Mexican consumers can enjoy the same levels of complementary usage as in other OECD countries. At the same time, policies are needed to address those areas not reached by the market and to assist people to develop the skills they need to benefit from the digital economy.

In many ways, if successfully implemented and expanded, programmes such as the Red Compartida and Red Troncal could be transformative enablers for many of the other initiatives such as México Conectado.

With respect to the government strategies, critics assert that although the National Digital Strategy is ambitious and well-intentioned, some programmes have fallen short of their objectives due to factors such as budgetary constraints, issues of cohesion across different parts of government services or a lack of clear indicators that enable an assessment of their performance in areas such as connectivity, inclusion and e-government. Proponents point to progress in areas such as connectivity and, in the case of e-government, the approval by the Ministry of Public Administration (Secretaría de la Función Pública, SFP) of the guidelines for government purchases in technology as part of the development of an information technology policy.

Six months into the National Digital Strategy, important additions were added to the National Institute of Statistics and Geography’s National Indicators Catalogue to assist in assessing performance. These included, for example, the percentage of households with Internet access, the percentage of exports of ICT goods and the percentage of imports of ICT goods.

Critics point to the challenges in reaching the targets of some of the programmes against the goals set for them. Some industry and civil associations have underscored that
some of the strategy’s components, on topics such as digital inclusion and e-government, have shown less progress than expected and have been delayed (e.g. the Ventanilla Única Nacional). In addition, some believe the five-year target is too short to accomplish the goal of being the leading Latin American country in terms of connectivity, and attaining digitalisation levels similar to those present in OECD countries. On the other hand, especially in the area of e-government, progress has recently been made according to the United Nations’ E-Government Survey 2016 (United Nations, 2016): in the Online Service Index Mexico moved up from 35th position in 2014 to 19th in 2016 and in the e-Participation Index, it moved up from 45th position in 2014 to 14th in 2016. In addition, the Mexican government established an Interministerial Commission for the Development of Electronic Government (Comisión Intersecretarial para el Desarrollo del Gobierno Electrónico, CIDGE) to co-ordinate e-government matters. The SFP has the lead and works with other ministries to co-ordinate e-government programmes.

Overall, the goals set out by the federal executive are in many ways ambitious and are made more challenging by budget constraints shared across all areas of government (Arteaga, 2015; Sánchez Onofre, 2015). This is why it is so critical that programmes such as the Red Compartida build on the progress made by increasing competition in commercial supply, and that other programmes, such as México Conectado, leverage the new capabilities of this network to meet objectives. Going forward, it will be critical to work on an update of the National Digital Strategy and establish clear milestones for the different programmes for the coming years in co-ordination with the different governmental and public entities.

**Digital inclusion strategy**

**México Conectado programmes**

México Conectado

Launched in 2013, México Conectado is the government’s social Internet connectivity programme. Currently, around 81 000 public schools, libraries, clinics and other points of interest are reported to have Internet access and the installation of a further 20 000 is underway. This was achieved through co-ordination between the federal government, along with states and municipalities, and private investors. As a result, several federally financed public tenders have taken place, by means of which private operators have participated in the provision of connectivity to public sites.

A breakdown of the connected sites is provided here (Figure 4.1) (SCT, n.d.). A large majority is public schools, followed by public spaces, healthcare facilities, government entities and community centres. Research institutions represent only a minute percentage. Furthermore, 69.6% are connected through a fixed terrestrial network with an average bandwidth of 19 Mbps, while 29.1% employ satellite technologies with an average bandwidth of 1Mbps to 2 Mbps. Finally, 1.3% use high-capacity broadband services, with an average of 300 Mbps, although available bandwidth may reach 10 Gigabytes per second; over half of these sites enjoy Wi-Fi access (SCT, 2016; n.d.).

The distribution of the México Conectado sites is uneven across the country, though in part this reflects population density. The majority of sites are in the State of Mexico, with around 13%, followed by Nuevo León, Veracruz, Jalisco, Sonora, Tabasco, Puebla and Oaxaca, each accounting for 5% to 6% (SCT, n.d.). The states of Baja California Sur, Aguascalientes and Zacatecas have less than 1 000 connected sites (SCT, n.d.).
4. POLICY AND REGULATION IN TELECOMMUNICATION AND BROADCASTING IN MEXICO

The positive effects of the programme range from improving the quality of public services with ICT technologies that would have been unavailable without Internet access to reducing the digital divide by increasing free Internet access for the general population. In addition, it has aided in achieving better economies of scale by aggregating the demand for Internet services of the three levels of government through public tenders. In acknowledgement of these advancements, the programme was awarded the World Summit on the Information Society prize for information and communication infrastructure.

While an admirable initiative, México Conectado will face challenges in its execution going forward due to a significant budget reduction (Juárez Escalona, 2016). From USD 88 million in 2015 and USD 40 million in 2016, only USD 12 million has been assigned for 2017, in line with overall stringency measures taken across many areas of government spending (Juárez Escalona, 2016). Consequently, the SCT has reduced México Conectado’s objectives and has decided to focus exclusively on providing connectivity to public schools (Juárez Escalona, 2016). While the goal at the commencement of the programme was to connect 250 000 public sites, this has been reduced to 120 000 (Castañares, 2017). Furthermore, while previously 42 000 public sites were targeted to increase per year, the shift in focus has dropped to 8 000 schools only (Juárez Escalona, 2016). This shift means that other public sites such as government entities, healthcare institutions, public spaces, community centres and research institutions will not be included in the project moving forward (Juárez Escalona, 2016). The SCT is currently working on the design of a tender procedure aimed at delivering connectivity to these educational institutions.

Fostering private sector involvement in the pursuit of these objectives may not only offset a reduction in public funds, but may expedite its effective execution. Furthermore, well-managed and supervised public-private partnerships can help to ensure that public funds are used effectively and efficiently through risk-sharing schemes (Lucey and Mitchell, 2016; EPEC, 2012). There are examples of countries that have effectively used public-private partnerships to support their national broadband plans, including Mexico itself with Red Compartida. These experiences should be considered when Mexico decides whether to pursue this option (Galperin, Mariscal and Vieccens, 2013).
Aside from potential partnerships with the private sector, it is equally important to involve municipalities. Apart from creating potential co-financing options, this allows opportunities to increase the acceptance of programmes and to involve communities in its implementation. In Colombia, for example, public institutions at the local level can apply for a similar programme, but they must co-fund it to ensure local buy-in. Depending on the income levels of the entities, the amounts of co-funding varies. While wealthier areas fund over 50% of such programmes, there are lower requirements for less affluent locations (OECD, 2014).

Aside from the availability of resources for México Conectado, other challenges facing the project have been raised. Some stakeholders say performance levels have fallen short of expectations at some locations. Examples include connections not being effectively maintained or offering speeds that are lower than the QoS standards agreed by the contractors. In general there appears to be less satisfaction with satellite connections than fixed ones, though overall speeds are lower than expected across the board, even on fixed networks.

In the future, service providers using the Red Compartida could be used to provide higher quality connections to schools in rural areas at lower costs compared to satellite connections, for example. In any case, a close monitoring of the performance of the different sites is critical to track whether operators comply with contractual requirements and deliver the respective speeds to public sites. Performance measures could then be reported on the statistics section of the México Conectado website. In addition, suppliers should be required to consult with communities on where to place the optimal points of presence when installing sites.

Finally, the experience of the programme again underlines the importance of effective co-ordination across different parts of government. In the case of schools, the various contributions necessary for a school’s successful connection rely on inputs from different ministries; it is essential that these inputs are available at the same time. It has been reported, however, that devices were provided to schools that were not yet connected to the Internet, while connectivity was available to some that had not received the necessary devices to access the Internet. The new joint programme @prende, described later in this chapter, is a good step forward to overcoming such instances. Under this project there is a greater recognition of the need for different ministries to work together to ensure the co-ordinated delivery of all the necessary inputs. This includes making sure schools are equipped with both Internet connectivity and devices to access the Internet, and ensuring that digital content is part of the curriculum and that teachers are trained to capitalise on the new digital technologies available in the classroom.

Puntos México Conectado

Puntos México Conectado is a federal government initiative that intends to develop digital skills among people of all ages. There are 32 puntos (centres), one in each state, that are operated by private individuals specialised in information technology. The puntos provide training in topics such as digital literacy, robotics and programming, as well as entrepreneurship. Furthermore, this competency-based training approach is being applied to the areas of digital training, innovation, cultural heritage and artistic expression to promote the development of digital cultural skills. In addition, the programme also gives special attention to disadvantaged social groups such as women, indigenous people and people with disabilities.

The initiative is reported to have had a noticeable effect in the areas where there is a centre. It has done this by offering programmes and courses for every age group, providing participants with the abilities needed to incorporate technology into their daily lives.
Another example is how the promotion of technological tools for productive projects is said to have helped increase the productivity of small and medium-sized enterprises and contributed to the creation of new formal jobs. Advocates say this constitutes a step forward from previous efforts at closing the digital divide, considering that former plans focused almost exclusively on basic digital literacy. In contrast, this programme aims to go beyond earlier initiatives by setting the base for the development of technological skills and promoting interest in areas such as science and technology among the entire population. Critics, however, point out that 32 puntos for a country the size of México is insufficient and that more needs to be done to further develop advanced digital skills among the Mexican population and firms. While the programme could be extended, it is important to ensure long-term financial sustainability as it is based on federal governmental funding. Options could include involving local levels of government, such as described earlier, or working jointly with companies that could, for instance, rent the sites for a certain percentage of time to undertake training programmes.

@prende México 2.0

@prende México 2.0 was launched in November 2016 as part of the educational reform. The project acknowledges and aims to remedy some of the challenges of past ICT adoption programmes. In particular, it is aimed at promoting the use of ICTs to develop skills for a digital economy and society for both students and teachers. The programme has six principal components: 1) teacher training; 2) digital education resources; 3) statistical initiatives; 4) equipment; 5) connectivity; and 6) monitoring and evaluation.

It is aimed at students, parents and faculty, with the objective to strengthen the essential skills needed in a digital economy. One of the backbones of the programme is the training of teachers in the use of ICT, regardless of their level of basic education.

From 2017 to 2018, the pilot programme is being set up in 3 000 educational institutions. The focus is no longer on handing out devices, but rather providing a better digital learning environment and equipping classrooms. These classrooms will be fitted out with electronic devices and content servers connected to the México Conectado programme. Internet traffic will be monitored, taking into account the Internet capacity of these schools. Through the use of these devices, users will gain access to a compilation of digital educational resources, starting with 2 000 content elements. The content platform @prende has also been launched and includes material for all levels of the Mexican basic education system nationwide, and which is made available both to public and private schools. The platform is available to teachers and members of the broader school community, who are able to access a broad range of subjects. It also offers a series of free activities such as courses, tournaments, workshops and projects to benefit the community. The programme, thereby, aims to promote technological inclusion of different social groups and to strengthen social cohesion in the community through ICTs.

Three different models of the programme will be put in place based on the quality of the Internet connection. A school with a lower level of connectivity will receive updates of the educational content, while schools with higher connectivity levels will have additional functions, such as developing content in the cloud or following online courses. A monitoring and evaluation phase is planned, in which the use, efficiency, connectivity and availability of the resources provided will be assessed in order to determine the programme’s results.

It is commendable that the programme focuses on teaching skills that are essential for a digital society, such as critical thinking and problem solving using digital tools, compared to the prior focus of distributing devices. In addition, the monitoring and evaluation pillar
of the programme is crucial. According to the programme, it will monitor and evaluate the technology being used, as well as the capabilities of the students and their digital skills and monitor teachers’ skills. The planned baseline assessment is important to mark the initial skills and performance levels of the pupils prior to the start of the programme in order to conduct sound impact assessments at a later stage.

It is laudable that @prende 2.0 has built in an evaluation module that allows for a close measurement of the effects of the programme. However, a potential challenge of the programme is that, while done in co-operation between the federal and regional levels, it does not yet involve the local communities. Involving the local government and the local community has proven to be a very effective tool to increase a project’s acceptance and to raise additional funding for a programme. Moving forward, involving the local levels should be considered. To be effective for the students, the schools and the country, the @prende 2.0 programme requires collaboration between the federal government, the 32 state governments and the local communities. Other aspects to consider as the programme progresses, are the number of devices actually needed, which might diminish with the recent uptake rates of mobile devices in the country, and the scale of the programme in terms of the number of schools reached. While it is understandable to start with 3 000 schools, there will be a need to increase the scale of the programme in the coming years.

Universal service

Pursuant to the reform in Mexico, Article 6 of the Constitution was amended to give the state an obligation to guarantee citizens’ integration into an information and knowledge-based society. Accordingly, the SCT was designated to design and implement a digital inclusion policy to achieve universal coverage, by ensuring that all citizens have access to ICTs, broadcasting and telecommunication services, including broadband and Internet access. In addition, the SCT is required to publish an annual social coverage plan, to ensure the increase in network coverage and the penetration of broadband services. The IFT considers this plan when deciding whether to grant concession titles.

While there has been a universal service fund since 2002, its resources were channelled in recent years towards the DTT transition. The fund operated through a reverse auction procedure where operators were allocated funds which were to be used to expand telecommunication services to under- or unserved populations under cost-recovery rules (Sánchez, 2011). However, the SCT has proposed to reform the universal service fund scheme as it not meeting objectives in practice. A series of other programmes have been set out with the intention, among others, to reduce deployment costs and to develop telecommunication infrastructures for shared equitable use, and to increase efficiency in the use of resources. In this regard, initiatives such as Red Compartida, passive infrastructure projects, Red Troncal and México Conectado have been set in motion to extend coverage and to establish conditions required for effective competition in the provision of telecommunication services.

Prior to the reform, the SCT established social coverage obligations for concessionaires. These obligations tended to be in the form of required discounts to certain groups or localities, or the expansion of operator coverage. There is little or no evidence that these programmes have been successful. In fact, all indicators show that they have been relatively ineffective at increasing the coverage and penetration of telecommunication services. There is a substantial number of people without service today, even when taking into account those areas serviced by market forces since the reform or the commendable initiatives by indigenous communities with 2G mobile technology to provide basic telephony in rural villages.
In an effort to address this coverage deficit, the SCT is analysing a new approach for social coverage to use the market as a mechanism for assigning coverage obligations. The programme would define the coverage requirements per concessionaire as a percentage of gross income in a way that implies an equitable burden between all affected firms and minimises possible distortions in the market.

Such a programme would establish that obligations must be met in-kind, through the provision of telecommunication services. The service to be provided “in-kind” would be defined as providing broadband Internet access to the sites and public spaces with the largest social or economic impact. A competitive process would be carried out in order for the market to determine the allocation of the sites in which each concessionaire must then offer services.

In each site, the concessionaire who submits the offer that generates the most value for the state would have the amount offered deducted from its social coverage obligations. Concessionaires who do not meet their obligations may otherwise fulfil them in cash.

In sum, there will be at least 7.8% of the population not covered by the Red Compartida after its completion, or by other networks from large commercial players. Therefore, the SCT’s proposal has a number of advantages for the remaining percentage of the population who are not connected. First, the private sector is best placed to know the cost of extending services in-cash or in-kind, with the latter enabling them to leverage their existing facilities in ways not necessarily possible in a stand-alone project. Second, using competitive tenders may enable new players to bid to meet the demands of underserved areas. Giving licenses to indigenous telecommunication providers for the use of spectrum, for example, has enabled them to offer services for the first time in some villages. Thirdly, other initiatives, such as the Red Troncal, may extend the range of players able to bid for such projects. Overall, these changes show promise in being able to more closely target underserved areas at a potentially lower cost and at a higher degree of competition than was historically the case. Finally, telecommunication operators are beginning to build requirements into contracts with equipment suppliers and network builders in rural and remote areas to measure performance from the edge of networks in addition to the core. Any new programme should, therefore, require successful bidders to explain how they will monitor service quality, and make this data available for open review.

While the aforementioned scheme is a cost operators will pass on to the overall market, all else equal and competitive conditions allowing, there is also an opportunity to eliminate the burden of the special tax on products and services (Impuesto Especial sobre Producción y Servicios, IEPS), something the industry has been critical of since its inception, as discussed below.

The special tax on products and services

The IEPS has been in place since 2010 and established that telecommunication services are subject to a tax of 3% of the total value of the service. Exceptions to this tax include rural telephony, public telephony, interconnection and Internet access services, which were granted in part due to concern over what effect this measure would have for equity and growth at the time.41

In addition to the telecommunication services listed above, the main (non-oil related) products charged with the IEPS are: alcoholic beverages, tobacco, energised drinks, pesticides, foods with a high caloric density and gambling. In short, apart from aiming to raise revenue, the tax is clearly focused on discouraging or reducing consumption of these products and services, and therefore contradictory to other policy objectives in
telecommunication services. As opposed to some of the abovementioned products, telecommunication services provide a positive externality to the economy. Thus, from an economic perspective, the positive spillover effects of these services contribute to the case against retaining such a tax.

In Mexico, the positive externalities of communication services have been recognised at a constitutional level. Namely, the Constitution emphasises that telecommunication and broadcasting services are not only public services of general interest for the Mexican population, but that access to these services are fundamental rights (SEGOB, 2013, Art. 6). Although fostering competition in the period after the reform has played a key role in reducing prices, eliminating the tax would render these services even more affordable for people that yet to have a service, in line with policy objectives.

The 2012 OECD review suggested eliminating the IEPS on communication services due to its negative implications for meeting other policy goals, such as the expansion and take-up of services. Critics rightly say that special levies on communication services, such as the IEPS, discourage the take-up and use of telecommunication services by rendering them less affordable. The OECD has also previously cautioned on the negative effects of applying a special tax to communication services, namely in the case of Colombia (OECD, 2014). To that effect, the OECD stated that such a tax is not justifiable for services that provide positive externalities to the economy.

Much of the economic literature has argued against the deadweight loss effects of taxing the communication sector, which can prevent its development and its positive economic spillovers of ICTs (Hausman, 2000; Katz, Flores-Roux and Mariscal, 2010). Even though some governments in the past have levied taxes on telecommunication services as a source of additional revenue due to the sector’s rapid growth and low collection costs, this is less common today in OECD countries (Cave and Mfuh, 2013; OECD, 2014). This is not least because the behaviour may distort the market by reducing demand, and because policies that stimulate growth (e.g. high penetration and use) increase revenue through general taxes (e.g. value-added tax [VAT] on products and services) (OECD, 2014). Therefore, imposing a sector-specific tax on communication services, as is the case with the IEPS, may have a negative effect on the development of the sector and, as a result, on the whole economy.

In effect, imposing such a tax has a direct influence on the total cost of these services for consumers, placing a higher burden on stakeholders in a sector that creates many positive spillovers throughout the economy relative to other sectors without such a tax. For instance, some studies have estimated that this special tax could add 19% to the total cost of having a mobile service (GSMA/Deloitte, 2015). As a result, it risks hampering levels of adoption, innovation and investment in the communications sector.

In an environment of fiscal stringency, eliminating any form of income from such a tax is challenging as it contributes to the public purse. In addition, to date, the tax has in absolute terms raised more from people in higher income groups. However, as communication services become more pervasive, the tax is more likely to have a disproportionate effect on people with lower incomes. This is because it could discourage the adoption of telecommunication services by the poorest users or by those that have yet to join a network due to cost. For instance, in 2014, for the 10% least well-off households in Mexico, their average monthly expenditure in fixed and mobile communications represented 10% and 6.2% of their monthly income, respectively, whereas the expenditure for these services only represented 1.8% and 1.2% of the monthly income of the top 10% of the wealthiest households in Mexico (Figure 4.2).
While the exclusion of the IEPS in some areas of telecommunication services is welcome, such as for data used to access the Internet, and is consistent with the aim to expand the availability and use of these services, the lack of technological neutrality can be noted. The potential for market distortion is, therefore, to the forefront in how people use such services. If wealthier users migrate to data services as a substitute for voice services, not only will this tend to lower receipts from voice services, but it will fall most heavily on those users of feature-phones rather than smartphones or those that are on older mobile networks. This is also likely to be the less affluent people in Mexico.

Figure 4.2. Percentage of household monthly expenditure in communication services as a proportion of income, 2014, sorted by income group

Note: I-X represent income groups, where Group I is the poorest 10% households in Mexico, and Group X the richest 10% of households in Mexico.


In addition, it appears that the IEPS has not raised the revenues originally envisaged upon implementation (El Economista, 2015). Industry associations, such as ANATEL, have emphasised that eliminating the IEPS would not significantly affect the federal government’s revenue, highlighting that in 2012 only 0.26% was derived from the IEPS. In addition, the amount has further declined in terms of overall revenues (Table 4.3) and as a percentage of the federal government’s revenue: 0.28% in 2013, 0.25% in 2014, 0.20% in 2015 and 0.17% between January and October 2016 (SHCP, 2016). While, there is a valid budgetary concern with the elimination of this tax on telecommunication services, any such change needs to be set against the VAT garnered from the growth in the sector since the reform.

In summary, an industry as crucial as telecommunication services, which has a decisive influence on a country’s economic growth and development, should not be subject to such burdens, for it may bring about unintended spillover effects on other economic sectors’ productivity (OECD, 2014). Finally, when imposing measures such as the IEPS, the Mexican authorities should also consider the ability of telecommunication services to facilitate relationships between the administration and the general public, which has made gains in recent years based on increased telecommunication access (Cave and Flores-Roux, 2017). To the extent that the additional cost limits access for the proportion of the population that remain unserved, it may place a limit on administrative efficiency.
1. Preliminary figures are presented for 2015 and 2016.


**Red Compartida: The shared wholesale network**

The constitutional reform mandated collaboration between the SCT and the IFT for the deployment of the Red Compartida, a wholesale mobile telecommunication network for the provision of services in an unbundled and non-discriminatory manner. This programme intends to create an open access wireless market in Mexico, by having the private sector fully design, finance, deploy, operate and promote a 4G network. To this end, a self-financed public-private partnership has been granted a 20-year concession, renewable for an equal period, along with a pair of Red Troncal fibre optic strands for the operation of this project.

As a result of the reform, Red Compartida can have up to 100% direct foreign investment. For antitrust reasons, there are other constitutional limitations as to who was allowed to bid for the contract. Namely, companies that provide telecommunication services to end users were excluded from bidding. The goal of this restriction was to promote a more efficient and equitable use of spectrum infrastructure, by having Red Compartida be operated by a concessionaire that is not an active player in the retail market of providing services to final consumers. Access to Red Compartida’s network will only be sold to retailers such as MVNOs, MNOs and fixed network operators offering quadruple-play services, among others. Red Compartida was designed to be a self-financing project, where the contribution of the government relies on providing the leasing of 90 MHz of the 700 MHz spectrum as well as having the option of accessing the right of use of two fibre optic strands from the CFE’s fibre optic network.

Red Compartida has several different aims concerning market dynamics as well as for existing and future users. Firstly, it aims to increase competition and QoS, including in underserved areas. Secondly, it is expected to facilitate the entry of new MVNOs and their influence, which by 2016 was limited to less than 1% of the overall mobile market in Mexico. The new MVNOs are expected to expand innovation in areas such as use of the Internet of Things (IoT) or in sectors such as the financial industry, by the creation of new business models.

The bidding process for the Red Compartida was transparent and in compliance with the best international practices. Given the project’s innovative nature and potential widespread influence on the future of communication services, the government held three public consultations: 1) invitation to express interest in the project; 2) request for information;
and 3) consultation of the preliminary bidding rules. Additionally, Open Contracting Data Standards, as promoted by the World Bank, were followed and Transparencia Mexicana, the Mexican chapter of Transparency International, served as social witness to oversee compliance therein.

The final bidding rules were published on Compranet on 29 January 2016. Four rounds of Q&A sessions were conducted between March and July, through which the SCT responded to around 900 questions from the participants in the tender process. Pursuant to the Federal Economic Competition Law (Ley Federal de Competencia Económica, LFCE) (LFCE, 2014), participants were required to provide a favourable antitrust opinion from the IFT as a prerequisite to submitting a proposal. On 20 October 2017, two proponents submitted a bid to the SCT: 1) Altán Redes, composed of multiple investment funds, such as Morgan Stanley and the International Finance Corporation, as well as Megacable and Axtel, though these two operators will be without voting rights or influence in the consortium’s management; and 2) a joint-bid from Rivada Networks and Spectrum Frontier.

Strong measures were included in the bidding rules to ensure the seriousness of the proposals, to preclude the possibility of contract renegotiation and to sanction any non-compliance of the contract by the developer (i.e. the winner of the contract).

On 4 November 2016, the SCT issued a statement saying that the joint-bid between Rivada Networks and Spectrum Frontier had been disqualified from the bidding, given that it had failed to provide the bid security in the terms described under the bidding rules. Consequently, only the economic proposal of Altán Redes was considered adequate to be examined by the SCT. After analysis, the SCT held that Altán Redes presented sufficient evidence of having the financial and economic capacity to provide the required resources for the execution (at least 30% of which will be contributed in capital), and of meeting all the financial obligations undertaken for that purpose.

On 17 November 2016, Altán Redes was awarded the contract to deploy and operate Red Compartida. It was further announced that Altán Redes had bid to cover 92.2% of the Mexican population. In making this announcement, the SCT underscored that the network shall not be concentrated in urban centres, noting the conditions required that the network cover 0.15% of rural population for every 1% of urban population covered by the Red Compartida. It is also required to serve 111 Pueblos Mágicos (25% in 2018, 50% in 2020, 75% in 2021 and 100% in 2022). The milestones of the Red Compartida have been set up to 2023 (Table 4.4).

### Table 4.4. Red Compartida milestones

<table>
<thead>
<tr>
<th>Year</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Award of the public-private partnership contract in November 2016</td>
</tr>
<tr>
<td>2017</td>
<td>Beginning of the deployment of the network</td>
</tr>
<tr>
<td>2018</td>
<td>At least 30% of the population covered by March 2018</td>
</tr>
<tr>
<td>2020</td>
<td>At least 50% of the population covered by January 2020</td>
</tr>
<tr>
<td>2021</td>
<td>At least 75% of the population covered by January 2021</td>
</tr>
<tr>
<td>2022</td>
<td>At least 85% of the population covered by January 2022</td>
</tr>
<tr>
<td>2023</td>
<td>At least 88.6% of the population covered by January 2023</td>
</tr>
<tr>
<td>2023</td>
<td>At least 92.2% of the population covered by January 2024</td>
</tr>
</tbody>
</table>

*Source: Information provided by the SCT.*
After the announcement that it had been awarded the contract, Altán Redes had until 27 January 2017 to execute the public-private partnership contract with the Organism for the Promotion of Investment in Telecommunications (Organismo Promotor de Inversiones en Telecomunicaciones, PROMTEL) and Telecomunicaciones de México (Telecomm). Before that time, Altán Redes also had to: incorporate a specific purpose corporation, pursuant to the Public-Private Partnership Law (Ley de Asociaciones Público Privadas); and request and obtain the wholesale concession title from the IFT. These steps were all completed by the due dates.

On 17 January 2017, the IFT’s pleno decided to grant PROMTEL and Altán Redes the necessary concessions for the execution of the Red Compartida. In this sense, PROMTEL attained a 20-year concession title in two specific segments of the 700 MHz band, to wit: a portion ranging from 703 MHz to 748 MHz and a second segment covering 758 MHz to 803 MHz. Furthermore, Altán Redes obtained a commercial concession title to operate a shared wholesale network for a 20-year period, following the IFT’s determination that the winning bidder had complied with the restrictions pertaining to its governance structure (Juárez Escalona, 2017b).

On 24 January 2017, Altán Redes, PROMTEL and Telecomm signed the 20-year public-private partnership contract, formally initiating the Red Compartida project and thus the infrastructure deployment commitments thereto. PROMTEL participates with the concession of the 700 MHz band while Telecomm offers the right of use of two fibre optic strands from the CFE’s fibre optic network. Subsequently, on 30 March 2017, Altán Redes announced that Huawei and Nokia had been selected to provide technology for the roll-out of the network and that they would fulfil the conditions of the contract, which came into effect on 31 March 2017. These conditions were authorised and verified by PROMTEL, and included: creating a trust fund for management and payment purposes; granting a bid security to the Federation Treasury for MXN 5 billion (approximately USD 25 million); and paying the fee to the promoting agency of the successful bidding process, Bank of America-Merryl Lynch. The initial funding for the project is based on USD 2 300 billion: USD 765 million (33%) is provided by investment capital from local and foreign investors, multinational institutions, institutional investors and local industrial partners; Huawei and Nokia are providing loans of USD 850 million (37%), which will be exchanged progressively with credit from the commercial banks, and approximately USD 690 million on credit provided by Mexican development banks. Additionally, if needed in the future, the development banks have said they will provide USD 252 million (Altán Redes, 2017).

Henceforth, PROMTEL is the designated body in charge of monitoring the compliance with the contract. This includes, for example, the obligation of Altán Redes to launch the operation of Red Compartida by 31 March 2018, at the latest. It is also stipulated that by this date, Red Compartida must provide coverage for at least 30% of the Mexican population. PROMTEL is also in charge of providing investment for the deployment of infrastructure by applying public policies established by the SCT, such as those regarding passive infrastructure access.

The establishment of the Red Compartida has the potential to fundamentally change the mobile market and, as a consequence, stimulate and expand the digital economy in Mexico. It will, in many ways, be the first wholesale-only mobile network in the OECD. Aside from the fact that the deployment of the network is further increasing investment in the Mexican telecommunication sector, which is said to be USD 7 billion over the 20-year contract, it can increase coverage and connect rural and remote areas, thus diminishing the regional disparities that are currently observed in the Mexican market.
In addition, it is aimed at being a driver for competition, by increasing QoS and cost-reduction strategies by sharing tower sites and other network resources, which might further lower prices in the mobile market. It can also be expected to spur innovation, not only in the mobile market, but also in the entire Mexican economy, and to nurture the Mexican digital market in areas such as the IoT, mobile payments or e-commerce. Red Compartida aims to lift the QoS available to Mexicans. This will be accomplished by the planned offering download and upload speeds that will be two to three times higher than are currently available in many areas. The network is aimed at prompting the existing MNOs to lift their service quality in addition to using Red Compartida themselves. The objective of Red Compartida is therefore to promote improved QoS and facilitate new services.

There will also be challenges, both at the technical and economic level. In terms of technology, the Red Compartida is a 4G-only network. To date, only a few telecommunication companies, such as Tele2 in the Netherlands, Reliance Networks in India or Avantel in Colombia, operate 4G-only networks without legacy 3G networks. For its part, Tele2 has found that support of Voice over LTE (VoLTE) has proven to be device and manufacturer specific, with several 4G devices not capable of supporting VoLTE on Tele2’s network. In addition, in their experience, many devices revert back to the 2G/3G mode in the case of voice calls or emergency calls. It will be important to address challenges in this respect at an early stage and it might be worthwhile to draw on the experiences of the few 4G-only networks that currently exist. At the economic level, it will be crucial that Altán Redes carefully designs its business model to offer access rates that are attractive to other operators and companies from other sectors of the economy, so that they will wish to use the wholesale network. It will be equally important that the offer for access seekers is flexible enough so that they have the maximum possible freedom to innovate around the wholesale network. Retailers of some of the most successful wholesale networks tend to be at the forefront of commercial offers to end users, especially if they are to compete with players that can innovate over their own facilities to meet rapidly evolving customer demand.

It must be said that the services that Red Compartida will offer to the market will be granted through a public offer of services that needs to be approved by the IFT in order to guarantee that competition conditions are fully met without any sort of anticompetitive measures. Notwithstanding, Red Compartida is completely free to establish services and tariffs that will apply to this public offer of services.

Public broadcasters

The constitutional reform created the Mexican State Public Broadcasting System as a decentralised entity to co-ordinate public broadcasters in Mexico and promote the pluralistic and diverse expression of ideas. Since then, the SPR has been an important space for supporting the production and diffusion of national and independent audiovisual content in Mexico. The financial resources to support public broadcasting are arguably insufficient, however, to meet the policy objectives set out in the Constitution and the LFTR.

Alternatives can be considered to provide public broadcasters more flexibility and less uncertain (longer term) financial resources to meet their mandates. Public broadcasters, for example, could benefit from conditions guaranteeing their direct financing from general revenue. This could assist them in maintaining financial stability and strengthen their editorial independence relative to day-to-day political concerns. Moreover, public broadcasters could potentially charge for content under MCMO rules and also be permitted to sell advertising, even if limited. If those mechanisms were to be put in place, there would need to be appropriate safeguards to limit unfair competition with the private sector.
Digital terrestrial television transition

The 2012 OECD review emphasised the importance of completing the transition from analogue to digital FTA broadcasting. The objective of the transition was to both free analogue television broadcast spectrum for wireless broadband services (LTE or so-called “4G” fourth-generation mobile) and to provide more channels and higher picture quality to viewers. This process was completed in December 2016 and made available the spectrum to be used for the Red Compartida. Meanwhile, the number of channels rose from 228 in 2011 to 734 by the end of 2016, and 364 new channels were created by multiplexing. In 2016, the new national DTT network was also launched.

The DTT switchover was a complex process as it involved awarding the use of new channels and upgrading both transmission and reception equipment (television sets or at least set-top boxes). Given the near 100% coverage of analogue FTA, developed over 60 years, the transition required investments in new equipment to be made in almost every household and for all broadcasters, as well as speedier assignation and authorisation of new channels by the IFT. While that process was underway, it was necessary to broadcast television in both analogue and digital format until the final analogue transmitters were switched off.

In the case of Mexico, the constitutional reform mandated that by August 2015 all broadcasters had to be transmitting with fully digital systems and the closing of the analogue system by December 2015. Moreover, by this analogue switch-off date, 90% of people with a lower income, as defined by the Ministry of Social Development (Secretaría de Desarrollo Social, SEDESOL), had digitally enabled sets in their residences. In practice, this meant ensuring services were available to one third of all Mexican households in these criteria. OECD countries have typically had programmes to subsidise the final portion of residences housing people with low incomes, elderly or with a disability, a model established in the first analogue switch-off in Berlin, Germany, in 2002, though the scale set out by policy makers was far larger in Mexico.

Based on an assessment of the potential for improving audiovisual quality for users, boosting local television manufacturers and gains in energy efficiency and interactivity, Mexico took the decision that distributing television sets was preferable to set-top boxes to eligible households. Due to budgetary constraints, though, the television sets were not made to be “smart” or interactive, as initially planned. The programme for the nationwide delivery of equipment was published in 2014 and the process was led by the SCT. Between 2014 and 2015, 10.1 million television sets were distributed at a cost to the government of MXN 28 billion, of which 10% was for logistics.

By July 2014, before the distribution commenced, only 31% of Mexican households with television sets were capable of receiving DTT, that is, of those with television sets, 69% only had analogue television sets, 15% had digital, and 16% both analogue and digital sets. By May 2016, once the distribution of television sets was completed, 45% of households had at least one digital television set. Among the households with television
sets, 73% were capable of receiving DTT, 27% still only had an analogue television set, 45% had a digital set, and 28% had both digital and analogue sets (Figure 4.3). It is important to note that 7% of households did not have television sets when the analogue switch-off happened and, therefore, were not affected.

Figure 4.3. Households with a television set, by type

![Chart showing percentage of households with different types of television sets from 2009 to 2016.]

Notes: Data for 2009 correspond to the month of July; data for 2010, 2015 and 2016 correspond to the month of May; and data for 2011-13 correspond to the month of April.


When all households are considered, including those without television sets, Mexican authorities estimate that by 2016, 68% of households were DTT enabled. However, disparities across the country persist. In Mexico City, 79% of households report having at least one digital television set, that is, DTT enabled, while in Oaxaca, the penetration of digital television sets in households is only 57% (Figure 4.4).

Figure 4.4. Households capable of receiving digital terrestrial television, by state, 2016

![Chart showing percentage of households capable of receiving digital terrestrial television by state in 2016.]

Note: Indicators correspond to May 2016 and were calculated over all the Mexican households, including those without television sets.

Within the distribution process, the largest challenges were carrying out the bidding for manufacture and distributing the television sets in the time frame mandated by the constitutional reform, disposing of redundant analogue televisions, as well as with correctly determining the households that should receive free televisions, as some low-income households already had DTT sets by the time the programme commenced. A further issue was the “simulcasting”. In many OECD countries, the “simulcasting” of FTA in both analogue and digital signals, following the award of digital licences to existing analogue FTA broadcasters, continued (e.g. the United Kingdom between 1998 and 2012). Mexico’s transition spanned 2004-16, though many viewers needed to convert in the final months; 16% in Monterrey in October 2015, for example (Nielsen IBOPE, 2015). During the transition, the need to simulcast analogue and digital services led to lower quality broadcasts.

In terms of policy reform, a key outcome of the digital transition has been an expansion in the choice of services available to people in Mexico. In addition to more channels, there are more providers following the entry of a new national digital FTA provider. The 2015 auction resulted in two national licence bids, with one of them going on to establish service. Imagen TV began national digital broadcasting in October 2016 and is scheduled to complete its national network by 2020. In addition to its own sites, Imagen TV currently uses the transmission sites of the SPR while it continues to deploy its network, though not, as might have been expected after the 2014 measures, of the preponderant agent.

**Quality of service**

In terms of QoS, there have been significant improvements in comparison to the shortcomings identified in the 2012 OECD review. That being said, some challenges remain, such as with fixed broadband Internet access QoS obligations. The IFT is planning to conduct a public consultation on the matter in 2017. There are different quality requirements between concessionaires for fixed services in terms of the preponderant agent and others. For MNOs, all operators have the same rules and reporting requirements, with the IFT being able to publish these data as well as to impose monetary sanctions for non-compliance, increasing the information available to consumers and reducing transaction costs associated with switching their provider.

In general terms, QoS is defined as the overall effect of a service’s performance that determines the degree of satisfaction perceived by users and the quality levels in the functioning of a network. In other words, the ability of a network, or parts of it, to provide the functions related to communications between users (COFETEL, 2011, Guideline No. 6).

The Fundamental Technical Plan for Quality of Local Mobile Services was issued in August 2011 by the IFT’s predecessor, COFETEL, and is to this day still in force. This piece of regulation defines the indicators, parameters and obligations to be met by operators within their service offerings, covering telephony, SMS and Internet for each technology they provide (i.e. 2G, 3G or 4G) in the geographic coverage areas they have reported to the IFT. In this sense, the concept of guaranteed coverage is crucial, for it relates to the areas reported by each mobile operator in which the QoS conditions outlined in the plan are ensured. Compliance field measurements are carried out only in the guaranteed coverage areas.

In local mobile services, QoS may be assessed through indicators pertaining to network capacity and availability, the time taken to establish a communication, or the speed and error rate in downloading a file through an Internet connection, among others.
(COFETEL, 2011, Guideline No. 6). As would be expected, the Fundamental Technical Plan acknowledges that the increase in the number of mobile service users is a critical factor in analysing service quality, owing to the fact that network saturation directly affects their proper functioning (COFETEL, 2011, Guideline No. 6). Hence, the indicators refer to:

- telephony: failed call attempts, interrupted calls, time elapsed for the establishment of a call and audio quality
- short message system (SMS): failed attempts at sending SMS messages, message delivery time and message integrity
- Internet: interrupted File Transfer Protocol (FTP) sessions, failed FTP sessions, time elapsed for the establishment of IP service for FTP and average FTP data download speed.

However, specific compliance levels are not defined for all of the abovementioned indicators. In fact, the plan adopts a hybrid approach at QoS monitoring in which the three indicators whose compliance levels are explicitly provided are subject to monetary sanctions in the event of non-fulfilment, while disregard of the remaining indicators shall only be subject to the IFT’s comparative evaluation, among all operators, for their subsequent dissemination. That being said, the particular compliance levels defined in the plan are:

- failed call attempts: less than 3%
- interrupted calls: less than 3%
- failed attempts at sending SMS messages: less than 5%.

The IFT is responsible for compliance oversight of such parameters, and conducts periodic random field measurements, without prior notice, simultaneously to all concessionaires in equivalent conditions within their guaranteed coverage zone. Moreover, measurements are realised from outside each operator’s network, comprising all its elements, from the radio frequency interface to traffic switching. All the data collected during the measurements carried out by the IFT are published on its website on a quarterly basis.

The LFTR establishes the minimum and maximum percentages that the IFT can sanction violations of the law, which are calculated based on the annual income of the concessionaire, authorised or infringing actor. Non-compliance with the stipulated QoS obligations enable the IFT to impose sanctions ranging from 1% to 3% of the infringer’s revenue corresponding to the fiscal year during which the failure was detected. That being said, if no data are available for said period, the revenues obtained in the preceding fiscal year shall be used.

Among the punitive decisions adopted by the IFT on this topic, the November 2015 fine levied on the mobile operator Telefónica (Movistar) is notable. This was levied for non-compliance with the minimum QoS parameters defined in the respective Fundamental Technical Plan (in particular, concerning the percentage of failed call attempts in the city of León, Guanajuato) (IFT, 2015c). At the time, the IFT said the fine of roughly USD 20.5 million constituted the largest it had imposed to that date (IFT, 2015c). Another example is the sanction amounting to approximately USD 1.5 million imposed on Maxcom, a fixed operator, in March 2016, for not complying with the minimum QoS standards defined in its concession title, on indicators pertaining to service continuity, quality of basic service, and quality of lines and private circuits (IFT, 2016g). In the latter case, the IFT highlighted that the fine was the minimum amount that it could impose pursuant to the LFTR in its decision (i.e. 1% of the operator’s cumulative revenue) (IFT, 2016g).
Finally, the IFT is currently working on new guidelines that set the Quality Parameters for Mobile Service Providers, abrogating the abovementioned Fundamental Technical Plan, and the Measurement Methodology established in 2012. A proposal is currently being analysed by the Board.

In addition to the specific regulation on QoS, whose compliance is monitored by the IFT, PROFECO receives complaints from consumers related to deficiencies in the provision of services. This task is assigned to the Subprocuraduría de Telecommunicaciones by the Federal Consumer Protection Law (Ley Federal de Protección al Consumidor, LFPC) and LFTR, to resolve procedures to compensate consumers following complaints.

Overall, while each case has its own merits, in some instances being able to impose a lower fine may be more proportionate to a specific transgression. The current framework for fines lacks flexibility when it comes to infringements for QoS. As the minimum fine must amount to at least 1% of the transgressor’s revenue corresponding to the fiscal year during which the failure was detected, it may be too high for some circumstances. In addition, the IFT is required to apply a fine based on a single QoS measurement period rather than performance over time.

**Consumer protection and empowerment**

Since the 2012 OECD review, measures to empower and protect consumers have undergone substantial changes. The reform established an extensive catalogue of rights within the LFTR and the Letter of Minimum Rights of Users of Telecommunication Services issued by the IFT and PROFECO in July 2015 (IFT and Procuraduría Federal del Consumidor, 2015), as well as those included in the LFPC. This goes far beyond the scope of Annex II of the 2006 SCT Convergence Agreement. In particular, the new rights telecommunication users are entitled to include:

- To freely choose their service provider, as well as the services they intend to purchase, handsets, plans and method(s) of payment, without being compelled to acquire additional products or services.
- To enjoy free number portability, which must be made effective within 24 hours following the filing of the request, and with no limitation as to the number of times porting can be made.
- To have their mobile devices unlocked upon expiration of their contracts, or upon payment of the equipment’s full price. In addition, the Mexican Official Standard (NOM-184-SCFI-2012) dictates that the service provider must inform users by written notice if a handset is locked to be used exclusively in its network, and the procedure to follow in order to unlock it to be utilised in any other network once the user obtains full ownership thereof, without incurring additional charges.
- To contract and to be sufficiently informed of the commercial conditions determined in the model contracts of adhesion registered before PROFECO and the IFT, in a clear, precise and accurate manner. Moreover, the contracts that users conclude with operators must be previously authorised and registered with PROFECO and the IFT. Moreover, the operators need to submit model contracts for registration and authorisation to PROFECO and the IFT ahead of commercialisation.
- To modify adhesion contracts bilaterally only, that is, through an agreement between the operator and the user. Therefore, users may demand the enforcement of the contract when the service provider alters it without their prior consent. In addition,
the LFTR defines specific causes to void or nullify contractual clauses, e.g. when they release concessionaires or authorised entities of their civil liability; when they set prescription terms curtailing those set forth in the law; or when they establish any formality for exercising actions against concessionaires or authorised entities. Finally, the IFT is required to register the information of contracts (e.g. tariffs and services provided) in the Public Concessions Registry.

- To consult their balance in prepaid mobile services free of charge and without any conditions compelling them to purchase additional credits. Furthermore, users must be able to carry over their unused balance when purchasing credit within the year following its expiry date.

- To not be charged with national long-distance fees by their fixed or mobile service provider, as well as to be offered per second billing. Furthermore, the invoices and proofs of payment delivered to users must be clear and disaggregated.

- To demand from their service provider compliance with the QoS levels they have committed to fulfil, and to receive a bonus or discount in the event of poor service or derived from the application of undue charges.

- To access information aimed at defending users’ rights and to have access to a telephone-assisted system for placing their inquiries and complaints.

- To have their personal data and privacy protected, which includes not receiving commercial calls or messages they have not previously authorised.

- To allow users with disabilities the same ability to receive devices or equipment with accessibility features and functionalities and to access emergency telephone services, as all other users. In addition, operators’ facilities and websites must be adequately equipped so as to ensure accessibility for disabled users.

- To have their service immediately suspended in the event of theft or loss of their mobile device.

- To give users the option of a parental control service in the case of pay TV services, prior to the corresponding request, with ample explanations on the conditions and instructions provided on using the service by their service provider.

To sum up, all users are empowered to submit their complaints against their service providers in the event these do not comply with their legal or contractual obligations, before the IFT and PROFECO. The protection of consumers is integral to PROFECO’s mandate.

Two specific topics can be elaborated on the protocols for co-operation between PROFECO and the IFT, and the regulation pertaining to number portability. The concluding part of this section shall set forth recent information on the number of complaints filed by telecommunication users, categorised by services and operators. It is important to note that PROFECO also has an important role in promoting the protection of not only individual, but also collective, rights carried out through class actions, for which the IFT, acting as an expert, should provide technical advice and information.

**Office for Telecommunications in PROFECO**

In September 2015, and in compliance with the mandate from the LFTR (LFTR, 2014, Transitory Article 21), PROFECO created a specialised office for the promotion and supervision of the users’ rights established in the LFTR and LFPC – the Subprocuraduría de Telecomunicaciones.
While dealing with consumer protection in the telecommunication sector had previously been part of PROFECO’s role, the magnitude of complaints related to these services (one in every four complaints received by PROFECO), justified the creation of a specialised department. The objective of this department is to have a specialised approach for telecommunication services (fixed and mobile telephony, Internet and pay TV) and to integrate all of PROFECO’s functions related to telecommunication services (from registration of model contracts, processing of complaints and conciliation through to monitoring of advertising, class actions, advice and research).

An online dispute-resolution platform (Concilianet) was created to address consumer complaints on telecommunication services. The process can be carried out completely on line and is free of charge. Following a due administrative process, the service provider is mandated to appear before PROFECO to find a solution, otherwise fines may be imposed for non-attendance or prosecution commenced for misbehaviour. In 2016, 23% of complaints were processed through this route, up from 13% in 2015.

Co-operation between PROFECO and the IFT

PROFECO is in charge of promoting, protecting, advising, defending, reconciling and representing users and consumers. The IFT has a mandate to regulate, monitor and oversee the quality of telecommunication services in accordance with established indicators, parameters and procedures. In this sense, PROFECO is empowered to sanction operators’ violations of users’ rights, notwithstanding the IFT’s functions with regard to the imposition of penalties for non-compliance with the minimum QoS parameters established in its regulations or in the concession contracts concluded with service providers.

In this regard, pursuant to the Constitutional Reform Decree in 2013, both institutions concluded an agreement aimed at collaborating and reaching concerted actions within the National Consumer Protection System. This document, signed on 20 September 2016, was replaced by the current General Collaboration Framework Agreement (hereto referred as the “agreement”). Although very similar to its predecessor, its content adapted to the new provisions set forth in the LFTR.

The agreement aims to establish the basis for the collaboration, co-ordination and concerted action between PROFECO and the IFT, upon which the parties shall establish joint work programmes and carry out actions in order to safeguard telecommunication users’ rights. In addition, the agreement is geared towards fostering information exchanges between both entities, enhancing their effectiveness in the execution of their respective mandates. Within this framework, the agreement provides for co-operation on various topics ranging from purely regulatory measures to the provision of technical advice for the analysis of the prevailing conditions in telecommunication markets, in order to facilitate the detection of possible anticompetitive or unfair practices on the part of operators.

Other relevant areas of collaboration can be mentioned: the verification functions on the clauses stipulated in service providers’ contracts of adhesion; oversight functions on compliance with the applicable laws and regulations, including advertising issued by operators; consumer education through joint information campaigns; a joint analysis – which must be performed at a minimum on a yearly basis – of the Letter of Minimum Rights of Users of Telecommunication Services, amending its content whenever necessary; to update and maintain the Soy Usuario platform; and to supply adequate training to their personnel in the field of consumer protection in telecommunication services.

Indeed, an important example of collaboration between the IFT and PROFECO is the Soy Usuario platform, which is a web-based system implemented in July 2015 which
informs users of telecommunication services, as well as enables them to file their complaints and allegations (IFT, n.d.). The information currently disseminated through the website relates to: the abovementioned Letter of Minimum Rights; periodic reports on the complaints received by the IFT and PROFECO by users of telecommunication services; a guide to number portability and information as to the status of a request; a catalogue comprising mobile handsets with accessibility features for disabled individuals; a guide to the procedure in the event of mobile handset theft; information on mobile telephone registration through the International Mobile Equipment Identity (IMEI); and the comparison of plans offered by telecommunication service providers (IFT, n.d.). When a complaint is received through Soy Usuario, the service provider has a maximum of 48 hours to get back to the user.

**User complaints**

The Soy Usuario platform has been a useful tool to file user complaints in an expeditious manner. Between July 2015 when the platform was launched and August 2016, 10,946 complaints were filed, most of which pertained to mobile telephony and broadband services (i.e. 36.6% and 29.3%, respectively). A vast majority of user complaints were regarding problems with QoS (i.e. 55.3%, out of which half were related to broadband services and 22% to service failures of mobile telephony), but a significant amount were also related to issues concerning the billing process (i.e. 14.5%).

In 2016, a total of 32,921 complaints were filed with PROFECO, of which 88% were resolved through a conciliated settlement between the users and the respective service provider. Among the reasons given by consumers when presenting their complaints, the refusal to deliver the product or service was nominated most frequently with 18.2% of the cases, followed by the denial to rescind the contract (13.8%) or to make the warranty effective (11.9%).

Most of the complaints submitted during this period concerned mobile telephony, representing 54.1% of users’ claims. Pay TV services accounted for 30% of complaints, followed by fixed telephony with 10.82%, and Internet services at 2.34%.

The aforementioned data are congruent with the information on rulings issued against service providers, as presented by PROFECO. A ruling is defined as a non-negotiable enforceable instrument emitted in favour of the consumer quantifying the violated contractual obligation, hence enabling it to initiate executive proceedings before the commercial jurisdiction to recoup said amounts from the service provider, as well as an additional amount derived from the inconveniences caused.

The most frequent grounds for the rulings related to undue charges, service deficiencies, such as those derived from incorrect or defective installation, poor service quality and operators’ refusal to cancel the contracted service based on poor QoS complaints.

A further area that could be examined for potential improvements is the effectiveness of current sanctions in this field. The amount able to be imposed by PROFECO, the same as for all services and sectors, is MXN 150 000 (USD 8 000), albeit double that amount if associated with transgressions against indigenous communities. Given that the sanction may be regarded as modest in relation to some transgressions and that PROFECO does not collect the fine, in some cases the cost of initiating the process and collection is greater than the amount levied.

For pay TV services, there have been reports of complaints related to some cable and satellite providers degrading the signal of rival channels and public broadcast signals, with “snowy” channels persisting, despite using digital systems. These complaints, however,
have not publicly reached the IFT and information on whether the Investigative Authority (Autoridad Investigadora, AI) in the IFT has started a formal procedure on the matter of signal degradation can only be made public when that investigation is brought to the Board.

Some of the involved actors have approached PROFECO in an attempt to catalyse collective class actions in this regard. A collective class action under PROFECO has already been won against Sky and Dish for unfair billing practices. For its part, the IFT has yet to establish standards of quality against which those complaints can be assessed. Although PROFECO and the IFT co-ordinate through joint agreements and a joint website, no statistics on broadcasting complaints are yet publicly available, which hampers consumer information and choice.

According to the IFT, 12 non-conformities related to the issue of DTT have been received during 2016 and 2017 through the Soy Usuario platform, in cases related to user complaints about the lack of signal in their localities, changes in programming or the inability to visualise a channel in particular, either through pay TV or FTA providers. Of these complaints, 11 have already been treated.

**Informing users**

The Comparador de Servicios de Telecomunicaciones (price comparison website of telecommunication services) is a tool created by the IFT to allow users to consult and compare mobile and fixed providers’ service offerings to optimise their decision-making processes. It contains detailed information on aspects such as the monthly flat rate, airtime, SMS and MB (IFT, 2015d). Furthermore, it provides information regarding all other features or options that are available to users for an additional fee. Although the tool was initially geared towards mobile services, today it is operational for pay TV, Internet and fixed telephony which are available in single, double- and triple-play packages. The Comparador is accessible to consumers from any device.

The IFT is further developing a Comprehensive Information System for Users, which combines tools to facilitate decision making when accessing and using telecommunication services. These tools include:

- A simulator of data consumption enabling the calculation of monthly data consumption when using applications or services available on the Internet, as well as for users to become aware of and compare the tariff plans offered by operators that fit a given data volume.
- Guaranteed coverage maps which allow any user to consult the guaranteed coverage areas reported by mobile operators by access technology, and at both state and street level.
- A catalogue of approved equipment, disclosing the main characteristics of mobile terminal models that have a certificate issued by the IFT, which guarantees that they comply with technical standardisation standards.
- A tool which allows users to consult contracts that have been authorised and registered by the IFT, as well as to compare the terms and conditions of service provision.
- A comparison of the quality of the mobile service according to the measurements made by the IFT and provides access to an interactive magazine, which lists the main points to consider before buying a telecommunication service.
**Number portability**

While users have been entitled to number portability since 2008, in abidance with the LFTR, the IFT issued a new set of regulations in November 2014. Among the advancements derived from the new rules on number portability is the fact that porting must be carried out within a maximum time frame of 24 hours, without levying any additional charges on the user. Moreover, the new provisions significantly simplify the requirements and documentation users must submit for porting their numbers, enabling them make the request electronically, as long as the information received is legible.

The user’s personal identification number (PIN) must be delivered by the potential service provider within 5 minutes following a request by the user, and must be confirmed by the user within 15 days in order to validate his/her desire to change operators. Consequently, operators cannot compel consumers to submit documentation such as prior invoices or contracts, nor subject portability to having a specific amount in their prepaid account balance. Furthermore, number portability may not be obstructed on the basis of pending payments on the part of the user.

To sum up, the IFT’s new rules on number portability determine that, once porting is executed, users cannot be left without service for over 30 minutes in 95% of the cases, and in no event for over 120 minutes. Additionally, should the porting procedure exceed the regulatory deadlines, the user will be entitled to cancel the telecommunication services contracted without paying the corresponding contractual penalties and/or demand the payment of said penalties, notwithstanding the sanctions that may be imposed by the IFT. The right to number portability has no limitation concerning the number of times a user may port their mobile or fixed number and there are hence no minimum periods during which users must remain with a specific operator.

According to the IFT, between 2012 and 2016, the amount of ported lines almost tripled as a consequence of the simplified and expedited portability procedures for users and operators in the 2014 Number Portability Rules. While the number of ported lines (fixed and mobile) in November 2012 amounted to 286,380, in July 2016 they represented 1,478,841 lines (IFT, 2016h). Although the number of fixed lines subject to portability remained relatively low between January 2012 and May 2016, after this date the number of ported lines increased exponentially.

Since the 2013 reform, there have been major advances in consumer protection and empowerment. These include rapid number portability; the need for operators to promptly respond to service complaints; and the development of a number of useful tools for providing greater information to consumers. On the one hand, some smaller providers find the requirement for previous authorisation by PROFECO of every model contract to be burdensome given the number of contracts that may be associated with frequent changes in service offers or bundles. On the other hand, if considerations exceed 30 days, there is automatic clearance. Each application for clearance of a model contract costs USD 42. At the same time, the number of contracts needing to be approved makes it burdensome for authorities and leads to delays in the introduction of offers and slows the pace of competitive response. In some countries, such filing requirements are only mandated for operators beyond a certain threshold (e.g. number of customers), and while this may not be possible under the current legal requirements, it could be one way to reduce the regulatory burden for all parties if changes were made.
International aspects

**Foreign and state ownership**

The telecommunication sector has benefited from increased foreign direct investment since the reforms, most notably from AT&T, Eutelsat, Virgin Mobile and Altán Redes, the winning bidder for the Red Compartida. As previously noted, all telecommunication and satellite communication service markets have been opened to foreign investment, due to the fact that the 2013 constitutional reform raised the pre-existing 49% limitation to 100%. Prior to this change, the only sector in which 100% foreign investment was permitted was in mobile telecommunication services, subject to the approval of the National Commission on Foreign Investments (Comisión Nacional de Inversiones Extranjeras).

By way of contrast to telecommunication services, broadcasting services have not yet been completely liberalised, as they are still subject to a 49% restriction on foreign investment. This is additionally contingent upon reciprocal treatment in the investing company’s country of origin and subject to a prior and favourable opinion issued by the National Commission on Foreign Investment. Reciprocity stipulates that should the country where a potential foreign investor is residing have a foreign direct investment (FDI) limitation of 30%, for example, then Mexico would mirror the restriction on that investor; therefore, the investor would be limited to a 30% investment instead of a 49% one.

The establishment of the new threshold is an important change considering that prior to the constitutional reform no foreign stake in broadcasting enterprises was permitted, although the establishment of a reciprocity requirement has introduced a discriminatory measure that should be eliminated.

Reciprocity limits Mexico’s interest in being able to attract the best foreign bidders for broadcasting licences. It is indeed in Mexico’s interest to abolish its reciprocity rules with respect to FDI in broadcasting as FDI limitations and conditions of reciprocity create regulatory restrictions for investors and preclude using foreign investments to reduce market concentration. In addition, suppressing the condition of reciprocity would be consistent with Article 9 of the OECD’s Code of Liberalisation of Capital Movements, which excludes discriminating between other members “in authorising the conclusion and execution of transactions and transfers … which are subject to any degree of liberalisation” (OECD, 2016b).

Mexico has historically had very concentrated audiovisual markets and a long-standing limitation on foreign ownership in broadcasting. Governments throughout OECD countries have widely used broadcasting licences as a means to promote media pluralism and diversity or to achieve other objectives, such as local content requirements. Limiting foreign ownership, for the reasons governments define, are sometimes associated with these approaches.

Some OECD countries – such as Australia, the Czech Republic, Germany and Ireland – have lifted foreign ownership restrictions on broadcasting over the past decade or made changes to facilitate foreign participation. In the United States, for example, a waiver is required from the Federal Communications Commission (FCC) for foreign ownership above 25%. In September 2016, however, the FCC adopted rules to extend to broadcast licensees the same streamlined rules and procedures that common carrier wireless licensees use to seek approval for foreign ownership, with appropriate broadcast-specific modifications (FCC, 2016a).
The Mexican broadcasting market is strongly influenced by its northern neighbour, the largest broadcast market in the world. In 2017, about 6 million Hispanics lived in the United States, approximately 63% from Mexico. This large Spanish-speaking market (half the size but twice the wealth of Mexico) both imports and exports a large proportion of programming with Mexico. The largest United States Hispanic production companies and broadcast networks are Univision and Telemundo, the latter owned by Comcast/NBC and with production, programming and distribution agreements with the Televisa Group (via Sky in Mexico).

In January 2017, the Televisa Group was given foreign ownership waiver permission in the United States by the FCC, to raise its private equity stake in Univision from 10% to 49% (with a limit of 40% voting interest), maintaining 60% US voting interest, with further compliance rules should shares become publicly traded (Federal Communications Commission, 2017). This waiver permitted more than the statutory limit of 25% foreign ownership (US Code, 1934, Title 47). The FCC concluded under its 2013 rules that this would “serve the public interest in diversity and competition in the media sector without any countervailing national security, law enforcement or trade policy concerns” and “facilitate investment from new sources of capital in Univision that would not otherwise be available and encourage reciprocity by foreign governments” (FCC, 2017, Section 310(b)(4)). Note that the 2016 rules are applicable for future decisions (FCC, 2016b). At the time of the decision, the Televisa Group already supplied 35% of Univision’s programming.

Some supporters of the limitation on foreign ownership say such restrictions promote or protect the national identity values that are disseminated through broadcast content. However, consistent with previous OECD recommendations, the suppression of such FDI restrictions may greatly benefit Mexican consumers through the promotion of increased plurality on social or political matters, and the prospective generation of culturally and regionally diverse content (OECD and COFECO, 2012). Furthermore, the entry of foreign players to the Mexican broadcasting market may strengthen competition, by using experience obtained in other countries, or assist to open new markets for the export of content produced in Mexico (OECD and COFECO, 2012). Finally, other tools are available to foster or support the production and dissemination of content related to culture and national identity.

**International mobile roaming**

Mobile operators in Mexico can freely negotiate commercial agreements for international roaming with their peers in foreign countries. Entering into such agreements is mandatory for a preponderant operator or those deemed to have SMP. In addition, the LFTR grants MVNOs the right to conclude their own international roaming arrangements.

The approach towards MVNOs is an area where Mexico is among the leaders in terms of regulatory reform. That being said, the substantial changes evident in the Mexican market for international mobile roaming has to date been clearly driven by competition between MNOs. Meanwhile, MVNOs have not yet made many independent arrangements. Certainly, an MVNO using Telefonica’s network appeared to be the only MVNO offering international mobile roaming by the close of 2016. Virgin Mobile, the largest player in the MVNO segment by number of users, and other MVNOs did not provide international roaming services to their customers at that time. This may be due to several factors. One could simply be that MVNOs are not addressing markets where users prioritise international mobile roaming. This may also be due to technical reasons or the market may be extremely competitive post-reform.
Historically, even full MVNOs wishing to offer international mobile roaming have been reliant on their host MNO and did not appear to be eligible to enter into the GSM Association’s Standard Terms for International Roaming Agreements (STIRA) (Ypsilanti, 2013). In addition, in order to implement STIRA, the MVNO needed to have its own mobile network code, implying that it is only full MVNOs and not resellers who can negotiate wholesale roaming access.

Still, even having the legal right to do so and using their own mobile network code, full MVNOs may be reluctant to implement their own STIRA, because they could be resource consuming and lack economies of scale. That being said, any exclusion of full MVNOs from foreign wholesale roaming markets could reduce competition by precluding those players from seeking better deals for their outbound traffic (European Commission, 2016).

While Mexico’s regulatory reform has enabled MVNOs to enter into international mobile agreements, it remains to be seen if this proves to be the most efficient way to do so, either together with existing MNOs or in association with the development of the Red Compartida. That being said, if foreign wholesale markets are not open to these MVNOs for direct negotiations, it could be a barrier to the MVNOs’ development and a potential constraint on the Red Compartida compared to its competitors in the Mexican market. If this becomes an obstacle, Mexico will need to press for international reforms to address such constraints. This might include reviewing the eligibility of MVNOs to join STIRA.

For the present, however, there are few areas of the telecommunication market that have undergone more change than international mobile roaming. Compared to the situation before the reform, there are now many offers for roam like at home services for Mexican users travelling in North and South America. For example, AT&T provides its customers with two types of international communication offers: the “Casa” (Home) option, which allows users to employ their minutes, messages, Internet and social network services for the same price, in Mexico, Canada and the United States; and the “Roaming” option, which may be used in any other country, under two diverging pricing schemes (AT&T Mexico, n.d.).

For their part, Telcel and Telefonica have also launched roam like at home offers for North American travellers that are vastly improved from the period prior to the reform. By way of example, Telcel has produced a number of unlimited plans (“Telcel Max Sin Límite”), which enables users to enjoy unlimited airtime, SMS, WhatsApp, Facebook and Twitter and up to 5 Gigabytes (GB) of data in Mexico, Canada and the United States, for monthly fees starting at approximately USD 25 (Telcel, 2017).

Telefonica’s Movistar, through its “Vas a volar” plans, is also offering unlimited calls and messages between Mexico, Canada and the United States; international roaming without additional cost; and unlimited Facebook, Twitter and Whatsapp, starting at USD 10 per month for 2 GB of data (Movistar, 2017a). Movistar also offers free international roaming to its prepaid customers in the United States, applicable to any balance reloading exceeding USD 3 (Movistar, 2017b).

**Competition aspects and enforcement**

*The IFT: The competition authority of the sector*

In cases involving the broadcasting and telecommunication sectors, the IFT is to act as the competition authority as well as the regulator (Article 7 of the LFTR). Since the reform, there have been two jurisdictional disputes between the IFT and COFECE in which both agencies claimed to be the competent competition authority to investigate cases involving the telecommunication and broadcasting sectors.
On 18 June 2015, the Nokia Corporation (Nokia) and Alcatel Lucent (Alcatel) notified the IFT about a market concentration that would have effects in Mexico, namely, an international transaction through which Nokia acquired Alcatel shares. During its review, the IFT informed COFECE of the merger, requesting comments on the transaction. COFECE replied by claiming to be the competent authority to evaluate the concentration and instructing the IFT to deliver the relevant files. In turn, the IFT issued its own statement in which it said it had authority, and placed the investigation on hold until a tribunal resolved the dispute.56

The designated tribunal decided this first jurisdictional dispute in favour of the IFT on 14 October 2015. It ruled, among other things, that analysis of the telecommunication and broadcasting sectors required a high degree of technical and specialised knowledge, and that this was why the Permanent Constituent designated the IFT for this purpose.

In 2016, the proposal for a merger between AT&T and TimeWarner raised another jurisdictional question between the IFT and COFECE, but with a different outcome. AT&T and TimeWarner presented notifications to both the IFT and COFECE regarding what they considered to be each entity’s respective scope of action. The designated tribunal decided to allow the authorities to work jointly on the case, taking into account that the operation also affected sectors other than telecommunication and broadcasting, whose market concentration should be analysed by COFECE. Some of the markets for which COFECE was deemed competent were videogames, wholesale intellectual property licenses, collectibles, as well as licensing and distribution of audiovisual content for personal and theatrical use, in various formats, including digital.

The decision on jurisdiction in the AT&T and TimeWarner case is of some concern. It restores uncertainty regarding the competent authority in the telecommunication and broadcasting sectors. One of the main objectives of creating the IFT was to eliminate the double-window effect between the SCT and COFETEL, which risks being raised again as an issue following this decision between the respective roles of the IFT and COFECE. Furthermore, the decision does not consider the implications convergence has for the provision of services that rely on telecommunication and broadband infrastructure. It also does not consider that, pursuant to the LFCE, the IFT has constitutional autonomy to determine the scope of its specialised competence for the telecommunication and broadcasting sectors.

Mechanisms to promote competition

Coexistence of preponderance, substantial market power and monopolistic practices

The variety of mechanisms that are available to the IFT for promoting competition in the telecommunication and broadcasting sectors can seem complex on a first reading. That is especially true with regard to the concepts of preponderance, SMP and monopolistic practices, whose objectives, evidentiary requirements and remedies partially overlap. Detailed explanations of each concept are provided in the following sub-sections. Before proceeding to them, though, considering these concepts from a high-level perspective will begin to bring their differences into focus.

A starting point is to bear in mind that the IFT acts as both a sectoral regulator and a competition law enforcement agency. Preponderance is a regulatory concept, monopolistic practices are a competition law concept, and SMP is a competition law concept that can be applied in a regulatory setting.
Preponderance is a potent tool because establishing it is relatively simple and the remedies it makes available are capable of reshaping entire sectors. Preponderance was designed to slice through legal and administrative red tape, giving the IFT a faster, more effective means of injecting competition into telecommunication and broadcasting. However, it can be applied only to companies that dominate a whole sector at the national level, in other words either the telecommunication sector as a whole or the broadcasting (free-to-air/free digital television) sector.

SMP, in contrast, applies to relevant markets (sectors can be made up of many relevant markets). Thus, a firm need not dominate an entire sector for SMP to exist. Moreover, if a firm has SMP, then the IFT can apply the same remedies that are available under preponderance. That being said, proving that a firm has SMP requires a more demanding analysis than proving preponderance.

Finally, monopolistic practices are prohibited by Mexico’s competition law and encompass both co-ordinated conduct by several firms (such as forming a cartel) and unilateral conduct (such as refusing to deal or predatory pricing) when it is carried out by a firm with SMP. Participating in a cartel is a *per se* offence, so it requires only proof of an agreement among horizontal competitors to fix prices or rig bids, etc. For unilateral monopolistic practices, establishing SMP is just one part of the evidentiary requirements. The IFT must also show that the company in question engaged in one of a number of forbidden practices with the intent or effect, or at least the possible intent or effect, of displacing the affected firm from the relevant market or a related one, substantially impeding its access, or establishing exclusive advantages in favour of one or several firms. Finally, the remedies available under the competition law are not entirely the same as those available to a sectoral regulator and typically do not involve the ongoing, detailed oversight that some regulatory remedies require.

Preponderance and sector definitions

As indicated earlier, the preponderance concept was developed after the previous regulatory and competition law frameworks proved to be slow, cumbersome and ultimately unsuccessful at addressing the lack of competition in Mexico’s telecommunication and broadcasting sectors. Establishing that a firm is preponderant requires nothing more than proof that the firm’s share of the nationwide business in one of those sectors is above 50%. Once it determines that a firm is preponderant, the IFT can impose asymmetrical remedies on it. Those remedies will remain in effect until the IFT declares that effective competition conditions exist in the markets that make up the sector and the preponderant firm’s sectoral share drops below 50%.

Preponderance is now one of the IFT’s most powerful tools. Preponderance greatly facilitates the IFT’s ability to stimulate competition by reducing the influence of the leading firms and easing barriers to entry, and to do so in an expedited fashion. The relative ease with which it can be put into action, particularly the minimalist evidentiary requirement, may make some observers uncomfortable, particularly if they view preponderance through the lens of competition law. Preponderance is a regulatory instrument, though, and it was uniquely designed for and specifically limited to Mexico’s telecommunication and broadcasting sectors. It is neither part of Mexico’s competition law nor applicable to the general economy. Furthermore, being a sectoral regulator as well as a competition authority, the IFT has some statutory objectives that are more intervention-oriented than a competition law enforcement perspective alone would suggest. Accordingly, preponderance is an *ex ante* measure, requiring no specific conduct to have
taken place before it can be applied. In contrast, apart from merger control, competition law enforcement involves *ex post* measures.

With regard to preponderance, the word “sector” is not to be confused with the competition law concept of a “relevant market.” Article 3 of the LFTR defines the telecommunication sector broadly, as it encompasses not only fixed and mobile telephone service, but pay TV (including satellite and cable services), as well. In contrast, Article 3 defines the broadcasting sector narrowly, as it includes only free digital (formerly FTA) television. All of these definitions have important implications for the IFT’s ability to promote, protect and guarantee competition in the various parts of the economy it regulates, as will be discussed shortly. The decision not to include pay TV in the broadcasting sector, but rather in the telecommunication sector, has had a particularly significant influence on the IFT’s capacity to affect competition in pay TV.

The process for identifying whether there is a preponderant firm or economic agent in the broadcasting or telecommunication sector can be initiated at the request of the federal executive, the Ministry of Economy (Secretaría de Economía, SE), or an affected economic agent, or else by legal mandate. The AI of the IFT then issues an initiating decision and publishes an extract in the Federal Official Gazette, whereupon the investigation period starts. That period cannot be less than 15 days or more than 45 days. The AI may extend that period by an equal amount of time if an extension is duly justified. That gives the AI a maximum of 90 days to complete its preponderance investigation.

Upon completing the investigation, if the AI finds that the necessary evidence for declaring a preponderant exists, it notifies the alleged preponderant. That firm then has an opportunity to submit evidence on its own behalf, after which the IFT’s Board of Commissioners (the Board, also known as the “plenary” or “pleno”) will issue a resolution containing its decision in the matter. If the Board finds that a party is preponderant, then the IFT is empowered to impose asymmetric regulations. Those regulations could be designed, for example, to address problems with information, service offering and QoS, exclusive agreements, or limitations on the use of terminal equipment between networks. The measures imposed could include, for instance, regulation of tariffs and network infrastructure, including local-loop unbundling or, where appropriate, structural or functional separation.

In 2014, the IFT declared a group of companies controlled by América Móvil to be preponderant in the telecommunication sector. That group includes the largest fixed and mobile operators, Telmex and Telcel, respectively. The IFT also declared the Televisa Group to be a preponderant agent in the broadcasting sector. The IFT imposed asymmetric regulations on both of them as described earlier.

In considering the current regulatory state of play in Mexico, it is necessary to take into account that in addition to being the leading free digital broadcasting company, the Televisa Group is also an important operator in the telecommunication sector. It owns both the largest cable TV service network and the largest satellite television service in Mexico. Nonetheless, its pay TV operations, though sizeable, are not sufficiently large for it to displace América Móvil as the preponderant agent in the telecommunication sector as it was defined, due to that group’s far larger operations in fixed and mobile telecommunication. Therefore, the pay TV businesses of the Televisa Group do not fall within the scope of its status as a preponderant and are not subject to any asymmetric regulations that follow from it.
Substantial market power determination

The LFTR, along with the LFCE, provides the IFT with another route for imposing asymmetrical regulations on companies involved in the telecommunication or broadcasting sectors, which is to determine that a company has SMP. In one sense, the SMP approach is easier for the IFT than preponderance because there is no need to show that a company has SMP in an entire sector. Instead, the IFT can narrow its focus to a relevant (product and geographic) market that is within one of those sectors and that is defined using competition law methods. On the other hand, the SMP approach is more difficult than preponderance because proving a minimum market share is only part (and typically the relatively easy part, at that) of proving SMP.

SMP is a competition law concept in that competition law standards are used to determine its existence. However, it is also a regulatory tool because once the IFT determines that a company has SMP, the IFT need not prove anything else before it is authorised to impose remedies, whereas having SMP alone (i.e. without some additional proof of conduct) would be insufficient to trigger a violation of Mexico’s competition law. Moreover, those remedies can be regulatory in nature. That is to say, the remedies can be designed to fulfil objectives that require ongoing and detailed intervention, including ex ante interventions. In contrast, competition law remedies are designed for meeting competition law objectives, which do not normally require sustained oversight or intricate involvement by an agency and (apart from the merger control context) are imposed ex post. Consequently, a company found to have SMP might find itself facing some or all of the same regulatory measures that the IFT has imposed on preponderant firms.

Under Article 59 of the LFCE, to determine whether one or several economic agents have SMP in a relevant market, the following substantive elements must be considered:

- the market share and ability to unilaterally fix prices or restrict supply in the relevant market, without competitors being actually or potentially able to counterbalance such power
- the existence of barriers to entry and the factors that could foreseeably alter either those barriers or the supply of other competitors
- competitors’ existence and power
- the respective abilities of the firm(s) under investigation and competitors to access input sources
- the recent market behaviour of the firm(s) under investigation
- any other factors provided by the regulatory provisions, and the technical criteria issued by the commission to that effect.

Under Article 96 of the LFCE, the procedure for identifying whether there is a firm or economic agent with SMP in the broadcasting or telecommunication sectors can be initiated at the request of the federal executive, the SE or an affected economic agent, or else by legal mandate. The AI then issues an initiating decision and publishes an extract in the Federal Official Gazette, which starts the investigation period. That period must last between 15 and 45 days. The AI, however, may extend that period by up to 45 more days if an extension is duly justified. The AI therefore has a maximum of 90 days to complete its SMP investigation – exactly the same maximum period that it has for preponderance investigations.
Upon completing the investigation, if the AI finds that the conditions for determining the existence of SMP have been met, it issues a preliminary statement to that effect, including its evidence and reasoning. Next, there is an opportunity for the firms named in the matter to present arguments and evidence, and for the IFT’s Economic Competition Unit (Unidad de Competencia Económica, UCE) to consider the evidence and provide advice to the Board. Finally, the Board issues a resolution containing its decision in the matter. If the Board finds that a party has SMP, then the IFT is empowered to impose asymmetric regulations on it.

**Monopolistic practices determination**

When the IFT acts as a competition authority, it can conduct investigations and enforce the LFCE in matters involving anticompetitive horizontal agreements (e.g. cartels) and abuse of dominance. In Mexico, these are referred to, respectively, as absolute and relative monopolistic practices.

**Absolute monopolistic practices (cartels)**

Article 53 of the LFCE bans contracts, agreements, arrangements and combinations among competitors that have the purpose or effect of: fixing prices; reducing output or demand; dividing or allocating markets; rigging bids; or exchanging information with any of the foregoing purposes or effects.

Under Article 127 of the LFCE, the IFT may impose (among other remedies and sanctions) a maximum fine equivalent to 10% of a firm’s annual income for engaging in an absolute monopolistic practice, regardless of any corresponding civil or criminal liability. The Federal Criminal Code has also been amended to strengthen criminal sanctions against cartels. Participation in a cartel is now punishable by 5 to 10 years in prison (previously 3 to 10 years), plus the equivalent of 1 000 to 10 000 days of salary (previously 1 000 to 3 000 days). Furthermore, company executives and directors who participate in cartels may be banned from serving in such positions for up to five years. The strengthening of Mexico’s penalties against cartels is consistent with a trend that has been taking place around the world for several years (OECD, 2016a; 2011).

**Relative monopolistic practices (abuse of dominance)**

Articles 54-56 of the LFCE ban a specific group of acts when they are carried out by entities with unilateral or joint SMP in the relevant market in which the acts take place. The ban applies whether such an act is executed individually or jointly, but it is essential that the act “[h]as or may have as its purpose or effect, in the relevant market or a related market thereof, that of unduly displacing other economic agents, substantially impeding their access or establishing exclusive advantages in favour of one or several economic agents”. The specific acts in the group prohibited by these articles include resale price maintenance, tying, exclusive dealing, refusal to deal, collective boycotts, price discrimination, predatory pricing and raising rivals’ costs, among others. Parties alleged to have engaged in relative monopolistic practices are given the opportunity to prove that their actions have pro-competitive effects, or efficiencies, that outweigh any harm to competition.

Under Article 127 of the LFCE, the IFT may impose (among other remedies and sanctions) a maximum fine equivalent to 8% of a firm’s annual income for engaging in a relative monopolistic practice, regardless of any corresponding civil liability.
The LFCE’s evidentiary requirements for abuse of dominance are easier to meet than those in many other OECD countries. Articles 54-56 recognise the possibility of joint SMP rather than requiring a single firm to possess it, and they are satisfied by proof that an act was merely intended to cause certain results (as opposed to requiring proof that it actually caused or was likely to cause those results). Articles 54-56 are even satisfied by proof that conduct may have been intended to have such effects. Furthermore, no actual or even possible harm to competition is necessary. Instead, proof that the act harms, may harm, is intended to harm or may be intended to harm another economic agent is sufficient. In other words, showing that either market competition itself or consumer welfare has been or could be damaged by the conduct in question is needed.

Concentrations

The IFT is also Mexico’s competition authority for the purpose of merger control in the telecommunication and broadcasting sectors. Under Article 62 of the LFCE, a merger whose purpose or effect is to obstruct, diminish, harm or impede free market access and economic competition is considered unlawful. Article 63 sets out the factors to be considered, which include mainstream elements such as the definition of the relevant market, the level of post-merger market concentration and the magnitude of the change from the pre-merger level, the market power (if any) of the main competitors, the merger’s expected effects on rivals and consumers, and merger-related efficiencies.

Under Article 64, the following factors will be considered as indications that the merger is anticompetitive:

- confers or may confer SMP on the merged entity
- increases or could increase SMP
- has or may have the purpose or effect of imposing barriers to entry or impeding third parties’ access to the relevant market or related markets or
- has the purpose or effect of substantially facilitating the merging parties to engage in conduct otherwise prohibited by the LFCE (particularly monopolistic practices).

Even if a merger presents risks of anticompetitive effects, however, the IFT can still authorise it subject to remedies. The remedies must be directly related and proportional to the correction of the merger’s anticompetitive effects. The remedies may include an obligation to:

- carry out, or abstain from, certain conduct
- divest specific assets, rights, interests or stock to third parties or viable competitors
- modify or eliminate certain conditions of the merger agreement or acts intended to be executed, and/or
- implement actions to foster the participation of competitors in the market.

**Competition policy enforcement**

*Roles of the Investigative Authority (Autoridad Investigadora) and the Economic Competition Unit (Unidad de Competencia Económica)*

The constitutional amendment of 2013 set up measures to create separate administrative units within the IFT that investigate monopolistic practices and market conditions. The AI
is the unit responsible for conducting the investigation of procedures related to competition matters. In exercising its powers, the AI has technical and administrative autonomy regarding its operations and resolutions. Among other responsibilities, the AI:

- receives, and if necessary, initiates or dismisses complaints for probable infringements of the LFCE
- conducts investigations of probable violations of the LFCE
- conducts investigations in matters concerning effective competition and the existence of SMP in a relevant market
- conducts investigations to determine the existence of barriers to competition and free market access or of essential facilities that could generate anticompetitive effects.

The purpose of this structure is to allow investigations to be conducted independently from the trial phase, if there is one, providing a more impartial execution of the duties handled by the IFT. Prior to the reform, the office in charge of investigations was the same one that presented the cases before the Board.

Every procedure, therefore (apart from those related to ex ante merger clearance), is divided into two stages. First, an investigation is opened and carried out by the AI. Then, if there is a preliminary finding of an anticompetitive practice or an unlawful merger, the AI issues a statement and the case enters a second stage.

In the second stage, the parties that are alleged to have breached the law have the opportunity to argue that the AI’s preliminary findings are erroneous. The UCE, which is separate from the AI, is in charge of implementing this second stage. At the end of its inquiry, the UCE issues advice to the Board, which then reaches a determination or “resolution”. The Board’s resolution may be appealed to the specialised courts.

**Significant cases**

This section illustrates the relationship between the AI, the UCE, the Board of Commissioners and the specialised courts by presenting a selection of competition-related cases in which the views of these entities differed. It also shows how a variety of significant, competition-oriented matters have been analysed in the post-reform period. Finally, it offers some commentary on several of those decisions.

The matters in which there was a difference of opinion within the IFT are summarised in Table 4.5. Presenting the information in tabular form makes it easier to compare what happened at each stage of the decisional process within the IFT. Following the table, these and several other significant matters are organised according to the type of case involved (e.g. SMP, abuse of dominance, etc.) and discussed.

**Substantial market power cases**

As indicated above, the IFT’s power to declare that an economic agent has SMP in a relevant market and to take remedial action on that basis alone is a hybrid of sectoral regulation and competition law. The method for determining whether SMP exists is based on competition law principles. If SMP is found, then the IFT can apply regulatory remedies. No additional evidence is required. Because this power’s threshold element comes from competition law, though, a selection of the IFT’s SMP cases is included here.
Case AI/DC-001-2014 (general SMP investigation to determine whether SMP existed in any market in the telecommunication or broadcasting sectors)

First resolution

After conducting an investigation of the pay TV business in Mexico, the AI found that the Televisa Group held SMP in more than 87% of the local pay TV markets analysed. Before reaching that conclusion, the AI investigated each of the elements that the competition law requires to be considered in SMP determinations (Table 4.5).

The first factor underlying the AI’s conclusion that SMP existed – that the Televisa Group had the largest market share in all of the local markets at issue – is not particularly meaningful by itself, but it is relevant in the context of the other factors. The next factor – that the Televisa Group was vertically integrated and controlled its own content, whereas rivals needed access to its content to be competitive – is significant because it showed that the Televisa Group was not dependent on others for inputs, but rather that others were dependent on it. That put the Televisa Group in a position to be able to potentially disadvantage rivals by refusing or delaying access to its content to them. Furthermore, the Televisa Group paid for exclusive rights to distribute some other content. In other words, if it so wished, it could seal off some content from its competitors. In addition, the Televisa Group had another advantage for accessing content owned by others, which was that it had the widest subscriber base among pay TV providers. That gave other content owners an incentive to distribute via the Televisa Group.

The remaining factors are all important, but the sixth one – that the Televisa Group’s profit margins were greater than those of its local and international peers, and that the margins were stable – is especially significant given what followed in this matter. The fact that its margins were stable and comparatively high while its national market share either grew or at least was not significantly eroding (depending on how the Televisa Group’s aggregate share is measured) is inconsistent with the idea that these pay TV markets were competitive.

The UCE then considered the AI’s evidence and reasoning. Although the specifics of the UCE’s evidence are never released, it is understood that the UCE fully agreed with the AI’s finding in this matter. In other words, the UCE concurred that the Televisa Group had SMP in all the local pay TV markets specified by the AI, even after taking into account the arguments submitted by the Televisa Group and other economic agents. The UCE, therefore, advised the Board to reach the same conclusion that the AI had reached.

The Board, however, disagreed with the AI and the UCE in several respects. One of its main reasons for doing so was its finding, at that time, that the Televisa Group’s share of the nationwide pay TV market had declined by about 2 percentage points between September 2013 and March 2015.

That amount does not seem to be solid ground on which to base a disagreement with the AI and the UCE. Relatively minor market share movements are not reliable indicators of the presence or absence of SMP, especially when they are part of a shifting pattern rather than a steady trend. The pay TV companies under Televisa Group’s ownership in 2016 had a market share that was identical to what they collectively had in 2011-12, that is, approximately 61% (see Figure 4.6). In other words, those companies gained and lost the same amount of market share during those years.
AI/DC-001-2014 (a general, regulatory substantial market power [SMP] case). On 5 September 2014, the Investigative Authority (Autoridad Investigadora, AI) initiated a market investigation to determine whether an economic agent with SMP existed in any relevant market in the telecommunication or broadcasting sectors. This was a general investigation that was not connected to any particular transaction or event. This investigation was performed under the provisions of Transitory Article 39 of the Federal Telecommunications and Broadcasting Law (LFTR), regarding Article 96 of the Federal Economic Competition Law (LFCE).

On 13 March 2015 concluding that the Televisa Group had SMP in 2,124 of 2,436 markets under analysis. The relevant markets comprised the supply of pay TV services through any means of transmission in geographic areas defined by municipal boundaries (except for Mexico City and its metro area). The AI found that: 1) the Televisa Group had the largest market share in all of the 2,124 markets; 2) the vertically integrated Televisa Group controls its own content, whereas rival pay TV firms need access to the Televisa Group’s content for their bundles to be competitive; 3) the Televisa Group could participate in pay TV markets through two different platforms (cable and satellite), which allowed the company to: a) offer a broader range of service and price packages to customers with varying payment capacities and preferences, thereby winning a greater share of business; and b) implement pricing strategies designed to limit the Televisa Group’s rivals; 4) the Televisa Group faced few competitors, and those firms had no capacity to exert competitive pressure sufficient to erode the Televisa Group’s market shares or profit margins; 5) there were significant barriers to entry, such as the amount of investment necessary to enter and the uncertainty of recouping it; and 6) the Televisa Group earned profit margins exceeding those of its local and international counterparts, and the margins were not declining, which was inconsistent with a competitive environment.

The Economic Competition Unit (Unidad de Competencia Económica, UCE) concluded that the Televisa Group had SMP in 2,124 local markets of pay TV services. This advice took into account the conclusions made in the preliminary statement by the AI and the arguments submitted by the Televisa Group and other economic agents.

On 30 September 2015, the Board of Commissioners decided in a 5-2 vote that there was not enough evidence to demonstrate the existence of an economic agent with SMP under the provisions of Articles 59 and 96 of the LFCE. First, however, the Board agreed that the relevant product/service market was pay TV services. It also noted that over-the-top (OTT) services were not in that relevant market for a number of reasons, including that OTTs depend on high-quality Internet connections. The Board pointed out that Internet speeds are relatively low in Mexico and a significant portion of pay TV customers do not have an Internet connection, let alone a broadband connection. The Board also acknowledged that the Televisa Group was growing. Nevertheless, the Board was particularly moved by the fact that other pay TV providers had grown more. Between September 2013 and March 2015, the Televisa Group’s aggregate (cable and satellite) national pay TV market share had declined from 64.1% to 62.2%, the Board said. It also noted that the Televisa Group was bound by must-offer measures to provide competitors with access to its most popular broadcast television channels. The Board was therefore not convinced that the Televisa Group’s competitors face any restrictions to expanding or that the Televisa Group could unilaterally set market prices or restrict supply.

On 19 January, 2017, this decision was invalidated by the First Specialised Tribunal, which found that the Board had erred by taking into account evidence from beyond the date the investigation was initiated. The tribunal therefore ordered the Board to reconsider the matter and issue a new resolution. On 2 March 2017, the Board released a new resolution declaring that the Televisa Group had SMP in a national relevant market consisting of pay TV services. This time the Board considered evidence only from the period January 2009 to August 2014.

Table 4.5. Sample of investigations in which the Board rejected the Investigative Authority’s findings

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<tr>
<th>Case</th>
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<td>The geographic market was national, the Board decided, because satellite platforms actually and potentially compete nationwide and thus fixed (cable) platforms face national, not local, competition. That is why cable TV offers are comparable throughout Mexico, the Board reasoned. It also decided that the relevant service market is segmented, with one part consisting of satellite platforms that can offer service nationwide but are limited to pay TV alone and another part consisting of cable platforms that do not have nationwide networks but can deliver converged services (such as pay TV plus fixed telephony and/or fixed broadband). The Televisa Group had SMP, the Board said, because the Televisa Group was the only competitor that operated both satellite and cable platforms and because it produced and owned the rights to high-value content that was not available to its rivals. The must-carry obligations that were part of the 2013 constitutional reform had not yet had a significant effect during the period analysed. Other competitors therefore could not match the Televisa Group’s offerings, so it did not face competitive pressure. The Board added that the Televisa Group did not lose any share of the national market during the analysed period, despite the efforts of its rivals. Furthermore, it pointed out that the necessary investments in infrastructure and access to content amounted to significant entry barriers. As a result of the second resolution in this matter, the IFT will be able to impose asymmetric measures on the Televisa Group in the pay TV market and it will begin proceedings for that purpose. The Board noted that any measures must be timely, reasonable, appropriate and relevant when they are enacted.</td>
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<td>AI/DC-002-2014 (Regulatory SMP case following merger in Telecoms Sector). On 14 August 2014, the Televisa Group notified the IFT that it had acquired Grupo Cable TV, S.A. de C.V. (Cablecom), under the provisions of Transitory Article 9 of the LFTR. Cablecom was a competitor of the Televisa Group in 100 of the 102 local pay TV services markets in which Cablecom operated. The AI began an investigation on 17 December 2014 to assess whether this merger had created or strengthened SMP for the Televisa Group in any market in the telecommunication sector (including pay TV services, Internet broadband fixed services, fixed telephony, leased lines or interconnection services to end fixed calls).</td>
<td>On 22 April 2015, the AI stated that the Televisa Group had obtained and/or increased SMP in 99 local markets for pay TV services. The AI emphasised that: 1) the merger made the Televisa Group the largest pay TV provider in those markets; 2) the post-merger Herfindahl-Hirschman Index and Dominance Index far exceeded the maximum levels at which mergers are presumed not to affect competition; 3) the merger involved the two main competitors in these markets and thus eliminated an important source of competition. Of the 99 markets in which the Televisa Group was found to be the leader, 63 had only one competitor to the Televisa Group; 4) the merger increased the number of pay TV markets in which the Televisa Group was able to compete through two different platforms (cable and satellite) from 16 to 100, allowing it to offer a broader range of services with different payment capacities and options, thereby covering the low-, middle- and high-end segments; 5) by increasing concentration in these markets, the merger reduced the competitiveness of the Televisa Group’s rivals, so they could not be expected to counteract the Televisa Group’s ability to set prices; 6) there are barriers to entry in pay TV markets (same reasons as in case 001-2014, plus the cost of marketing and content acquisition); 7) the incentives of other firms to enter could be undermined by the position attained by the Televisa Group through this merger, as well as by the general increase in concentration, which reduced their prospects for viability because they would be competing against firms that have much larger market shares; and 8) the Televisa Group controls its own content, whereas rival pay TV firms need access to the Televisa Group’s content to be competitive (the same reasoning as in case 001-2014).</td>
<td>On 2 November 2015, the commissioners concluded by a vote of 5-2 that there was not enough evidence to establish that any economic agent had SMP in the markets identified by the AI. This decision took into account that: 1) although the Televisa Group had the largest share in pay TV services, its principal competitors had increased their market shares in terms of revenue and subscribers between September 2013 and June 2015. Thus, the AI’s preliminary statement did not show evidence that restraints on competition were preventing other concessionaires from expanding their operations; 2) due to the must-offer obligation, the Televisa Group was forced to share the highest-value broadcast signals with other concessionaires, so the Televisa Group’s competitors were able to compete in the pay TV market with high-value content; 3) there was no analysis of competition dynamics between: a) multi-service providers; and b) providers that offer only pay TV services, therefore it is not clear that the Televisa Group had the power to set market prices in the multi-service markets; 4) there was no disaggregated information on commercial offers of all platforms used to provide pay TV services, so it was impossible to assess the competitive dynamics among them; and 5) the preliminary statement showed methodological limitations regarding the geographic definition of the relevant markets.</td>
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Table 4.5. Sample of investigations in which the Board rejected the Investigative Authority’s findings (continued)

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<td>AI/DC-002-2015 (Regulatory SMP case following merger in telecom sector). On 8 January 2015, the Televisa Group notified the IFT that it had acquired Cablevisión Red, S.A. de C.V. (Telecable), under the provisions of Transitory Article 9 of the FTBL. Telecable was a competitor of the Televisa Group in 64 of the 65 local pay TV services markets in which Telecable operated. On 29 April 2015, the AI began an investigation of whether, as a result of this acquisition, the Televisa Group had obtained and/or increased SMP in a market in the telecommunication sector (including pay TV services, Internet broadband fixed services, fixed telephony, dedicated links or interconnection services to end fixed calls).</td>
<td>In its preliminary statement 3 September 2015, the AI found that the Televisa Group obtained and/or increased SMP in 63 local markets for pay TV services. The finding was based on seven factors: 1) the transaction made the Televisa Group the largest pay TV provider in 63 local markets; 2) the AI’s preliminary statements in cases AI/DC-001-2014 and AI/DC-002-2014 had already concluded that the Televisa Group had SMP in 36 of the 63 markets; 3) with this transaction the Televisa Group had acquired its largest competitor; 4) the transaction enabled the Televisa Group to offer a broader range of services, particularly in the low-to middle-cost segments; 5) the Televisa Group’s competitors did not have the capacity to restrain the Televisa Group’s power to set market prices; 6) there were significant barriers to entry; and 7) the Televisa Group controlled its own content and had a competitive advantage in gaining access to content produced by other companies.</td>
<td>The UCE’s advice to the Board suggested that the Televisa Group did not have SMP in the 63 local markets mentioned by the AI. The UCE concluded that, given the criteria established by the Board of Commissioners in cases AI/DC-001-2014 and AI/DC-002-2014, and that the AI analysed and used the same evidence as it did in those matters, there was insufficient evidence to determine that there was an economic agent with SMP in the relevant markets. Furthermore, and again based on the Board’s decision in case AI/DC-001-2014, the UCE found some methodological mistakes regarding the definition of the relevant geographic markets and the relevant service market, which made it impossible to assess either the Televisa Group’s market power or the competitive dynamics in the relevant markets.</td>
<td>On 29 February 2016, the Board voted 5-2 that there was not enough evidence to establish the existence of an economic agent with SMP in the 63 relevant markets. Its decision rested mainly on five factors: 1) although the Televisa Group had the largest share in pay TV services, its principal competitors increased their market shares in terms of revenue and subscribers from September 2013 to June 2015. Thus, the AI’s preliminary statement did not show evidence that other concessionaires faced competitive restraints to increasing their operations; 2) due to the must-offer obligation, the Televisa Group was forced to share the highest-value broadcast signals with other concessionaires, so the Televisa Group’s competitors were able to compete in the pay TV market with high-value content; 3) there was no analysis of competition dynamics between multi-service providers and concessionaires that offer only pay TV services, so it is not clear that the Televisa Group had the power to fix prices in view of competition from multi-service markets; 4) there was no disaggregated information on commercial offers of all platforms used to provide pay TV services, so it was impossible to assess the competitive dynamics among them; and 5) the preliminary statement showed methodological weaknesses regarding the definition of the geographic relevant markets.</td>
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<td>E-IFT/UC/DGI/P/CP/0002/2013 (Ex post, competition law merger case). On 12 December 2011, the former competition authority, the Federal Competition Commission (Comisión Federal de Competencia, COFECO), opened an investigation of an allegedly prohibited merger in the telecommunication and broadcasting markets between the Televisa Group, Corporativo Vasco de Quiroga, S.A. de C.V. (CVQ) and GSF Telecom Holdings, S.A.P.I. de C.V. (GSF). Due to the constitutional amendment of Article 28, COFECO ceased to exist and the IFT assumed responsibility for enforcing Mexico’s competition law in the telecommunication and broadcasting sectors. Therefore, the IFT continued this investigation.</td>
<td>The AI issued a statement on 21 October 2014, concluding that the parties had probable responsibility for conducting a prohibited merger. The decision was based on the following: 1) the Televisa Group acquired, through CVQ, a percentage of GSF shares; 2) the acquired shares gave the Televisa Group and CVQ the power to appoint GSF’s directors and executives; 3) new GSF managers were the Televisa Group-affiliated and could not be considered independent, so there were incentives for them to act in a co-ordinated fashion; and 4) the Televisa Group and GSF competed in some markets – in particular, pay TV markets.</td>
<td>In accordance with Article 33, Section VI of the previous LFC, the UCE would not submit advice or draft resolutions directly to the Board in connection with abuse of dominance, collusion or merger cases. Instead, in such cases, the UCE’s role was to assist and work with the Commissioner-Rapporteur, providing analytical and technical tools. In other words, the preliminary advice to the Board was not provided by the UCE, but by the Commissioner-Rapporteur, with the participation of the UCE’s staff.</td>
<td>On 29 April 2015, the Board, with the Commissioner-President casting the deciding vote, ruled that the Televisa Group, CVQ and GSF had no responsibility for carrying out a prohibited merger under Articles 16, 17 and 18 of the LFCE. The resolution stated that the AI had not proved that GSF’s loss of independence resulted in less competition in the pay TV market. Therefore, the AI did not establish that the acquisition gave the Televisa Group the power to unilaterally fix prices in that market. Furthermore, the AI did not prove that the firms involved had exchanged information or that they had changed the structure of the markets in a way that would facilitate anticompetitive practices.</td>
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<td>E-IFT/UC/DGI/P/PMR/0005/2013 (Relative abuse of dominance [refusal to deal] case under competition law). On 15 April 2012, COFECO began an investigation to analyse whether the Televisa Group had unilaterally refused to deal several broadcasting and pay TV channels to Maxcom TV, S.A. de C.V. (Maxcom TV) for the purpose of unduly displacing Maxcom TV, substantially impeding its access to the market, and/or establishing exclusive advantages in favour of other economic agents. Due to the constitutional amendment of Article 28, COFECO ceased to exist and the IFT assumed responsibility for enforcing Mexico’s competition law in the telecommunication and broadcasting sectors. Therefore, the IFT continued this investigation.</td>
<td>On 27 February 2015, the AI issued a statement determining that the Televisa Group had probable responsibility for unilaterally refusing to license several TV channels to Maxcom TV without any legal or economic reason. The AI found that: 1) there was not any economic justification for the Televisa Group to unilaterally deny its television channels to Maxcom TV in exchange for a fair rate; 2) the Televisa Group had SMP in the trade of licenses to retransmit broadcasted television channels; and 3) the purpose of the refusal was to establish exclusive advantages in favour of Empresas Cablevisión, S.A.B. de C.V., a subsidiary of the Televisa Group.</td>
<td>In accordance with Article 33, Section VI of the previous LFC, the UCE would not submit advice or a draft resolution directly to the Board in connection with abuse of dominance, collusion or merger cases. Instead, in such cases, the UCE’s role was to assist and work with the Commissioner-Rapporteur, providing analytical and technical tools. In other words, the preliminary advice to the Board of Commissioners was not provided by the UCE, but by the assigned Commissioner-Rapporteur with the participation of the UCE’s staff.</td>
<td>On 23 September 2015, the Board decided, with a vote of 5-2, that the Televisa Group was not responsible for a relative abuse of dominance by unilaterally refusing to deal its television channels to Maxcom TV. The Board found that although the Televisa Group had SMP in the relevant market, the AI’s statement of probable responsibility did not contain enough evidence to prove that the Televisa Group refused its television channels with the purpose and/or the effect of substantially preventing Maxcom TV’s access to the market and establishing exclusive advantages in favour of any economic agent.</td>
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<td>AI/DE-002-2015 (Relative abuse of dominance [margin squeeze] case under competition law)</td>
<td>On 11 August 2015, the AI issued a statement of probable responsibility finding that: 1) since 2007, Telcel charged higher rates to its competitors than the rates it charged its own final consumers for the termination of mobile phone calls; 2) Telcel’s rates substantially prevented its competitors from offering lower prices to consumers; and 3) Telcel’s conduct was prohibited by Article 10, Section XI of the LFC.</td>
<td>The UCE advised that Telcel had already been sanctioned in a previous matter for the conduct at issue in the AI’s statement of probable responsibility. Therefore, under the legal principle that no legal action can be instituted twice for the same cause of action, the IFT was not entitled to impose a new fine.</td>
<td>On 17 March 2016, the Board ruled, four votes to two, that Telcel could not be sanctioned and fined for the conduct established in the statement of probable responsibility because Telcel had already been sanctioned for the same conduct in a previous case. Therefore, the IFT was not entitled to impose a new fine.</td>
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1. Procedure processed according to the abrogated Federal Economic Competition Law published on 5 May 2011.
2. This practice was prohibited under Article 10, Section V of the abrogated Federal Economic Competition Law.
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.


Incidentally, the competitor Megacable saw its national share decline from 16.4% to 14.6% between 2010 and 2016, after declining in the period from 2010-12 and rising from 2013-15 (see Figures 4.5 and 4.6). Thus, there have been some modest changes in the market shares of firms in the pay TV business, but these fluctuations go in both directions. This raises the question of whether the Board should have relied on a small decline in the market share of the Televisa Group over an 18-month period as a basis for rejecting the conclusion of the AI and the UCE.

A more fundamental reason for questioning this approach is that the Televisa Group’s national pay TV market share has been steadily growing since 2010, from 46% to 61% in 2016, rather than declining (see Figure 4.5). The share has been steadily increasing because the Televisa Group was permitted to fully acquire four pay TV companies during that time period. To understand an interpretation that the Televisa Group’s share was declining, it is necessary to consider the methodology used by the Board. The Board’s reasoning was based on a method for calculating the market share that assumed that in September 2013, the Televisa Group had already acquired all of the pay TV companies that it owned as of March 2015. Thus, any decrease in those companies’ market shares during that period were counted as declines in the Televisa Group’s market share. Nonetheless, the Televisa Group’s actual share grew each time that it completed one of those acquisitions.
The implications of this difference in methodology may be easier to understand visually, by comparing Figure 4.6, which shows the evolution of the Televisa Group’s national pay TV market share using the Board’s final approach, with Figure 4.5, which shows the accretive effect of the Televisa Group’s acquisitions on its market share. The two figures clearly tell very different stories about the change in Televisa’s market share over time.

There are other reasons to question the IFT’s final decision, even if the Board’s market share methodology is used. For example, while the number of subscribers of the Televisa Group was growing, but (at least in recent years) not as quickly as the number of its rivals’ subscribers, there has been a modest decline in the Televisa Group’s national market share since 2013. That led the Board to conclude that the Televisa Group could not unilaterally set prices or restrict supply, as competitors would be able to counteract any such attempts, and that the Televisa Group therefore did not have SMP. Nonetheless, as the AI pointed out, during that same time period, the Televisa Group’s profit margins were comparatively and persistently high. If competitors were able to counteract attempts by the Televisa Group to set prices or restrict supply, though, it might be expected that the Televisa Group would have lost more market shares than it did, and to have done so more rapidly, given that it refused to sacrifice any of its profit margin despite the supposed competition it faced. A better explanation might be that other companies were growing mainly in areas where the Televisa Group may have been less interested in competing, such as in areas where it could not offer triple-play services. In any event, the Televisa Group’s ability to maintain its margins while losing a fairly small amount of market share over three years does not offer much support for the notion that competition was constraining the company.

Another questionable feature of the Board’s resolution is its premise that the relevant geographic market was national. The AI and the UCE had concluded that there were
It needs to be acknowledged that the Board made another major point, which was that the Televisa Group was bound by must-offer measures to provide competitors with access to its most popular broadcast television channels. That, the Board reasoned, should prevent the Televisa Group from withholding access and thereby restricting the ability of its pay TV rivals to compete. Along with the market share decline, this factor was also instrumental in the Board’s decision that there was not enough evidence to show that the Televisa Group’s competitors faced any restrictions to expanding their operations, or that the Televisa Group could unilaterally set market prices or restrict the supply of services.

In principle, the Board had a well-grounded argument. It assumed, however, that the Televisa Group was already abiding by its recently imposed must-offer obligations, whereas rival firms said they had substantial difficulties getting the Televisa Group to comply with those obligations, and indeed said that such difficulties continued through 2016.

Second resolution

As detailed in Table 4.5, the First Specialised Tribunal eventually invalidated the Board’s first resolution in this matter and remanded it to the IFT’s Board for reconsideration. After considering the tribunal’s order and weighing evidence only from the period January 2009 to August 2014, the Board issued a new resolution (IFT, 2017b), stating that the Televisa Group did have SMP in the national pay TV market, at least up to August 2014.

This time the Board explained its finding that the relevant geographic market was national (it had made, but not explained, the same finding in the first resolution). It stated that satellite platforms actually and potentially compete nationwide and thus fixed (cable) platforms face national, not local competition. That is why cable TV offers are comparable throughout Mexico, the Board reasoned. Nevertheless, that statement differs from what the Board acknowledged in its resolution of case AI/DC-002-2014 in November 2015, when it found that commercial offers from cable TV companies vary from town to town (as does the number of competitors). It would be surprising for the nature of geographic price competition in markets for pay TV to change substantially from August 2014 to November 2015.

Despite the broader geographic market definition, the Board found that the Televisa Group had SMP during the relevant period. It did so for three main reasons. First, it acknowledged that the AI had been right to highlight the facts that the Televisa Group was the only competitor that operated both satellite and cable platforms and that it produced and owned the rights to high-value content that was not available to its rivals. The must-carry obligations (which the Board had relied on in its first resolution to rebut the content point) had not, upon further reflection, yet had a significant effect at the time of the relevant period. Second, restricting the relevant period to 2009 to August 2014 meant that it could no longer be said that the Televisa Group had been losing market share. This further demonstrates the pitfalls in a reliance on minor market share fluctuations to reach conclusions about SMP in the first resolution. A small shift in the time period led to a different result in the second resolution. Finally, the Board found that the investments in infrastructure and access to content that were necessary to compete in the pay TV market were significant entry barriers.

In light of the second resolution, the IFT will be able to impose asymmetric measures on the Televisa Group in the pay TV market. It is not, however, required to do so. The
IFT will conduct proceedings to determine whether it will impose any measures, and if so, what they will be. In this regard, a statement the Board made near the end of its resolution is notable. The Board said that any measures must be “timely, reasonable, appropriate and relevant when they are enacted”. This may lay the ground for a decision not to impose any measures on the Televisa Group, despite the SMP finding. For example, it could easily be argued that measures imposed in 2017 for events that occurred in 2014 and earlier would not be timely.

One possibility, though, is that the second resolution will be deemed to have taken effect at the time the first resolution was issued. That could have repercussions on the two decisions described immediately below. If the Televisa Group had been deemed to have SMP in the pay TV market at the time of those decisions, they might have turned out differently. On the other hand, then the matter of whether measures could be imposed in connection with them in 2017 would arise. Presumably, the Board would still require that any measures would be timely, reasonable and so forth. Given that the mergers were completed in 2014 and 2015, that could be a difficult hurdle to clear, potentially leaving the IFT once again in the position of having been unable to regulate the pay TV market with the SMP approach.

Cases AI/DC-002-2014 and AI/DC-002-2015 (SMP investigations to determine whether the Televisa Group acquired or strengthened SMP in pay TV markets when it bought Cablecom and Telecable, respectively)

Before the Board issued its resolution in case AI/DC-001-2014, the AI initiated two investigations to determine whether the Televisa Group had acquired SMP in any pay TV markets specifically as a result of its acquisitions of the cable television companies Cablecom and Telecable. Due to a transitory article in the LFTR, the IFT was unable to apply the competition law’s ex ante provisions against unlawful concentrations to these acquisitions. Furthermore, because pay TV had been defined to be part of the telecommunication sector and the Televisa Group was not the preponderant there, the IFT could not apply preponderance remedies in connection with these acquisitions, either. That meant the only recourse available to the IFT if it wished to scrutinise these transactions was the ex post SMP approach.

Transitory Article 9 of the LFTR states that as long as there is a preponderant in the broadcasting or telecommunication sectors, mergers involving concessionaires do not have to be cleared in advance by the IFT, provided that the mergers:

- generate a sectoral reduction of the Dominance Index, with an Herfindahl-Hirschman Index (HHI) increase of no more than 200 points
- result in the merged entity accounting for less than 20% of sectoral participation
- do not involve the preponderant economic agent in the sector in which the transaction occurs
- do not reduce, damage or prevent free competition in that sector.

The four conditions are weak when applied to the Televisa Group’s acquisitions in the telecommunication sector. The first one, setting out requirements involving the Dominance Index and the HHI, relates to sectors, not relevant markets. That matters because in the telecommunication sector, as Mexico has defined it, the Televisa Group is very small when compared to the preponderant Telmex. That makes the first condition rather easy to satisfy for the Televisa Group. The second condition is also easily satisfied in connection...
with its pay TV acquisitions, for the same reason. The third condition has no effect, either, provided that the Televisa Group avoids transactions involving Telmex. The fourth condition is not clear because competition is a concept that is analysed with reference to relevant markets, not sectors. It is not clear what sectoral competition is or how to recognise it.

In any event, because these mergers were deemed to meet all four of the conditions listed above, they escaped *ex ante* oversight under the competition law’s merger control provisions, leaving the IFT no choice but to proceed with the *ex post* SMP approach. That gave the regulator a maximum of 90 days from the date it submitted notice of each investigation to collect evidence that established SMP.

This is why it was mentioned earlier that the way the telecommunication and broadcasting sectors were defined for preponderance determinations had important implications for the IFT’s ability to promote, protect and guarantee competition. Putting pay TV into the telecommunication category rather than the broadcasting category shielded the Televisa Group from any IFT oversight related to the Televisa Group’s acquisitions of cable TV providers, other than *ex post* SMP investigations. Those investigations, as discussed below, have so far failed to prevent any of the Televisa Group’s acquisitions of cable TV providers.

Furthermore, many of them did not have digital, bidirectional networks with which to provide broadband, so they were pure pay TV providers. In other words, they competed more with broadcasters than with telecommunication providers. Had they remained independent, they might have eventually upgraded their networks and begun to compete as multi-service providers. That avenue, however, has now been closed.

Turning to the Cablecom investigation first, Table 4.5 summarises the decisions and reasoning of the AI, the UCE and the Board in this matter. After looking for signs that SMP might exist in any market within the telecommunication sector, the AI found that the Televisa Group had obtained or strengthened SMP in 99 local pay TV markets as a result of its acquisition of Cablecom. Before reaching that conclusion, the AI investigated each of the SMP elements set out in the competition law.

The first factor underlying the AI’s conclusion (the merger made the Televisa Group the largest pay TV provider in all 99 markets) is once again not particularly meaningful by itself, but it is relevant in the context of the other factors. The next consideration (the post-merger Herfindahl-Hirschman and Dominance Indexes far exceeded the safe harbour levels) may be more meaningful. However, it is still necessary to weigh the evidence on the other elements. The remaining six factors relied upon by the AI are listed in Table 4.5 and are self-explanatory.

By the time the UCE issued its advice on this matter, the Board had already released its resolution in case AI/DC-001-2014. Having taken the Board’s views into account, and given that the AI’s evidence and reasoning were the same in this matter as in the previous one, the UCE advised that there was insufficient evidence to determine that the Televisa Group had acquired or strengthened SMP.

The Board then concluded once again that there was insufficient evidence to support a determination that SMP existed. Some of the Board’s reasons for that decision, such as the small decline in the Televisa Group’s national market share and the must-offer obligations that had been imposed on it, also appeared in the Board’s resolution in case AI/DC-001-2014. They have already been discussed above. That being said, the Board provided some new reasons, as well.

One was that the AI had not analysed the “competition dynamics” between multi-service (e.g. triple-play) providers and providers that offer only pay TV services, so it was not
clear that the Televisa Group had the power to set market prices in the multi-service markets. Given that the AI had defined the relevant product/service market to be pay TV services rather than multi-service markets, this is really an argument about what the relevant product/service market is. If most pay TV subscribers were buying that service as part of a bundle with fixed broadband service and/or fixed telephony services at the time of the Cablecom acquisition, or if there was a credible trend of buying them in bundles, then the Board could have a fair point.

On the other hand, this argument is still a questionable basis for finding fault with the AI’s statement. Broadband was not advanced enough in Mexico to make this point relevant. The Board itself effectively acknowledged this in case AI/DC-001-2014 when it pointed out that Internet speeds were relatively low in Mexico and a significant portion of pay TV customers did not have any Internet connection at all, let alone a broadband connection. In 2017, despite substantial improvements since the introduction of the reform, broadband access is still limited compared to most OECD countries.

Furthermore, even if there was a substantial degree of bundling or a trend towards it, it would not be clear that shifting the focus from pay TV alone to multi-service offers undermines the argument that the Televisa Group has SMP. In fact, it might strengthen it. The Board’s underlying point about multi-service competition is that even if other firms could not match the Televisa Group with respect to pay TV itself, they might nevertheless win more customers and constrain the Televisa Group by outperforming it in other aspects of triple-play bundles. It would be easier for rivals to claim competitive differentiators with respect to fixed broadband than fixed telephony. At the same time, the Televisa Group’s fixed broadband position is quite strong, being the biggest challenger of Telmex in fixed broadband with market shares of 18.5% and 20.7% in 2014 and 2015. Therefore, if anything, this consideration could actually strengthen the case for the Televisa Group having SMP, especially since Telmex is not permitted to offer multi-service bundles that include pay TV.

In any event, it raises the question of why the Board accepted pay TV services as the relevant market just one month earlier in case AI/DC-001-2014, but then raised the possibility in the Cablecom case that the correct market definition was multi-service platforms.

Another new reason given by the Board for rejecting the AI’s conclusion that the Televisa Group had SMP in the Cablecom matter was that the AI did not provide disaggregated information about the various bundled commercial offers that include pay TV services, which made it impossible to assess the competition among the bundle providers. In making this point, the Board stressed that 55% of pay TV subscribers in Mexico use satellite suppliers, whose commercial offers are uniform nationwide. It also emphasised that the AI had identified differentiated service categories (e.g. basic, premium, etc.) but that it did not provide evidence showing that these categories are substitutes either on the demand side or the supply side. Without being able to draw conclusions about how inter- and intra-category competition takes place, the Board said it was impossible to determine whether the Televisa Group had SMP.

Nonetheless, if in some towns the Televisa Group, Dish and Cablecom were the only choices for pay TV services, that would lead to the question of why it was relevant that Dish establish nationally uniform offers. Those towns would still have gone from three choices to two as a result of this acquisition, which would raise concerns about the Televisa Group increasing cable subscription prices, offering fewer channels in its cable bundles or otherwise reducing the quality of its services. Second, more information about category competition would certainly have been helpful, and it may even have been necessary, for a sound SMP decision. This level of detail is far greater, however, than say
the simple national sectoral share that is required for the preponderance determination. Yet the AI has the same 90-day maximum time limit to conduct SMP investigations and produce an analysis as it does in preponderance cases. It is not clear how the AI could satisfy the level of scrutiny shown by the Board in SMP cases in such a short period, especially when both commercial offers from cable companies and the overall number of pay TV competitors vary from town to town.

Finally, the Board found that the AI’s geographic market definition suffered from methodological weaknesses. The Board noted that, under Article 58 of the LFCE, one first determines the relevant product or service, then defines the relevant geographic market. It should not, however, be assumed that the relevant geographic market is the area in which a merger had some effects that prompted the investigation. After all, the Board noted that the Televisa Group is not limited to participating in only 100 or so municipalities. Consequently, the Board concluded that the record did not contain enough evidence for it to determine whether the AI’s geographic market definition was correct.

That being said, earlier in its resolution the Board had pointed out that while satellite pay TV providers have national coverage and uniform commercial offers, cable providers offer services only in certain locations and their offers can vary from town to town. It is, therefore, difficult to see how the relevant geographic market could be national.

As for the Telecable case, it can be addressed very briefly: The analysis and outcome were virtually identical to those in the Cablecom matter. Table 4.5 summarises the decisions and reasoning of the AI, the UCE and the Board.

Thus, until the Specialised Court’s decision in February 2017, the Board had repeatedly rejected the AI’s findings that the Televisa Group had SMP in markets for pay TV services. Indeed, before that court decision, the Board had never found that any firm has SMP. It has now done so with respect to the Televisa Group, but so far the IFT has still never imposed asymmetric measures as a result of an SMP determination.

Absolute monopolistic practices (cartel) case: Market allocation agreement between Cablevision and Megacable S.A. de C.V. (Megacable)

In March 2011, Telmex, the leading provider of fixed communications services, alleged that Megacable and several of the subsidiaries of the Televisa Group had engaged in absolute monopolistic practices. The former competition authority, COFEFCO, opened an inquiry. In February 2014, the Board of the IFT (which had taken responsibility for this case after the reform) decided that Megacable and Cablevision, a subsidiary of the Televisa Group, had engaged in absolute monopolistic practices. In particular, they had geographically segmented the provision and marketing of telecommunication services in 13 local areas in the State de Mexico. The IFT imposed a fine of MXN 8.7 million (USD 440 000) for Cablevision and MXN 33.5 million (USD 1.7 million) for Megacable. This resolution is under review before the judicial jurisdiction.

Those fines are decidedly low, given that the defendants’ annual revenues are measured in multiple billions of US dollars. It is questionable whether such low fines will serve as meaningful deterrents to absolute monopolistic practices in the future. Because this matter involved conduct that took place before Mexico’s competition law was overhauled in 2015, however, the IFT was constrained to impose lighter penalties than those now authorised under Article 127 of the LFCE (which could have included fines in the range of hundreds of millions of US dollars, as well as prison sentences for participating individuals).
Relative monopolistic practices (abuse of dominance) cases

Since the IFT came into being, it has found only once that an economic agent engaged in a relative monopolistic practice. This is somewhat surprising, as not only does the IFT oversee concentrated markets with powerful leading firms, but as mentioned above, the LFCE’s evidentiary requirements for abuse of dominance are easier to meet than those in many other OECD countries.

Concentrations

From the establishment of the IFT in September 2013 through the end of 2016, every merger application submitted to the IFT was eventually authorised in one form or another. Some applications were authorised subject to remedies or the fulfilment of commitments, but others were authorised without conditions and none were blocked. In any event, none of the resolutions issued by the IFT in connection with merger applications have been legally challenged, so none have yet been tested by Mexico’s specialised courts.

Acquisition of DirecTV (DirecTV) by AT&T Incorporated (AT&T)

In November 2014, the IFT authorised the first of a series of acquisitions by AT&T. In this matter, AT&T was permitted to acquire DirecTV, a provider of pay TV services via satellite through Sky Mexico, subject to certain commitments. This transaction had effects in several countries and markets, including Mexico’s pay TV market.

DirecTV has an indirect, non-controlling stake in the capital stock of Innova, S. de R.L. de C.V. (Sky Mexico). The Televisa Group is the other stockholder in Sky Mexico. As already discussed, the Televisa Group is an important competitor in several markets in Mexico’s telecommunication sector, including pay TV markets.

While the case was being reviewed, AT&T divested its non-majority stock holdings in América Móvil (owner of Telcel and Telmex) and withdrew its representation on the board of that company. América Móvil is, of course, the main competitor in various markets in Mexico’s telecommunication sector.

Despite that divestiture, the IFT found some risks of co-ordinated effects arising from the transaction in several telecommunication sector markets because it would have established an informal communication channel between América Móvil, AT&T and the Televisa Group due to the prior relationship between América Móvil and AT&T from 2002 to 2014. The risks were remedied through a series of conditions whose details were not disclosed.

Acquisition of GSF Telecom by AT&T

In December 2014, the IFT authorised the acquisition of GSF by AT&T, again subject to certain conditions. GSF Telecom was involved in two businesses: fixed telecommunication, including subsidiary Totalplay (a pay TV provider); and mobile telecommunication, including subsidiaries Iusacell and Unefon. Iusacell was the third leading provider of mobile telecommunication services in Mexico, with a nationwide network and a market share of 5.8% in terms of subscribers. AT&T had redefined its position in the Mexican mobile market by selling its stake in América Móvil (the preponderant operator in the telecommunication sector).

The IFT considered that the merger would not confer SMP to AT&T in the mobile telecommunication market, mainly because of the small share it would have. Furthermore, AT&T did not offer mobile telecommunication services in Mexico at that time, and its
newly acquired business would face strong competition from the other providers, especially Telcel (owned by América Móvil), which had a share of 69.7% in terms of subscribers.

Nevertheless, because AT&T was also in the process of acquiring DirecTV, the IFT concluded that the acquisition of GSF Telecom could damage competition in the provision of pay TV services because GSF Telecom participated in that market through Totalplay. Furthermore, the IFT considered that the acquisition could damage competition in the fixed telephony, fixed Internet access and dedicated links services markets because América Móvil is the main competitor in those services and AT&T had a previous relationship with América Móvil. The acquisition of GSF Telecom’s fixed telephony, Internet and dedicated links business could create incentives for and facilitate co-ordination between América Móvil and AT&T/GSF Telecom.

Consequently, the IFT authorised the transaction subject to, among other conditions, the divestiture of GSF’s fixed telecommunication business, including the pay TV service, and undisclosed behavioural remedies to avoid collusion between AT&T and América Móvil. Once again, it is not clear why those commitments were not made public.

Acquisition of Nextel International LLC (Nextel México) by AT&T

In April 2015, the IFT authorised the acquisition of Nextel México by AT&T, subject to certain conditions. Nextel México was the fourth-largest provider of mobile telecommunication services in the country, with a market share of 2.9% in terms of subscribers.

The IFT considered that the merger would not confer SMP to AT&T mainly for the same reason it did not consider AT&T’s acquisition of GSF Telecom’s mobile business to present a competition problem, i.e. because of the small post-merger market share AT&T would have and the strong competition it would face, especially from Telcel.

Moreover, the accumulation of a regional average of 42% of the mobile services spectrum was not considered a limitation on access to this input for competitors mainly because a substantial quantity of additional spectrum would be made available in the short and medium terms, which has been the case so far (see Chapter 3). In addition, Nextel had a fully deployed, little used, national level infrastructure that allowed it to compete intensely in the post-paid data segment of the mobile market, mainly against Telcel and Iusacell. The IFT did find some risks of co-ordinated effects, again because of the prior relationship between AT&T and América Móvil, but these were addressed through a series of undisclosed conditions.

Acquisition of Alcatel Lucent by Nokia Corporation (Nokia)

In September 2015, the IFT authorised the acquisition of Alcatel Lucent by Nokia, an international merger with effects in Mexico. The parties to the transaction had horizontal overlap in the manufacture of access and core network mobile telecommunication equipment and related services. The IFT concluded that the transaction would not decrease, harm or hinder competition in the affected markets, mainly because of the small increment in market shares the transaction implied.

What was noteworthy about this case was that both the IFT and COFECE claimed to have legal powers to review it. The case was brought before a federal specialised court, which ruled that the IFT was the competent authority to review any transaction that had effects on markets where a direct input to the provision of telecommunication or broadcasting services was traded, either because of its powers to regulate the input or its expertise in the functioning of those markets.
Increase in the capital stock ownership of Televisión Internacional by the Televisa Group

In February 2016, the IFT authorised, subject to conditions, a transaction in which the Televisa Group increased its capital stock ownership in Televisión Internacional, acquiring 100% control by purchasing stock held by individuals belonging to Grupo Multimedios. The merger directly affected the provision of pay TV service in northern Mexico. In a previous decision that evaluated the first acquisition of Televisión Internacional stock by the Televisa Group (which gave Televisa 50%, and joint control, of TVI), however, the former competition authority COFECO had imposed certain conditions that were still in effect. Furthermore, Grupo Multimedios and the Televisa Group are involved in the related commercial television and radio broadcasting markets, as well.

When ruling on this merger, the IFT found some risks of co-ordinated effects arising from a structural link that would remain between the Televisa Group and Grupo Multimedios. The risk of co-ordinated effects was in the television and radio broadcasting markets, given the fact that the Televisa Group and Grupo Multimedios are the biggest commercial television broadcasters in northern Mexico and that they compete in seven local broadcasting markets, as well as in six local commercial radio broadcasting markets. The operation was approved but subjected to structural conditions designed to avoid harm to competition in the related television broadcasting market. Specifically, Grupo Multimedios agreed not to own shares or have any kind of participation in the Televisa Group subsidiary that was acquiring Televisión Internacional.

Acquisition of a percentage of shares of GSF Telecom by the Televisa Group

The Board’s decision in this ex post merger case seems well-founded, as none of the points raised by the AI establish any harm to competition (Table 4.5). Even if the Televisa Group had acquired 100% of GSF Telecom, and even though they were horizontal competitors in some markets, without evidence that the merger had caused or was likely to cause substantial harm to competition in those markets, there was no reason to block the transaction.

IFT review of the effectiveness of the preponderance measures

**Telecommunication services**

The preponderance remedies imposed on the economic interest group formed by América Móvil in March 2014 expressly determine that they shall be subject to the IFT’s biennial review as to their effectiveness in attaining the goals of fostering effective competition, promoting universal access to diverse telecommunication and broadcasting services under adequate quality and security standards, at competitive prices. In this context, a process was initiated in April 2016, commencing with a public consultation procedure in which multiple stakeholders submitted their views, accompanied by economic, technical and legal analyses on the part of the regulator. Then, having previously notified the preponderant operator of the proposed measures so it could also express its standpoint, the resolution was approved by the IFT Board on 27 February 2017.

Broadly speaking, most of the pre-existing measures levied on América Móvil were not removed, but rather strengthened. Furthermore, new remedies were imposed, among which it is crucial to highlight the mandatory functional separation between the fixed service providers’ (Telmex-Telnor) wholesale and retail operations. Against this background, this section elaborates on the most representative additions and rules enshrined in the new preponderance regulations.
Among the most pressing issues identified by the regulator was the need to ensure non-discriminatory conditions in the provision of wholesale services by the preponderant agent, with an aim of ensuring equivalence for access seekers. In particular, with the purpose of promoting equal access to infrastructure, both fixed and wireless, the IFT adopted several cross-cutting measures that apply to fixed and mobile services, the most relevant of which pertain to equivalence of inputs, economic replicability, technical replicability and reference offers. Furthermore, the preponderant agent and the IFT will need to participate in working groups (one for mobile services and one for fixed services) to facilitate the implementation of the new obligations as well as to identify and correct potential obstacles to an effective execution.

In respect to the fixed services segment, the IFT advanced the following arguments justifying the imposition of stricter measures on América Móvil: 1) fixed telephony services have evidenced slow and unsustainable growth; 2) there is scarce infrastructure-based competition; 3) Mexico occupies the lowest position as regards fixed broadband penetration, relative to OECD countries; 4) the fixed broadband penetration in households is below 50%; 5) average actual broadband speeds are only half of the OECD average; 6) fixed Internet price indexes have only decreased by 4 percentage points, while local telephony price indexes have only been reduced by 10 percentage points; 7) some 12% of the Mexican population does not have coverage of fixed telecommunication services; and 8) the effectiveness of unbundling measures is scant.

Therefore, one of the most crucial decisions adopted by the IFT, if not the most, derived from the exercise of its functions enshrined in Transitory Article 8 of the Federal Constitution and Article 262 of the LFTR, by virtue of which the regulator may impose accounting, functional and/or structural separation – as asymmetric, non-standard remedies – on preponderant firms, is the decision of mandating functional separation. In effect, Telmex-Telnor must henceforth be functionally separated into two separate legal entities, one of which shall exclusively provide wholesale regulated services while the other shall be in charge of providing fixed retail services. Along these lines, the new wholesale undertaking will be in charge of managing Telmex’s-Telnor’s posts, ducts, copper and fibre infrastructure. This decision was taken due to the competition concerns identified by the regulator as regards access thereto. Finally, it can be noted that functional separation also includes the creation of a wholesale division within Telmex-Telnor for those activities that are not retail-oriented.

Such functional separation shall entail for the new legal entity having autonomous decision-making and administrative bodies, as well as implementing independent corporate governance schemes, which the IFT said ought to include industry representatives. Furthermore, the separate legal entity that shall be incorporated thereto must have its own brand, operative and management systems, as well as its own human resources. Hence, invoking successful international experiences in this area, where the risk of vertical discriminatory practices is reduced to a minimum. The IFT has applied one of the strictest asymmetric measures in telecommunication regulatory practice, only preserving both units under the same ownership structure, which is, essentially, what distinguishes functional separation from structural separation (BEREC, 2011). In this vein, the IFT has commanded América Móvil to submit, within a 65-working day time frame, a proposal that is compliant with the aforesaid conditions. In addition, and once the aforementioned proposal is approved by the regulator, the preponderant agent will have a maximum of two years for the new legal entity to be fully operational. A transition group will be established with the participation of the preponderant agent and the IFT to closely monitor the implementation plan and timeline of the functional separation.
Along these lines, criteria such as equivalence of inputs, as well as technical and economic (i.e. retail prices applied by América Móvil) replicability are to be observed by the preponderant agent in the provision of both fixed and mobile wholesale services, such as interconnection services, wholesale access to dedicated leased lines, and access to passive infrastructure. Equivalence of inputs is established with the purpose of preventing non-price discrimination, and demands that the preponderant operator deliver all the relevant information and services to requesting third parties, including MVNOs, under the same conditions it applies to its own operations, which encompasses prices, QoS, deadlines, systems, processes and reliability. Consistent, for example, with the Body of European Regulators of Electronic Communications (BEREC’s) Guidelines in Europe, under an equivalence of inputs framework, “[t]he product development process is therefore exactly equivalent as their provision in terms of functionality and price” (BEREC, 2011). In sum, equivalence of inputs implies that both the preponderant and alternative operators have access to the same wholesale services, including delivery methods, information systems, electronic equipment, tie-cables, space exchange and so forth, for the subsequent provision of retail services.

Secondly, replicability dictates that competitors of the preponderant agent must have the ability to respond to the latter’s service offerings in the retail segment when they employ its wholesale services, in order to ensure that the preponderant agent’s retail products are not employed towards driving its competitors out of the market, through practices such as cross-subsidisation, margin squeezes and/or predatory pricing. In the context of economic replicability, the IFT will be able to carry out ex post controls as regards compliance with the aforementioned replicability measures in the mobile market, and both ex ante and ex post controls concerning fixed services (this, due to the diverging degrees of dynamism observed in both markets, which do not justify an equivalently rigorous intervention in both fixed and mobile services). The latter concept of replicability is intended to make sure that access seekers are able to reproduce the preponderant agent’s offers when using wholesale access services (i.e. replicability does not apply when acquiring passive infrastructure or roaming wholesale access). Finally, technical replicability intends to forestall the preponderant agent from gaining an anticompetitive advantage due to its ability to access new technologies or non-replicable inputs prior to its rivals, and compels América Móvil to make available to third parties, through reference offers, any relevant inputs utilised in the production of its retail services, under the same terms and conditions it applies to its own activities. With this in mind, the IFT shall issue a methodology to be followed when assessing economic and technical replicability of said prices and services, respectively.

On the other hand, regarding transparency measures, the EMS, which is a key tool for increasing availability of information in the market, fostering contractual efficiency between the preponderant undertaking and parties requesting access to its infrastructure, and boosting the regulator’s ability to monitor América Móvil’s compliance with preponderance measures such as non-discrimination, as well as the prohibitions on margin squeezing, predatory pricing and illegal exclusive arrangements, among others. In particular, the EMS must be available for use, with all the respective modules and the available information to be uploaded to the system, within a maximum time frame of ten working days after the entry into force of the new preponderance rules, except in the event that the term required for the development of the module has not expired. However, as regards mobile services, the information relating to América Móvil’s infrastructure had to be available in the EMS by 30 May 2017 at the latest. As regards fixed services, a tiered approach is being adopted, whereby at least 60% of the information on poles and pits nationwide must be available by 30 September 2017, while the remaining information must be disclosed in six-month periods, registering at least 15% of total infrastructure.
Furthermore, in the interest of ensuring that América Móvil’s wholesale reference offers reflect the dynamism and technological evolution in telecommunication services, these are to be reviewed on a yearly basis by the IFT and not every two years, as per the previous preponderance rules, and shall be subject to public consultation procedures. Moreover, such reference offers must incorporate several minimum conditions, including wholesale charges. To conclude, the reference offers may be subject to additional adaptations by the IFT, aimed at fulfilling technical and economic replicability requirements.

Finally, while in mobile wholesale services the prices are to be defined by América Móvil – save interconnection and roaming, which are regulated by the LFTR – all of its fixed wholesale prices shall be prescribed by the IFT on a cost-based approach. On this topic, it is opportune to mention that wholesale charges for leased lines are to be defined by LRIC methodologies, thus eliminating the reference to the retail market that previously existed. Under the previous preponderance rules, the rates for the leasing of local, national or long-distance dedicated links were freely negotiated between the preponderant agent and the requesting concessionaire, and only in the event of a disagreement thereto would the regulator intervene, establishing the prices through a retail minus pricing methodology. In this regard, one of the criticisms formulated by América Móvil’s rivals during the public consultation process was that, in addition to the pertinent reference offer not determining reasonable terms, associating the prices for leased lines to the downstream market was inconvenient due to the lack of a mature, competitive retail market thereof in Mexico. According to AT&T, for example, the preponderant agent has exploited this legal loophole to demand unjustifiably high prices for dedicated leased links (AT&T, 2016).

The stricter functional separation measures enforced vis-à-vis América Móvil in its fixed operations possess important similarities to those recently instituted by Ofcom in the United Kingdom relative to Openreach, BT’s fixed wholesale subsidiary (Ofcom, 2017). Although said functional separation was introduced in the United Kingdom over a decade ago with the purpose of providing equal access to BT’s local access network and backhaul products to all market players, the regulator identified some pitfalls in the provision thereof to Openreach’s customers requiring such inputs in order to offer retail broadband services – namely, poor service, low investment levels and discriminatory practices favouring its parent company (Jordan, 2017) – which has, according to some, ultimately impeded customers from enjoying adequate QoS through their broadband connections in the United Kingdom (Sidak and Vassallo, 2015). This situation motivated the strengthening of the functional separation scheme, an initiative to which BT wholly agreed after negotiations over a two-year period.

Hence, in general terms, pursuant to the new functional separation rules levied on the fixed incumbent operator in the United Kingdom, Openreach must become a legally separate company within the BT group, with an autonomous management and governance structure, with the majority of the members of the Board being independent, and with its own personnel (Ofcom, 2017), thus diminishing the control previously exercised by the parent company.

Furthermore, even though the group’s overall budget shall be set by BT, Openreach shall develop its own strategy and annual operating plans and thus control its budgetary allocations. In addition, Openreach’s executives shall be accountable to the new, independent Board established pursuant to these measures, with BT only being able to veto CEO appointments with prior notification to Ofcom. Moreover, a matter of utmost importance is that Openreach will solely control its assets – such as the physical access network – required to deliver its services, thus being empowered to adopt decisions on the building and maintenance thereof. Finally, Openreach shall have a separate brand, completely dissociated to that of its controlling company.
Perhaps the main difference between the arrangements adopted in the United Kingdom and decisions taken in Mexico is the proposed participation of industry participants in the governance of the new wholesale infrastructure entity. While having independent members, the protocol agreed with the United Kingdom government excludes the Board of Openreach having representatives from rival firms. In a similar manner, the voluntary functional separation of wholesale and retail undertaken in the Czech Republic by the incumbent telecommunication operator has two independent boards (Box 4.1).

**Box 4.1. Voluntary functional separation in the Czech Republic**

In January 2016, O2 Czech Republic became a retail service provider and was functionally separated from CETIN, the wholesale provider of fixed and mobile infrastructure. There is shared ownership under the PPF Group. To ensure independent conduct, each company established its own independent Board of Directors, Supervisory Board, IT, business plan and goals, respecting the market orientation of the respective company.

The change established CETIN as an independent and autonomous entity, providing wholesale services to other telecommunication operators. These include the three largest mobile operators in the Czech Republic (O2, Vodafone and T-Mobile). CETIN provides backhaul, and all three operators use almost exclusively CETIN’s fixed access network to provide voice, broadband and IPTV services to their subscribers. It provides the mobile networks for O2 across the Czech Republic and T-Mobile in part of the country. The goal in the voluntary adoption of functional separation included:

- **Streamlining of two different businesses**: As a fully integrated operator, O2 Czech Republic contained two distinct businesses, with competing priorities and objectives, i.e. an infrastructure business and a services business. The separation of these businesses allowed each company to focus exclusively on its respective core operations. CETIN now focuses on network investments with a long-term investment horizon and its general operational strategy. The two companies say the change has enhanced both players’ profitability; accelerated the development and time to market for new products and services; and the process of innovation of their existing ones.

- **Regulatory relief**: As CETIN does not conduct any retail activity, it is less burdened with regulatory obligations related to consumer-facing operations. Meanwhile O2 is free to compete without the regulation, which applies to CETIN.

- **Opening the network**: CETIN has been able to open its network to other retail service operators, thereby expanding its customer base. As a strictly wholesale operator, it is able to offer its network to all retail operators on equal conditions, with no need to compete with them in the domestic retail market.

The 2016 financial results of O2 Czech Republic, the first year of the functional separation, recorded increases in revenue, profitability, investment and employment. Notably, O2’s IPTV service has captured more than 10% of the market in the Czech Republic and CETIN says it encouraged other operators, such as T-Mobile and Vodafone, to develop a similar product, for which it sells them wholesale services. In its prospectus to the market, CETIN’s reported November 2016 financial results include an earnings before interest, taxes, depreciation, and amortisation margin for its domestic services business of 65.6% for the first three quarters of that year.

The reinforcement of the preponderance measures with respect to América Móvil have been severely questioned by the company, who has indicated it will challenge the regulator’s resolution on the grounds of violating its concession titles and undermining legal certainty, among others (Cortés, 2017). At the same time, the preponderant agent has declared that the IFT’s verdict is not founded on a comprehensive assessment of competitive conditions in the telecommunication sector – where, it affirms, there is “effective competition” in both fixed and mobile services – nor ponders the “profound changes” that have taken place as a corollary to the implementation of the asymmetric preponderance framework (Juárez Escalona, 2017c). Aside from the suggestion that industry should participate in the governance of the new wholesale infrastructure entity, the general measures proposed by the IFT seem balanced and proportionate. They address the primary bottleneck to the development of both fixed and mobile communication services by focusing on opening fixed networks, in terms of backbone, backhaul and local loops to access seekers in a manner that is necessary to achieve policy objectives. In a market where there is sufficient alternative infrastructure competition, such measures would not be needed. In contrast, Mexico aims not only to provide access for the first time to some of its citizens and improved telecommunication services to existing customers, in a manner their peers take for granted in other OECD countries, but to create the conditions to take majors steps forward in economic competitiveness and social well-being.

As a regulatory and economic competition authority, the IFT must continue its efforts to minimise barriers to competition and facilitate access to essential inputs, such as:

- ensure the effective fulfilment of the must-carry must-offer rules, established by the Constitution, and avoid the use of programming as a mechanism to exclude broader competition
- respond to market demand by continuing to allocate radio spectrum, in order to avoid shortages that prevent competition or increase the cost of services
- ensure effective compliance with the regulation imposed on the preponderant economic agent in telecommunication services regarding wholesale services necessary to compete, such as the interconnection and provision of dedicated links and unbundling of the local loop
- promote the secondary market of radioelectric spectrum avoiding phenomena of hoarding under efficiency criteria.

The revised regulatory settings aim for the preponderant agent to provide equivalence of inputs in a manner where the wholesaler enables access to services to all retailers as customers rather than rivals. By so doing, it aims to change the incentives around an infrastructure that is key to developing a digital economy in an equitable and efficient manner, thus moving forward with meeting policy objectives. At the same time, the effective implementation of functional separation could enable regulatory relief for the preponderant agent, not least in the ability to offer pay TV and broadcasting services should the company so wish. The benefit of this could be twofold. First, it may provide increased incentives for the wholesale provider to invest in high-speed infrastructure in the knowledge that demand will increase if all retail providers can offer such services. Second, if the preponderant agent does enter these markets, it is likely to be a very effective participant, adding competition and improving choice for consumers in an otherwise concentrated market.

Accordingly, in the exercise of its regulatory function, the IFT should promote convergence so that the greatest number of possible services can be provided with the
infrastructure and spectrum available, and not artificially limit the supply of services and thus competition. In the case of the preponderant agent in telecommunication services, schemes could be initiated to allow gradual convergence (temporarily and geographically), replacing the restrictive rule currently envisaged by the legislation.

While the proposal for inclusion of rivals in the governance of the wholesale entity is understandable as a means to “self-regulate” the behaviour of the new entity, it is contrary to good practices in terms of promoting competition. In other words, there will still be infrastructure competition in some locations in Mexico, making it unfair for the wholesale provider, or providing opportunities for collusive practices. This is not to say that consultation should not occur between the wholesale provider and its customers. Indeed, in many ways this should be encouraged, but at arm’s-length. Rather, however, the governance of the Board of the new wholesale provider should be independent to the maximum extent possible from both its parent company and rivals.

Finally, the IFT should maintain a regulatory approach based on favouring greater competition in the telecommunication and broadcasting markets. The decision taken in the 2017 preponderance review aims to move away from the pressures of issuing regulations tending to favour some operators over others because of their market share. The regulation of the preponderant agent should focus on addressing obstacles to free competition in the telecommunication and broadcasting sectors, derived from the importance of such agents in the markets, and not be the way to normalise the markets as a whole. Over time, changes to market shares should stem mainly from the actions that the competitors implement, such as investing to improve their services, notwithstanding that they take advantage of the asymmetry of the regulation.

**Broadcasting services**

Pursuant with transitional Article 8 (SEGOB, 2013), on 6 March 2014, the IFT declared the Televisa Group a preponderant economic agent in the broadcasting sector (IFT, 2014c). With this resolution, it determined that the preponderant agent be subject to asymmetric measures related to infrastructure sharing, content, advertising, information and relationship with other preponderant economic agents. Since then, as established by the legal framework, the IFT carried out a biennial evaluation of the impact of the measures on competition in the sector, with the objective of revising measures that had not proven effective. After a process that commenced on 7 April 2016 with public consultations, and involved receiving comments on the effects of the 2014 preponderance measures, the IFT issued a final resolution on 27 February 2017.

Out of the nine conditions originally imposed in 2014, the most pertinent to the current review are:

- infrastructure sharing: the preponderant agent must make its passive broadcasting infrastructure available to third-party concessionaires of broadcast television for commercial purposes in a non-discriminatory and non-exclusive manner
- advertising sales: the preponderant agent must deliver to the IFT and publish the terms and conditions of certain broadcast advertising services and fee structures, including commercials, packages, discount plans and any other commercial offerings
- prohibition on acquiring exclusive rights for certain relevant content: the preponderant agent may not acquire transmission rights, on an exclusive basis, for any location within Mexico with respect to certain relevant audiovisual content, determined by the IFT
• FTA channels: the preponderant agent must offer FTA channels to any other person that asks for distribution over the same platform as the Televisa Group has offered, on the same terms and conditions (i.e. to pay TV rivals)
• participation in “buyers’ clubs” of audiovisual content: the preponderant agent is prohibited from participating in “buyers’ clubs” or syndicates to acquire audiovisual content, without the IFT’s prior approval
• preclusion on preponderance telecommunication investment: the preponderant agent is precluded from participating, either directly or indirectly, in the operations of América Móvil.

The first condition imposed on the Televisa Group in the 2014 measures, on infrastructure sharing, was designed with the objective of reducing the deployment time of national broadcasting networks, improving the coverage of existing regional concessionaires, and reducing the economic and social inefficiencies from the duplication or triplication of passive network infrastructure for broadcasting. To date, no direct effects from this measure can be observed towards reducing entry barriers to competitors.

Since 2014, no agreements between the new national broadcasting network (Imagen TV) or regional concessionaires and the preponderant agent have been signed. The Televisa Group considers that its transmission network, of over 200 towers, is of strategic value and has not shared that network with any rival. This raises the question of whether the preponderant agent has acted in good faith or had an incentive to slow progress in negotiations in order to delay the expansion of coverage by its competitors.

Furthermore, the EMS, which was supposed to enable concessionaires to access detailed information on infrastructure-sharing services, has not been fully implemented by the preponderant agent. This measure did not have a deadline for implementation and the IFT was therefore unable to monitor the preponderant agent’s behaviour in this regard. It should be noted, however, that during the two years following the establishment of the preponderance measures, no official request for infrastructure sharing from any concessionaire was received.

After both a public consultation on the effects of the preponderance measures in this sector and the proper administrative process, the IFT decided in March 2017 to revise measures to improve the sharing of infrastructure. It did so by extending the scope for access seekers to include the sharing of both passive and active infrastructure, allowing public broadcasters to access it and by including signal transmission services in the preponderant agent’s obligations whenever co-location is not possible, as well as detailing the information to be included in the EMS and the disaggregation of accounting information to be sent to the IFT to enable appropriate monitoring of the preponderant agent’s behaviour regarding infrastructure sharing. It is expected that with these measures, the barriers for any further new entrants will be lowered by reducing the costs of deploying infrastructure; that the lack of capacity for co-location will be mitigated by the alternative of having the preponderant agent provide signal transmission services; and that by making the provision of signal transmission services and EMS an obligation, the changes will make the preponderant agent use its passive infrastructure more efficiently.

Furthermore, the IFT also modified relevant content and advertising measures to avoid discriminatory behaviour by the preponderant agent. The main measures incorporated in the biennial review of 2017 for the broadcasting sector were:
• signal transmission services (sharing of active infrastructure): when technically feasible, a signal transmission service is to be offered by the preponderant agent when space for co-location for passive infrastructure is insufficient
• access by public concessionaires: public concessionaires, as well as the private ones, can require the preponderant agent to provide access to infrastructure

• tariffs in the public offer of infrastructure: inclusion of tariffs of both co-location and signal transmission services in the public offer of infrastructure, which will be determined by the IFT using a long-run incremental marginal cost methodology

• exclusive rights to relevant audiovisual content: the scope of the original measure is widened by prohibiting the preponderant agent from acquiring, directly or indirectly, the exclusive right to transmit relevant audiovisual content through FTA channels, unless the right to sub-licensing this content to other concessionaires is also established

• reporting on advertising sales: details of advertising sales to be published and presented to the IFT

• accounting separation: the obligation to present separate accounting information per service (such as co-location and signal transmission) is imposed on the preponderant agent.

Notwithstanding recent developments, the situation of a preponderant broadcasting actor, which also has SMP in the pay TV market, has been long-standing and unwavering. While it is too early to assess the success or failure of the 2014 and 2017 preponderance conditions, several remedies beyond them exist to address the situation if progress is not being observed in meeting policy objectives. Structural and functional separation remedies, for example, can be deployed to separate the preponderant agent in any of the existing points in the value chain. The menu of options can be categorised into five groups (from the least to more interventionist regulatory approaches) if they are required in the future:

1. Separate transmission: The model of entirely separating transmission from broadcasters has been implemented in the United Kingdom for all broadcasters, with the splitting of vertically integrated broadcasting incumbents into broadcasters and an independent company that operates television and radio transmitters. This option should be considered when new entrants are unable to access the transmission network of the preponderant agent on a fair, reasonable and non-discriminatory basis, despite behavioural measures imposed.

2. Separate spectrum ownership (digital multiplexes): This model involves instituting digital multiplexing, with separate spectrum fees from broadcasting. It would require auctions for spectrum under new conditions.

3. Separate advertising sales: The model of splitting advertisement sales from broadcasting follows the rationale that a separate advertising sales house would have no incentive to favour the broadcasting incumbent over other channels of advertising. This has been attempted, only partially successfully, in the United Kingdom’s FTA commercial television market as it moved away from a monopoly. The effects of new digital platforms of advertising should also be considered when attempting to create such a separate advertising entity.

4. Separate programming (altogether or in part): The model of splitting the vertical value chain can also be made between transmission and programming (either production, rights ownership or both). Several broadcasters in OECD countries already operate without an in-house production arm and premium content has long been offered with separate rights ownership (e.g. Olympic Games). Regulation to partially or wholly separate production from broadcasting has historically been enforced in the United States and in all European Union countries. Experience in OECD countries shows
that splitting broadcasters into separate commercial subsidiaries for programming can help independent producers or sporting clubs/leagues access the incumbent’s viewership and enhance media plurality. Under this option, MCMO rules that currently mandate broadcasters to offer free retransmission would need to be amended.

5. Separate pay TV (altogether or in part): The model of separating pay TV from broadcasting is the most far-reaching option for separating the preponderant broadcaster in Mexico. It consists of either functionally or structurally separating broadcasting from cable and/or satellite pay TV services. This measure is usually undertaken when anticompetitive incentives are created through this vertical integration of broadcasting and cable services, such as through the bundling of channels from the broadcaster in expensive cable offers and degradation of signals from other FTA channels, as has been claimed by some in Mexico. The separation of cable pay TV from satellite could also be carried out. Several OECD countries have implemented such arrangements and Mexico could benefit from this type of model if sufficient progress has not been made to meet policy objectives.

Any separation of the broadcasting preponderant agent, if implemented, should be a topic of extensive research and consultation. While competition is expected to increase with over-the-top (OTT) services, IPTV, the entrance of new digital broadcasting players and the measures improving access to the preponderant agent’s infrastructure, it may be that the position built over 60 years is too strongly entrenched for effective competition to take root. In that case, each of these models has some support in good practices found in other OECD countries. Given the evolution of competitive dynamics in the future, authorities in Mexico could consider introducing such measures as appropriate.

Audiovisual content regulation

The 2013 reform defined some of the roles regarding audiovisual content regulation, notably those of Ministry of the Interior (Secretaría de Gobernación, SEGOB), the Ministry of Health (Secretaría de Salud) and the IFT. However, the implementation of some of these roles, such as the generally defined rights of audiences, is still a cause for institutional dispute. Moreover, technological developments are expected to put pressure on how audiovisual contents are monitored and legal instruments on this issue may need to be reviewed in the future. At the same time, some developments have also brought innovative ways to implement content monitoring, automating and easing the burden on staff.

From SEGOB’s perspective, the 2013 reform helped to raise attention to broadcasting issues. SEGOB has been monitoring television, radio and cinema content for over 40 years, but the reform enabled it to update its monitoring methods by investing in technology and reducing the number of people involved in this daily task. More specifically, SEGOB is responsible for classifying audiovisual content and monitoring that classifications and children’s protection principles are respected. The digitalisation of channels, however, has multiplied the volume of audiovisual content available and introduced a new challenge for SEGOB, as it has for its peers around the world. With the continued growth in content, over different platforms, such oversight and sanctions will likely prove to be an increasingly impractical task in the future. That being said, and as self-regulatory mechanisms may not render satisfactory results in the important and sensitive realms of the protection of children and accessibility, there may be a need to develop specific regulatory measures that consider international best practices. Good practices include the adoption of co-regulatory schemes as a way to balance and respect the rights of audiences, particularly for children and people with disabilities, and, at the same time, protect and respect human rights, including freedom of speech.
Under the current framework, the IFT has an important role in informing and instructing the market on how audiovisual content regulation will be implemented. According to the Constitution, the IFT has attributions on monitoring certain audience rights, requiring information from service providers, resolving complaints and sanctioning infractions (SEGOB, 2013, Transitory Article 11). After a period for public consultation and an examination carried out from July 2015, in December 2016, according to the requirement established in the LFTR (Art. 256), the IFT published the Audiences’ Rights Guidelines (IFT, 2016i). The guidelines establish that advertising content should be clearly distinguished from programming, create mechanisms for the protection of children and people with disabilities, and regulate the functioning of an audiences’ rights ombudsmen. The guidelines, although developed based on the LFTR, have been suspended until the Supreme Court decides on a jurisdictional question regarding some articles of the LFTR with respect to audience rights, and, as a consequence, the IFT’s mandate to regulate audience rights. This legal action was initiated by the federal executive and Senate. They say that eight articles of the LFTR violate the Constitution by mandating that the IFT regulate issues that are of a constitutional nature and, therefore, should be under the exclusive power of the President.  

A final resolution by the Supreme Court will resolve this case over the roles regarding audiences’ rights, whether the LFTR needs to be modified and, as a consequence, whether the IFT has the mandate to develop guidelines on audience rights.

**Network neutrality and video carriage**

The reform introduced in Mexico has a number of specific measures related to “network neutrality”. Article 145 of the LFTR establishes that the concessionaires and authorised entities providing Internet access service shall comply with the general guidelines, according to general principles of consumer choice and non-discrimination (LFTR, 2014). However, how this legal instruction is to be applied is not yet defined, and will be a matter of public consultation and examination by the IFT in 2017. Moreover, the outcomes of the 2017 review of preponderance measures are key in this area given the increased functional separation between fixed infrastructure and services. At the same time, while the mobile market is still highly concentrated, the commencement of the Red Compartida as a wholesale-only wireless network will be a relevant consideration. In the future, those developments should lead to more retail service providers over the respective fixed and mobile networks and, therefore, more competitive choice. This increased competition should assist in governing the behaviour of network and service providers.

Some OECD countries have adopted detailed guidelines on preserving the open Internet (also under the heading of “net neutrality” or “non-discrimination”), which typically require regulatory clarification of the principles laid down in legislation. One of the most prominent areas of discussion has been the relationship between video carriage and differential pricing or discounting traffic (e.g. zero-rating). In April 2017, in order to provide clarity to stakeholders, including consumers, content providers and Internet service providers, the Canadian Radio-television and Telecommunications Commission (CRTC) established a framework and set out the evaluation criteria it will apply to determine whether an ISP’s specific differential pricing practice is or is not consistent with applicable legislation in that country (Canadian Radio-Television and Telecommunications Commission, 2017). The evaluation criteria established, which do not include an ISP’s own IPTV service, were the following: the degree to which the treatment of data is agnostic (i.e. data are treated equally regardless of their source or nature); whether the offering is exclusive to certain customers or certain content providers; the impact on
Of these criteria, the CRTC said the degree to which the treatment of data is agnostic would generally carry the most weight. In any evaluation, they added, the CRTC will also consider whether there are any exceptional circumstances that demonstrate clear benefits to the public interest and/or minimal harm associated with a differential pricing practice.

Meanwhile, on the issue of zero-rating in European Union countries, BEREC states that while “it is not the case that every factor affecting end users’ choices should necessarily be considered to limit the exercise of end users’ rights” (BEREC, 2016), it warns that the combination of the largest mobile operator and the largest social network provider could produce an anticompetitive discriminatory access agreement. BEREC also suggests that price differentiation between individual applications within a category (such as IPTV) has a greater influence on competition than between classes of application, and that such an influence is likely to be stronger in markets with lower data caps, as has historically been the case in Mexico.

Several service providers have been experimenting with zero-rating in Mexico. Accordingly, in 2017, the IFT may need to review this against its requirement to enforce Article 145 of the LFTR. By the end of 2016, no operators, with the exception of Telcel, had published their guides to traffic management as required by Article 145. Meanwhile, mobile entrant Virgin has offered Facebook’s Free Basics since 2015. By mid-2016, 46 million Mexicans had a Facebook account.

Currently, OTT services are present in urban and suburban fibre-led markets. However, it is expected that video services, such as those offered by Netflix and Amazon, as well as Claro’s Uno and Blim, will drive more pronounced demands on fixed, and especially mobile, broadband networks (Marsden, 2017). Across OECD countries, rural fixed and wireless service providers are often less able to support video given the restricted bandwidth available, unless their networks were designed with this service in mind, and many say it is necessary to manage traffic accordingly. Red Compartida should increase network capabilities in this respect, with baseline speeds of 4 Mbps downstream and 1 Mbps upstream being targets for the edge of network coverage. This would be sufficient for standard definition video, though subject to local conditions and data allowances that permit greater use of video services. The availability of backhaul will, of course, be one of the determining factors, underlining the importance of projects such as the Red Troncal.

In its 2017 evaluation of net neutrality, therefore, the IFT will need to consider an increase in wholesale availability over time in both fixed and mobile networks in considering the likely implications for increased consumer choice at the retail level. More retail choice, all else being equal in areas such as backhaul or content availability, should enable greater reliance on competition than regulation. Thus, a case-by-case assessment as issues arise, based on principles established after the IFT review and consistent with the Constitution, may be the best first step.

While there are countries that have applied relatively strict rules on practices like zero-rating, such as Chile, India, the Netherlands and others, this has been based on an assessment of local competitive conditions. Accordingly, Mexico will need to closely examine developments and potential effects on competition. The issues around net neutrality have been less to the forefront in countries where there are a greater number of offers with higher data caps in both fixed and mobile markets. These offers, or unlimited ones, due to competition, tend to decrease discussions around zero-rating.
Notes

1. Before the EMS was in place, the IFT instructed the preponderant agent to make information on its infrastructure available.

2. The preponderant measures approved by the IFT in March 2014 granted Telmex, Telnor and Telcel six months to develop the EMS for each wholesale service once the IFT defined the technical and operational aspects, and two years to include the information associated with their infrastructure. In order to address industry concerns, through the reference offers of unbundling and infrastructure sharing, the IFT imposed on the preponderant agent the obligation to provide additional information about its infrastructure.

3. This can be observed in the comments submitted by CANIETI (an industry association), Telefónica and AT&T regarding the consultation process initiated by the IFT in April 2016, pursuant to the evaluation of the preponderance measures imposed on América Móvil.

4. For instance, Telefónica has expressed that the utilisation of a pure LRIC approach does not adequately reflect the cost of receiving a call, which may, consequently, undermine the preponderant operator’s competitors’ revenues and hence not contribute to levelling the playing field, which is one of the primary objectives of the whole reform. Another argument set forth relates to the fact that the rates are determined in Mexican pesos, even though many of the relevant costs are incurred in US dollars.

5. This agreement was published on 3 October 2016 in the Official Gazette.

6. This is with regard to the preponderant operator in the telecommunication sector.

7. The agreement was published on 17 February 2015.


9. The model was published as a result of the disagreement filed by Megacable, although it had already been used to determine disaggregation rates in December 2015.

10. The 30-day period begins once the parties have notified their disagreement, presented expert evidence and stated their allegations.

11. According to Transitory Measure 5 of Annex 3, the procedure thereto required the IFT to previously issue a resolution on the topics to be decided by the Technical Committee. Subsequently, the reference offer was to be submitted to the IFT for its approval within 60 calendar days.

12. In Mexico, satellite operators providing pay TV services are required to retransmit national signals (those covering 50% or more of the national territory) and public federal institutions’ signals. By May 2017, that amounted to ten different national signals that satellite operators had to retransmit.
13. Although standardised metrics of non-commercial programming is unavailable in Mexico, estimates from public broadcasters point to them having garnered their record audience share.

14. For instance, the requirement to use directional drilling for fibre optic installation, an overly expensive deployment technology; the presentation of civil works protection programmes, when they are non-applicable; the prohibition to access towers at certain times; certifications that there are no health effects (such as cancer); and the redesign or relocation for aesthetic reasons of the infrastructure.

15. The guidelines (published on 4 May 2017) of co-operation between the SCT, the SHCP, INDAABIN and other agencies involved in the ARES project highlight that the economic conditions (i.e. price of the space) that INDAABIN will determine have to be non-discriminatory terms, and with the aim of fostering competition in the sector as to incite more operators to use the infrastructure. (In other words, the prices have to follow the principles of Article 147 of the LFTR, and hence the cost of leasing the spaces should be low enough as to incite participation). For the text in Spanish, see www.dof.gob.mx/nota_detalle.php?codigo=5481537&fecha=04/05/2017.

16. A link to the online platform ARES can be found at https://sistemas.indaabin.gob.mx/ARES/#no-back-button. The programme was launched 8 May 2017, so the exchange rate used was MXN 18.76 per USD based on the exchange rate for May 2017 (OECD, 2017).

17. For example, the Red Troncal is required to provide leased lines with specific service level agreements: 99.95% monthly uptime availability; average latency of 30 milliseconds; under 0.3% lost packets; maximum jitter under 10 milliseconds.

18. Prices are recorded in the Public Concessions Register administered by the IFT.

19. In addition to the ceiling on the average weighted prices of the basket of telecommunication services, the tariff scheme may include particular limits to any element of the proposed basket.

20. Pursuant to Condition 6 of the concession titles.

21. According to the LFTR, concessions for private use also comprise concessions for experimental purposes or for amateur radio operators. In these cases, the concessions are assigned directly and there is no public auction.

22. Bearing in mind that the Congress in Mexico changes every three years, fees set by Congress could potentially translate into to six to seven changes in the annual fee structure in the lifetime of a spectrum license (which lasts 15 to 20 years).

23. From 2003 to date, the annual spectrum fees have remained unchanged in real terms over five congressional periods each of three years’ duration.

24. This proof by Milgrom (2000) applied to auctions is based on an important result in mechanism design theory known as the “Myerson-Satterthwaite theorem”, which states that in the presence of asymmetric information, and when two negotiating parties have different probabilistic valuations for a good, there is no way of achieving an efficient bilateral trade.

25. Specifically, AT&T shall pay during the next 15 years over USD 688 million, and Telcel shall disburse over USD 1.68 million. This information is based on an IFT press release regarding the AWS auction of February 2016, where the IFT calculated the net present value of the annual fees for a period of 15 years (IFT, 2016e). The exchange rate used corresponds to MXN 18.462/USD for February 2016 (OECD, 2017).
26. The Ventanilla Única Nacional allows individuals to initiate manifold procedures, request services and communicate with the government in areas such as: the presentation of complaints and allegations against federal public servants; civil registration and other identification procedures; passports and visas; assistance to corporations in fields such as foreign trade and consumer protection; social protection programmes directed at vulnerable population; public procurement; urban and territorial development, etc. (www.gob.mx, accessed 12 December 2016).

27. Through this initiative, developed within the framework of the Alliance for Open Government, the Mexican executive has formulated biannual plans implementing the four key principles of open government: transparency, accountability, citizen participation and innovation, as well as a series of commitments that are created, applied and supervised by civil society (http://gobabiertomx.org/mision-y-objetivos, accessed 12 December 2016).

28. PROSOFT 3.0 addresses the aforesaid objective through five specific strategies: 1) training of human capital specialised in ICTs and innovation in strategic sectors; 2) generation of applied research, technological development and innovation therein; 3) financing for companies pertaining to strategic sectors; 4) the generation of infrastructure for the development and adoption of ICTs; and 5) generation and dissemination of knowledge on ICTs and innovation through studies and events (https://prosoft.economia.gob.mx/acerca, accessed 12 December 2016).

29. Public Challenges invites entrepreneurs and innovators to propose and develop ICT-based solutions to problems facing the federal government, through a public procurement process (http://retos.datos.gob.mx/acerca, accessed 12 December 2016). Retos Públcicos evolved to Reto México, an initiative that offers challenges from both the public and the private sectors. More information is available at: https://retomexico.org (accessed 1 June 2017).

30. @prende2.0 is geared at fostering the development of digital skills and computational thinking through multiple actions, such as: ICT training for teachers, digital and education resources, equipment, adoption of different connectivity models, and monitoring and evaluation strategies. (https://www.gob.mx/aprendemx/prensa/presentacion-del-nuevo-programa-prende-2-0-ciudad-de-mexico-a-7-de-noviembre-de-2016, accessed 12 December 2016).

31. MéxicoX is an online platform offering free courses, focused on six strategic lines: basic academic skills; training for teachers; specialised training; national challenges and support towards the fulfilment of the objectives of the federal public administration; global challenges; and dissemination of culture, history, science and the enjoyment of knowledge. The platform was awarded the World Summit on the Information Society prize for education (http://mx.mexicox.gob.mx/courses, accessed 12 December 2016).

32. As its name indicates, this programme is geared at providing individuals the opportunity to study – free of charge – regardless of the place and time (www.prepaenlinea.sep.gob.mx, accessed 12 December 2016).

33. The Open and Distance University of Mexico is somewhat similar to the abovementioned strategy, but aimed at providing university-level education (https://www.unadmexico.mx, accessed 12 December 2016).

34. RadarCiSalud is a mobile application encompassing over 28 000 public, private and social healthcare centres, providing its users with the fastest access route by car, public transportation or foot (https://www.gob.mx/apps/10, accessed 12 December 2016).
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35. These guidelines represent technical documents focused on achieving technical and semantic interoperability between healthcare service providers (www.gob.mx/salud/acciones-y-programas/menu-intercambio-de-informacion-dgis?state=published, accessed 12 December 2016).

36. Other objectives include making government consultation and participation mechanisms less daunting for citizens; leveraging innovative digital tools to monitor, manage and understand participatory processes and patterns; reducing barriers of entry to consultation and participation processes with the aim of creating new opportunities and empowering people to co-design policy and legislative projects; and building and strengthening communities around issues of public interest.

37. Some have highlighted that the divergence between the 2016 and 2017 budgetary allocations concerning the México Conectado programme reflects an 84% decrease (Castañas, 2016c).

38. One may also consult Bernal (2013).

39. Refer also to national broadband plans in countries such as Colombia, Peru, the United Kingdom and the United States, where private operators have been charged with the task of building, owning and operating the networks required to increase uptake and coverage of broadband services therein (World Bank, 2012).

40. On this subject, it should be noted that there have been allegations concerning a lack of compliance with the universal coverage objectives to be fulfilled by Telmex as the primary beneficiary of the resources allocated through the fund, but also owing to the conditions stipulated in its concession title (Sánchez, 2011).

41. Rural telephony is fixed telephony service provided to towns up to 5,000 inhabitants. Public telephony refers to services provided through public telephones. Exemptions to any applications and content provided through the Internet.

42. For instance, the Broadband Commission, set up by the ITU and UNESCO, recommended eliminating taxes on ICT services and equipment to render them more affordable (Broadband Commission for Sustainable Development, 2016).

43. Although, at the time of the introduction of the IEPS in 2010, studies showed that the majority of the tax was mostly paid by the highest income group back then, already those considered “poor” under the CONEVAL measure (constituting 51.3% of the population) were paying 17.7% of the total non-petroleum IEPS (Maya Bautista, 2011).


45. Some operators have already expressed their interest in eventually acquiring capacity from the Red Compartida in the future. For instance, AT&T has indicated that, albeit its priority being the deployment of its own wholesale network to fulfil its coverage goal of providing connectivity to 100 million Mexicans by 2018, it shall evaluate the possibility of purchasing capacity from the Red Compartida once said goal is attained, in pursuance of reaching further regions in the country (Castañas, 2016b). Furthermore, the opportunity represented by the Red Compartida is luring potential entrants into the Mexican telecommunication market. For example, C3ntro Telecom, a firm directed at the business sector and with ample industry knowledge, is currently analysing the viability of establishing an MVNO operating on the Red Compartida tending exclusively to business customers (Lucas, 2016c).

46. CompraNet is the Mexican electronic system for government procurement.
47. These investors would contribute 60% of the project’s capital.

48. It should be noted that the disqualified entity filed, in November 2016, for an indirect amparo recourse against the SCT’s determination, which was admitted for examination by the Second Administrative District Court specialising in Economic Competition, Broadcasting and Telecommunications in mid-December 2016. It is relevant to highlight that, although the authority denied the Red Compartida’s definitive suspension, it did admit the recourse presented by Rivada Networks in the sense that the SCT must preserve its economic and coverage proposal unaltered. Moreover, Rivada’s allegations pertaining to Altán Redes’ purported access to privileged information in power of the SCT during the bidding process is currently being analysed by the SFP’s internal comptroller (El Financiero, 2016; Juárez Escalona, 2017a).

49. Pueblos Mágicos are locations with symbolic attributes, legends, history, transcendent facts, daily life, magic that emanate from each of our socio-cultural expressions, and which today represent a great opportunity for tourism.

50. The provider agreement includes Huawei technology for central and southern Mexico (telecommunication regions 6-9) as well as providing the backbone, while Nokia’s technology will be rolled out in the northern part of the country (regions 1-5). Additionally, Nokia will be in charge of the construction of the network’s core, which includes a Network Operation Center and a Security Operation Center.

51. Between the adoption of the A/53 standard in 2004 and the constitutional reform in 2013, only 22% of the Mexican broadcasters were able to perform digital transmissions. In the period between 2013 and the analogue switchoff date (31 December 2015), the IFT assigned more than 300 channels for digital transmissions and approved the operation of more than 500 television stations.

52. The speed at which analogue to digital switch overs are completed also depends on the proportion of FTA households in the country. In Berlin, as well as in Luxembourg (2006) and the Netherlands (2006), households using FTA for their primary television set represented a small proportion of total households with television sets. In this case, governments typically do not subsidise second and subsequent televisions or portable televisions and very limited funds are distributed to support analogue households converting to digital sets, with the United Kingdom budgeting GBP 600 million, for example, but spending only GBP 260 million (Digital UK, 2012; Brown and Picard, 2004).

53. This co-operation agreement entered into force on 27 June 2014.

54. This 24-hour rule was implemented on 10 February 2015.

55. A particularly extensive analysis of foreign ownership within the context of media pluralism and diversity was carried out in 2011 by Ofcom, the United Kingdom regulator, in relation to a bid for control of dominant pay TV operator BSkyB (Ofcom, 2010; Craufurd Smith and Tambini, 2012).


57. For purposes of determining preponderance, a firm’s market share can be measured by the number of users, subscribers, audience, traffic on their networks or usage of the capacity of those networks.
58. To be precise, under Chapter LIV, broadcasting is “the dissemination of electromagnetic waves of audio or associated audio and video signals, using, enjoying or exploiting the frequency bands of the radio spectrum, including those associated to orbital resources, allocated by the institute for said service, with which the population may directly and freely receive the signals of its transmitter using the proper devices.”
Under Chapter LXVIII, telecommunication is “every emission, transmission or reception of signs, signals, data, documents, images, voice, sounds or information of any nature made through wire, radio electricity, optical, physical or other electromagnetic systems, without including broadcasting.”

59. The plenary has seven commissioners, including its President. It is the governing body of the institute.

60. Typically, competition laws aim to protect the competition that already exists in markets, whereas regulations, among many other things, may aim to forcibly inject more competition into them.

61. To determine market share, the IFT may consider sales indicators, number of clients, production capacity, as well as any other factor deemed appropriate.

62. The UCE’s preliminary advice is never published because it is considered equivalent to a working paper, containing diverse hypotheses that may not be conclusive.

63. In a subsequent case (AI/DC-002-2014), the Board did explain why it concluded that there was insufficient information in the AI’s analysis to support the conclusion that the relevant geographic market for pay TV was local rather than national. But it is odd that the explanation was not provided in this case, too. Most recently, in its second resolution in case AI/DC-001-2014, the Board briefly provided some reasons for its finding that the relevant geographic market is national.

64. The HHI is the sum of the square of each participant’s market share in a relevant market, resulting in an index that can vary between 0 and 10 000. The Dominance Index, as defined in Transitory Article 9, is like the HHI but instead of using the sum of the squares of market shares, uses the sum of the squares of the percentages of the HHI that each firm accounts after performing the normal HHI calculation (i.e. with market shares).

65. In 2016, the UCE issued guidelines entitled “Technical criteria for Concentration Index in the areas of telecommunication and broadcasting” (available at: www.dof.gob.mx/nota_detalle.php?codigo=5432595&fecha=11/04/2016). These guidelines clarify that the IFT will use the HHI to measure the degree of concentration in the telecommunication and broadcasting sectors. The guidelines set thresholds for both magnitudes and changes in the HHI that help to identify mergers that are unlikely to hinder, diminish or otherwise harm competition.


67. In September 2014, the Board decided to fine Telmex for hampering the production process or reducing the demand faced by competitors. The fine was approximately USD 3 million – an amount which is small compared to Telmex’s annual revenue.

68. These firms are S.A.B. de C.V., Teléfonos de México, S.A.B. de C.V., Teléfonos del Noroeste, S.A. de C.V., Radiomóvil Dipsa, S.A. de C. V., Grupo Carso, S.A.B. de C.V. and Grupo Financiero Inbursa, S.A.B. de C.V.

69. The proposed measures were notified to the preponderant undertaking in September 2016, who expressed its views and presented the corresponding evidence during a procedure that concluded on 9 January 2017.
70. The BEREC guidelines thereto (2011) clearly indicate this desirable outcome: “The primary argument for introducing vertical separation is that it reduces or (in the extreme) eliminates the incentive of the incumbent network operator to engage in non-price discrimination in favour of its own retail operations. In particular, it eliminates the incumbent’s incentives and possibilities, whether legal, economic or technical, to maximize the profits of its own downstream divisions via discriminatory practices (...) In the absence of separation, the incumbent has incentives to maximize the joint profits of its upstream network operations and its downstream retail division by using such practices”.

71. Albeit acknowledging the criticism formulated by the literature concerning the impact of functional separation on the degree of investment and innovation in such a capital-intensive market, especially as to the deployment of next-generation networks based on fibre infrastructure, and the exploitation of efficiencies emanated from vertical integration. This is why it is crucial that such a measure be adopted by a regulator as a last resort, essentially, when all other, less-intrusive remedies have proven ineffective and there is meagre prospect for infrastructure-based competition in the access network in the medium or long term. On this topic, see: BEREC (2011); Blackman and Srivastava (2011); Mediatelecom Policy and Law (2017).

72. Indeed, some of América Móvil’s rivals have questioned some of its practices in the retail market, which have allegedly impeded the replicability of its offers by the former. For example, AT&T has objected to América Móvil’s exclusive agreement with Dropbox, announced in November 2015, through which subscribers of Telmex’s Infinitum Internet service would receive 5 GB of extra storage space in the cloud computing services provided by Dropbox, as well as preferential fees for acquiring unlimited storage space. Ultimately, non-replicability derives from the exclusive nature of said agreement. For further information see www.ift.org.mx/sites/default/files/consulta-publica/ift-2016-0704a1606/20160615_1611_ATT_Comercializaci%C3%B3n_M%C3%B3vil.pdf.


74. Such as Article 3 of the European Union Resolution 2015/2120/EU.
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