

Telecommunications Reform in Mexico: Regulation, Market Structure and Social Coverage

Cristina Casanueva-Reguart¹

Erik Bacilio-Avila²

Universidad Iberoamericana, Mexico City

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Abstract

The study explores the effects on social coverage of services that will potentially be brought about as a result of Mexico's recent Telecommunications Reform. Specifically, the Reform (a) aims to introduce regulation to boost competition, and thereby bridge the market efficiency gap; (b) propose a significant shift in policy on digital inclusion, with the aim of bridging the access gap. It thus represents the most significant shake-up of the telecommunications industry in the last 20 years, ever since the privatization of public telecommunications firm Telmex (1990) and the introduction of the Federal Telecommunications Act (1995).

In relation to the first of these, boosting competition, an assessment of the situation as of 2014 reveals that the Reform and its institutional embodiment in the form of a new regulatory body, the Federal Telecommunications Institute, has begun to bear fruit by way of declarations of dominant economic agents in both the telecommunications and broadcasting sectors, and the proposal of specific asymmetric regulation measures to be imposed on these economic agents. In addition, investigations are underway into illegal market concentrations in relation to the provision of certain *services*, with a view to issuing a declaration of significant market power in relation to the provider in question in the very near future. The telecommunication service markets in Mexico have seen a rise in their *contestability*, attributable to the institutional strength of the new regulatory framework. The broadcasting service markets are contestable too as a result of the Reform; the announcement that two new TV channels would enter the market, along with the “must carry, must offer” requirement, levels the playing field and ensures greater competition for the future. Unlike the previous case, which is essentially regulatory, the *digital inclusion* case lies in investment in construction, in the expansion of infrastructure and in the human capital needed to operate this infrastructure and guarantee the benefits of digital inclusion. With regard to the “Mexico Connected” program, an increase of approximately 500% is reported in the number of public Internet access points in public places, but there is a lack of information on the extent to which these access points are equipped with the necessary infrastructure for developing digital skills that would foster the adoption of such technologies and trigger a process of economic development.

¹ ccasanueva@stanfordalumni.org

² theoneas1@gmail.com

I. Introduction: Context

This study explores the effects on social coverage of services that will potentially be brought about as a result of Mexico's recent Telecommunications Reform (2013)³. Specifically, the Reform: (a) aims to introduce regulation to boost competition, and thereby bridge the market efficiency gap; (b) proposes a significant shift in policy on digital inclusion, with the aim of bridging the access gap. It thus represents the most significant shake-up of the telecommunications industry in the last 20 years, ever since the privatization of public telecommunications firm Telmex (1990) and the introduction of the Federal Telecommunications Act (1995). The pivotal goals of the Reform are: (1) to encourage competition; (2) to strengthen institutions to that end; and (3) to provide universal access to broadband Internet.

The Reform includes measures to encourage competition in the telecommunications sector by way of a new institutional framework in which regulatory institutions are strengthened and a new Federal Telecommunications Institute (IFT) is set up, with the power and autonomy to regulate competition in these marketplaces, in addition to the creation of specialist tribunals and an amendment to the *amparo* law to prevent any immediate injunction over the regulator's rulings. This is in addition to encouraging foreign investment by allowing 100% investment in the telecoms sector and an opening up of the broadcasting sector, allowing for up to 49% foreign capital, subject to a reciprocal investment deal in the corresponding country of origin.

To foster *digital inclusion*, the Reform includes provision for the deployment of two new state-administered wholesale networks, with the aim of boosting competition in the interconnection service marketplace and making it easier for relatively small local operators to access enhanced 700MHz-band wireless networks and a fiber-optic backbone.

As of 2014 it is a little early to assess the impact of the Reform in terms of coverage and take-up of telecommunications services. Nonetheless, we may review the progress of relevant processes and infer the likely impact that the Reform will have on social coverage.

Regarding policies on market competition, we aim to examine the methodology and criteria used to define which are the relevant telecommunications service markets, and to identify the dominant operators in those markets. These are the markets that the IFT may act upon by imposing asymmetric regulation in order to remove barriers to competition, and potentially calling for the divestment of assets to prevent anti-competitive behavior.

³ Henceforth referred to as the Constitutional Reform of Telecommunications and Broadcasting or simply "the Reform". As explained below, its implementing legislation is referred to as the Federal Telecommunications and Broadcasting Act or simply "the Act".

On the subject of digital inclusion, we assess the progress of processes underway for the deployment of network backbones, the proposed strategy for building a shared network between cable TV providers and local mobile service providers. In particular, we assess the shift in emphasis of public policy, now focused on provision of infrastructure, and the extent to which this policy actually reaches areas lacking provision.

The proposed methodology for examining and assessing the state of the Reform's implementation is based on an analysis of official information published by government offices, in addition to in-depth interviews with IFT officials and experts involved in drawing up the Reform, along with representatives from the major telecoms companies.

In Mexico, a broad sector of the population remains without access to telecommunications services. On average, only 54% of households have a landline, although this deficiency may be mitigated in part by the availability of mobile lines (89%), and 36.7% of the population have access to pay TV. In terms of ICT access, only 35% of homes have a computer and less than a third (30.4%) have Internet.

The distribution of ICT services is biased towards the more prosperous states and larger cities. In poorer states, home to 30.7% of the country's population, the availability of domestic landlines is more limited (29.9%). Such regions also suffer from low mobile line density (67.8%), fewer than 3 homes out of every 10 have access to pay TV (28.5%), and lower computer and Internet access (20.1% and 14.3% respectively) is observed. In rural areas (21.9% of the population and 6.9 million homes) only half of citizens had a mobile phone (51.4%). 14.7% had landlines, with a very low level of access to computers and the Internet: 14.7% and 8.3% respectively (INEGI: Population Census, 2011, IFT, 2013 & INEGI: MODUTIH, 2013).

The literature on the adoption of telecommunications services makes a distinction between a *market efficiency gap* and an actual *access gap*. In relation to the former, well-functioning competitive markets complement universal and social coverage policies in order to maximize social wellbeing (Munte-Kunigami & Navas-Sabater, 2009). *Access gap* refers to cases where private operators cannot provide service on a commercially sustainable basis without some form of financial incentive from a government universal service subsidy (Stern, Townsend & Stephens, 2006).

The unequal distribution of access to telecommunications services significantly inhibits the ability to alleviate poverty among those most vulnerable groups living and working in isolated regions, often defined as high-cost areas for telecommunications and broadcast service providers. Hence the need for a universal service policy in order to close this *access gap*.

On the subject of the *market efficiency gap*, in the case of Mexico, a recent study found that the lack of competition among telecommunications providers in the country has brought significant

costs to the Mexican economy and burdened the welfare of the country's population. It has resulted in low market penetration rates and poor infrastructure development. The loss of welfare attributed to the dysfunctional Mexican telecommunications sector is put at USD 129.2 billion (2005-2009) or 1.8% GDP per annum (OECD, 2012). On this point, existing research substantiates the significant role of telecommunications, and competition regulators must ensure that competition is sufficiently intense to enable the desired economic and societal development in order to bridge the *market efficiency gap*.

The Telecommunications and Broadcasting Reform, and the corresponding legislation⁴ passed, consists of a set of public policies intended to encourage competition and thereby increase the *market efficiency* of the sectors in question. It also intends to offer alternatives for improving *digital inclusion* in order to reach the targets for universal broadband access set out in the Reform.

The present study is organised into two main sections. The first section presents the institutional and regulatory advances made, including the aforementioned legislation designed to close the market efficiency gap by encouraging competition in the telecommunications and broadcasting service markets. The second section outlines the policies put forward to promote digital inclusion.

The first section, in addition to an overview of the measures designed to boost competition, describes progress in the implementation of these measures that has taken place between 2013 and the current year; we also examine the market response to the implementation of these measures over the course of 2014.

In the second section, which focusses on digital inclusion, the main agents involved in these policies are identified, along with the progress observed in the implementation of public policies intended to bridge the digital divide.

II. Regulation to boost competition and bridge the market efficiency gap

1. The Federal Telecommunications and Broadcasting Act

The announcement of a Reform to telecommunications and broadcasting in March 2013 marked a change to the respective legal regulations and was designed to take a more consistent approach to the regulation of these two sectors and set into legislation various new concepts and provisions set out in the Reform. A deadline of 180 days was set from the date the Reform came into effect

⁴ This legislation, the *Ley Federal de Telecomunicaciones y Radiodifusión* (LFTyR, 2014) will henceforth be referred to as the Federal Telecommunications and Broadcasting Act.

for the regulatory legislation to be enacted. However, delays caused by disagreements between the political parties on the subject of other reforms, including the energy reform, meant that the Federal Telecommunications and Broadcasting Act was not brought in until 7 months after this deadline.

Despite the uncertainty caused by the delay in passing this legislation, the Constitutional Reform (June 2013) served as a framework for a set of regulatory initiatives such as the establishment of the Federal Telecommunications Institute (IFT), the appointment of commissioners and for parties to be declared dominant economic agents in the telecommunications and broadcasting sectors. These regulatory actions, set out in the Reform (June 2013), were ratified when the Act implementing the Reform was brought in (July 2014).

In the following section, we highlight the main points that this Act stipulates for the telecommunications and broadcasting sectors. For each subject covered by the Act, we include information on prior regulatory action which was subsequently ratified when the Act was brought in.

1.1. Market dominance and significant market power

In order to boost competition, market efficiency and the respective benefits to consumers in terms of price, quality and diversity of services offered, the Federal Telecommunications and Broadcasting Act regulates concentrations of market power via two legal mechanisms: the first of these is sector-based, while the second is service-based. The sector-based mechanism consists of the ability to rule that a given party is a *dominant economic agent*, defined on a national level as any party with a 50% market concentration based on the number of users, subscribers, audience and traffic or network capacity derived from data made available to the IFT.

Service-based regulation, in the form of a ruling of *market dominance*, regulates concentrations in the market for a given service or set of services in the telecommunications and broadcasting sectors that inhibit competition either nationally or in a specific region or geographic area. Under Article 279 of the Act, the IFT has the power to determine the existence of parties with *significant power* in any market relating to the broadcasting and telecommunications sectors, as defined under Article 59 of the Economic Competition Act (Antitrust Act)⁵.

In order to issue a ruling of significant market power, the Competition Act sets as metrics or indicators: sales, the number of customers, production capacity, along with any other factors that may be deemed relevant. The strength and virtue of the Federal Telecommunications and Broadcasting Act lies in its ability to regulate market power on a sector-by-sector or service-by-service basis.

Before the Federal Telecommunications and Broadcasting Act (2014) was brought in, the IFT

⁵ The Act: Articles 3, II. & 59 of the Financial Competition Act.

deemed companies belonging to the *América Móvil* group—Telmex, Telcel and Telnor—to constitute a dominant economic agent on 6 March 2014 (IFT, 2014). On the same day, the Institute declared that companies belonging to the *Televisa* group and associated corporations also constituted a dominant economic agent (IFT, 2014). These rulings are grounds for the implementation of asymmetric regulation, and the main details of the asymmetric regulation implemented are set out in the following sections.

1.1.2. The “dominant economic agent” ruling against Grupo América Móvil

The ruling declaring that América Móvil group is a dominant economic agent was based on the number of subscribers per service and the number of minutes of traffic consumed in the main services contracted by end users, leading to the conclusion that the América Móvil group had a 61.8% share of the telecommunications sector nationally.

This declaration is the trigger for the implementation of asymmetric regulation, the most significant measures of which are: interconnection charges, sharing of infrastructure, local loop unbundling (LLU), leasing of dedicated links, regulation pertaining to roaming services, virtual mobile operators, requirements in relation to marketing of services, audiovisual content, and information and service quality obligations. The Act included various additional measures such as elimination of long distance charges. These measures are detailed below.

a). Interconnection and local loop unbundling

The Federal Telecommunications and Broadcasting Act (2014) make provision for imposing asymmetric regulation on the dominant party with respect to interconnection charges. The Act (2014) therefore went beyond what was set out in the Reform (2013) in both the latter respect and in confirming how interconnection charges are to be established, on the basis of a model of incremental mean costs over the long term for traffic originating from the dominant operator, and in serving as a reference for intervention by the regulator in the case of disagreement between operators other than the dominant party. Guidelines for this methodology were published by the defunct COFETEL organisation in 2011 for this purpose (DOF, 2011)⁶.

Based on this methodology, interconnection tariffs were established for local and long distance landline telephony and these came into effect on 6 April 2014. Future tariffs (as of January 2015 and in subsequent years) will be fixed annually in accordance with the same methodological guidelines.

The requirement on the part of the dominant operator to offer services on an unbundled basis is upheld. The regulation takes into account the size of each operator’s network (network

⁶ Diario Oficial de la Federación (DOF, Mexico’s Official Gazette, 2011).

asymmetry). This approach allows for migration, once conditions conducive to competition eventually exist, to a “Bill & Keep” scheme.

b). Passive infrastructure sharing

Ahead of the approval of the Federal Telecommunications and Broadcasting Bill⁷, the IFT (March, 2014) set out a requirement for the dominant operator to share what is termed the “passive infrastructure” or non-electronic infrastructure, which includes rights of way, masts, ditches, towers, posts, hardware facilities and associated power supplies, security, ancillary equipment, land, physical spaces, ducts, routing, power sources and air conditioning systems (IFT, 2014)⁸.

The conditions for infrastructure sharing are to be negotiated between the dominant economic agent and the remaining operators based on the *Proposal to Supply Shared Access and Use of Passive Infrastructure* announced by the dominant economic agent on 30 June 2014. The IFT will rule on a “retail-minus” pricing model, based on revenue or retail tariffs minus costs not necessary to the provision of services, such that the given tariffs may be adopted by an efficient operator.⁹

In relation to the unbundling of the dominant operator’s local network, the IFT set out information and administration requirements. The IFT ruled that the dominant operator must implement electronic administration systems via which both the Institute and any potential contractors and virtual mobile operators may, remotely, view up-to-date information on the public telecommunications network and perform operations associated with wholesale mobile and landline services.

For the purposes of unbundling, the IFT set out guidelines for compliance from the *Technical Committee for effective local loop unbundling* and two *Technical Committees for the definition of Electronic Administration Systems*: one for mobile telecommunications services and another for landline services. Among these committees, various technical aspects of effective local loop unbundling are set out, along with a corresponding timeframe for implementation (IFT, 28 May 2014).

Regarding the leasing of dedicated links, on 13 December 2013 the IFT upheld the ruling previously issued by the now defunct Federal Competition Commission in which it was established that Teléfonos de México and Teléfonos del Noreste had significant market power (IFT, 20 January 2014). The IFT’s decision to uphold this ruling annuls the injunction previously sought by Telmex and Telnor.

⁷ The Act (2014) Chapter IV, on infrastructure sharing, Art. 139.

⁸ IFT (March 25, 2014).

⁹ IFT (March 25, 2014). Annex no. 2.

The tariffs implemented for the leasing of dedicated interconnection links, whether local, long distance or international, are to be freely negotiated between the parties and, where they are unable to reach an agreement, will be determined by the IFT based on a “retail-minus” pricing model.

c) Roaming

Among the measures imposed on the dominant economic agent, Telcel will cease to charge for roaming when users use their own network, irrespectively of whether they are located outside of the area of local service or region in which the service was contracted (IFT, April 8, 2014). Furthermore, wholesale tariffs for roaming services will be negotiated freely between operators. Where an agreement cannot be reached, tariffs for these services will be determined by the IFT based on a “retail-minus” pricing model.

d) Abolition of long distance charges

On the subject of long distance call charges, the Act requires the abolition of national long distance charges to users for calls made to destinations anywhere in the country (Art. 118, V) as of 1 January 2015 (IFT, 2014). In imposing this regulation, the Act has gone beyond the provisions set out by the IFT prior to this Act being brought in.

e) Prohibition of tie-in by the dominant party

In addition, it was ruled that the dominant economic agent must offer services that can be cancelled under the same terms under which they were contracted (IFT, April 8, 2014).

As well as upholding net neutrality, the Act sets out means of collaboration with legal institutions. The introduction of these measures sets a level playing field, setting the conditions for greater market competition.

f) Period of asymmetric regulation

Under the Act, the requirements placed on the dominant economic agent will cease to apply upon a declaration from the Institute once, in accordance with the Act, conditions exist for effective competition in the market in question (Federal Telecommunications and Broadcasting Act: Article 262).

2. Broadcasting, the ruling of market dominance with respect to Grupo Televisa and asymmetric regulation

In relation to broadcasting services, the asymmetric regulation put in place as a result of Televisa Group being deemed to be a dominant economic agent center around the following points:

a) Infrastructure sharing

With regard to infrastructure, Televisa will be required to share passive infrastructure (non-electronic items such as towers, posts, land and other facilities) with its competitors. This measure boosts competition and facilitates the swift entry of new broadcasters into the market.

b) Information requirements and pricing regulation

The asymmetric regulation put in place requires Televisa to offer technical and security-related information to assist other operators with accessing Televisa's infrastructure under fair conditions and to a high standard.

When it comes to setting rates for the use of this infrastructure, no specific guidelines are set. The regulation states that tariffs will be set on an unbundled, service-by-service basis, and makes provision for the IFT to intervene in the event of any dispute between Televisa and any operator requesting access to the infrastructure.

c) "Must carry, must offer"

A central issue in the ruling declaring Televisa to be a dominant economic agent has been the requirement that the company must offer its TV broadcast signals to pay TV operators, whether terrestrial or satellite, operating within the same geographic region; these operators must then retransmit those signals free of charge.

d) Regulation on advertising

On the question of advertising, the company is required to publish the terms and conditions of its advertisement broadcasting services and its corresponding pricing structures. Televisa is expressly forbidden to engage in practices that amount to a refusal to do business. The company will not be allowed to favour or discriminate when it comes to advertising spaces offered across its various platforms. When it comes to bundled advertising services, it must also offer these in an unbundled form.

e) Non-exclusivity of broadcasting rights to major events

In relation to broadcasting rights, Televisa is required, as a dominant agent, to refrain from purchasing exclusive rights to events deemed to be *major audiovisual content* for any given location in the country.

For the purposes of defining *major audiovisual content*, Televisa will be required to present the IFT with any exclusivity agreements already signed for audiovisual content. The IFT will publish a list of *major events* every two years. To produce this list, they will take audience levels as a

measurement, allowing them to identify content that attracts the greatest interest among a segment of the population within a given period of time and which has high audience levels (IFT, May 29, 2014).¹⁰

f) Ban on deals between two or more economic agents when purchasing content

Televisa is required to refrain from joining “*purchasing consortia*” without prior permission from the regulator. A purchasing consortium is defined as any deal between two or more economic agents to purchase broadcasting rights jointly in order to acquire those rights on better terms.

g) Independence of boards of directors of telecommunications and broadcasting services companies

Televisa will not be permitted to participate either directly or indirectly in the capital of, or influence in any manner whatsoever, the administration or control of the dominant economic agent in the telecommunications sector. In addition, the company is bound to ensure that members of the boards of directors of its constituent entities refrain from being members of boards of, or from undertaking administrative roles for, the dominant economic agent in the telecommunications sector.

e) Rules of tender for two new free-to-air television channels with national coverage

In addition to asymmetric regulation, the Reform includes a plan for the inauguration of two television channels in order to boost competition. Under the “*Rules of tender for new free-to-air television channels with national coverage to ensure that broadcasting services are provided under competitive conditions*”, the IFT must put out an invitation to tender within 180 days of its incorporation. *Televisa* and TVAzteca and other licensees with 12 MHz or more may not participate. Market efficiency and the right to information and social service are key principles of the bidding process. In addition, the Reform mandates the creation of a nationwide state-owned TV broadcaster.

Most of these regulatory measures imposed on economic agents deemed to be dominant are in line with successful international practices, meaning that there is hope that by enforcing them—the task of the IFT—there will be greater competition in the sector, leading to improved penetration of telecommunications services and a reduction in the cost of such services as a result of improved market efficiency, which would then actually allow the *market efficiency gap* to be closed.

¹⁰ The first of these lists was published on 30 May 2014 and identifies as *major events*: Mexican football selection matches; the opening and closing ceremonies of the Summer Olympics; the opening and closing ceremonies and opening matches, quarter finals, semifinals and final of the FIFA World Cup, held every four years and commonly known as the World Cup; final matches of the first division league tournament, held by the Mexican Football Federation and commonly known as “Liga MX”.

3. Response from those economic agents deemed to have market dominance: América Móvil and Grupo Televisa

The reactions of economic agents deemed to be dominant in telecommunications and broadcasting services were expressed immediately in the form of legal action (injunctions through the Mexican legal process of *amparo*) against the regulator's rulings and in the case of América Móvil (AMX), the announcement of a divestment of the company's assets in order to reduce its market share and hence no longer make it a dominant agent in the sector. We take a look at these responses below.

On 31 March 2014, AMX filed for an injunction (*amparo*) against the IFT's ruling. On 22 May of the same year, Federal Judge Flores refused to award the injunctions sought by Teléfonos de México (Telmex) and its northwest subsidiary (Telnor).

On 8 July 2014, once the Act had been brought in, the AMX Board announced that it was to take steps to reduce its market share nationally to below 50% of the telecommunications sector in order to no longer be deemed a "*dominant economic agent*".

AMX is announcing that it will create a subsidiary company responsible for operating the passive infrastructure, which will offer services to interested third parties. Thereby, AMX will avoid sharing its infrastructure under asymmetric regulation and while the company will indeed lease its infrastructure through the subsidiary, AMX is attempting to ensure that the subsidiary will not have market dominance (Bloomberg, 2014).

As well as avoiding enforcement of asymmetric regulation, AMX is attempting to free itself of restrictions, set out in Telmex's licensing agreement, governing participation in the Pay TV market. It should be noted that Pay TV is the service to have seen most growth, second only to mobile broadband (Beauregard, 2014)¹¹.

3.2. Response from Grupo Televisa to the declaration of market dominance

Grupo Televisa filed for injunctions against the declarations of market dominance issued by the IFT (Posada, 2014). A specialist court set up in Mexico City to handle cases involving Financial Competition, Telecommunications and Broadcasting rejected the injunction sought by Televisa, deeming the claim to be inadmissible (Sigler, 2014). With the decision of Televisa's market dominance being upheld with the passing of the Federal Telecommunications and Broadcasting Act, unlike AMX, the Televisa group has not subsequently announced that it will take any further measures.

¹¹ In the fourth quarter of 2013, Pay TV audiences reached a total of 14.7 million subscribers. Segments making up the service have increased their coverage. Cable services have increased by 15.9% and satellite-based delivery by 11.7%.

III. The effects of regulation on the share price behaviour of companies deemed to be dominant economic agents

1. Justification for this analysis

It is too soon for the declarations of market dominance and the imposition of asymmetric regulation to have an effect on improving competition in the telecommunications and broadcasting markets. Nonetheless, we may speculate that the behaviour of the share prices of these dominant companies reflects the expected impact of both regulation and the responses of these economic agents to the declarations, allowing us to predict the potential impact of these measures on the economic agents in question.

2. Definition of periods

A prerequisite to carefully watching the share price behaviour of América Móvil (*AMX*) and Grupo Televisa (*Televisa*), and of other companies involved in the telecommunications and broadcasting services markets, is to set the periods to be analysed on the basis of relevant regulatory events that may impact or may have impacted the behaviour of the shares in question. Below, we give a list of these events and the periods in question:

The date the Mexican president came to office and the mention given in his inaugural speech of the measures that would improve competition in the telecommunications and broadcasting markets (1 December 2012).

The submission of the draft Reform to the telecommunications and broadcasting sectors as part of the “*Pact for México*,” which discloses the structural reforms agreed upon by the various political parties (11 March 2013).

The enactment of the Reform to the telecommunications and broadcasting sectors (11 June to 9 September 2013). The creation of the regulatory body, the Federal Telecommunications Institute, and the appointment of commissioners (IFT).

The declarations of market dominance issued against AMX and Televisa (6 March 2014). The enactment of the Federal Telecommunications and Broadcasting Act by Mexican Congress and the credible threat that asymmetric regulation might be imposed (8 July 2014).

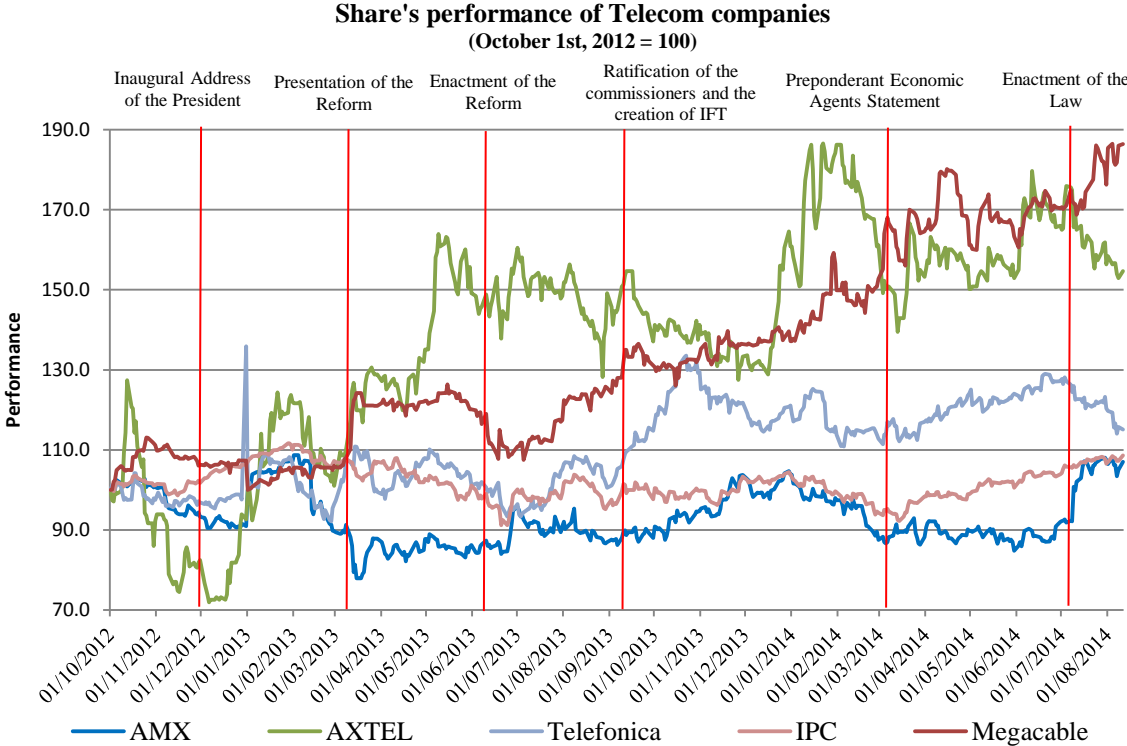
AMX’s response to this Act being brought in: the announcement by AMX of the divestment of its assets and the bypassing of its status as a dominant economic agent (8 July 2014).

Televisa’s response to the Act being brought in and the credible threat of asymmetric regulation being imposed.

3. Effect of the Reform on operators’ share price

Compared to the quarter (October-December 2012) prior to President Presidente Peña’s inauguration (1 December 2012)—when the intention to boost competition was announced—a small drop in AMX’s share price is observed. It is not surprising that this drop in share price was minimal, given that for at least two decades, public policy initiatives and regulation designed to boost competition had not been sufficient to level the playing field and create an environment of increased competition.

With the introduction of the draft Reform as part of the *Pact for Mexico* (11 March), a significant drop in AMX’s share price was observed (14.7% between 11 and 18 March). In subsequent periods, it rallies slightly, but does not reach the levels seen prior to the introduction of the draft Reform.



Neither the passing of the Reform, the creation of the IFT or the appointment of commissioners (11 June to 9 September 2013) had a notable effect on the share price behaviour of companies in the sector. The most significant effects were seen with the announcement of the Reform. By the

time it was passed, and the subsequent events mentioned, the markets had already adjusted to take the effects of regulation into account beginning when the Reform was initially announced.

With the ratification of the Federal Telecommunications and Broadcasting Act by Congress, América Móvil announced a divestment of its assets and its intention to cease to be a dominant economic agent (8 June 2014). AMX's shares price rallied by 9.35%, which while not being an increase sufficient to make up for the losses seen since the announcement of the Reform (March 2013), is the most significant rise seen over the period (March 2013 to July 2014).

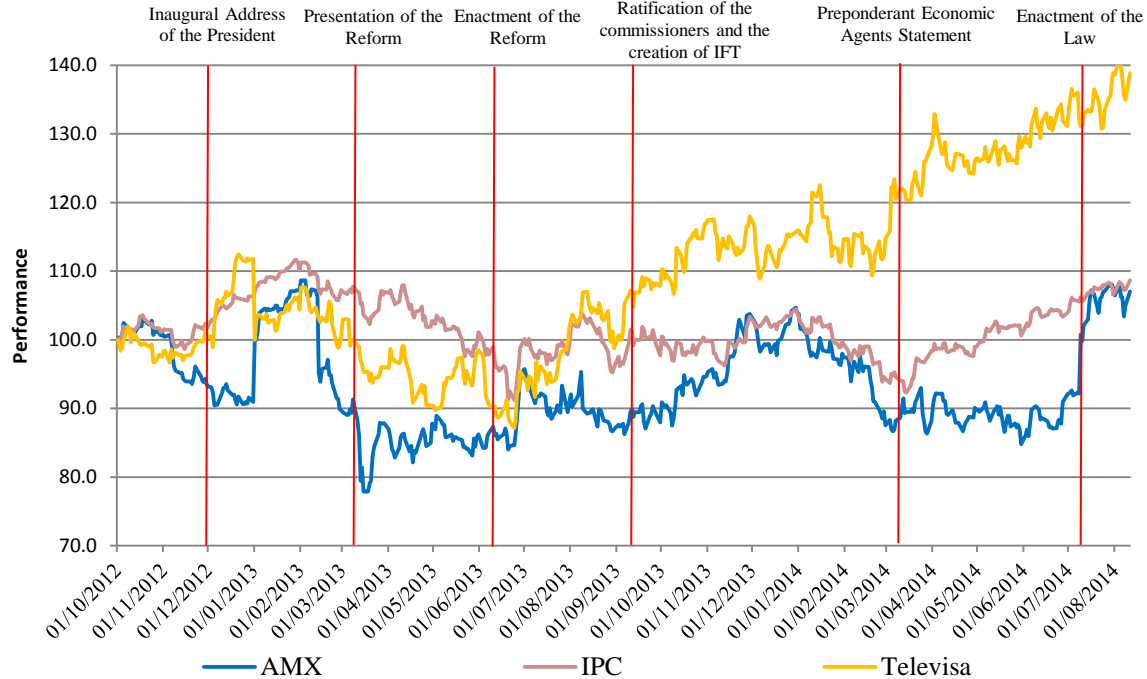
By contrast, in the case of Televisa, the declaration of market dominance did not have a clear negative affect the company's share price, but rather a moderately positive effect. This suggests that despite the asymmetric regulation to be imposed on the broadcasting marketplace, having conditions that are more conducive to competition in the telecommunications sector will be to the company's advantage: the company's main business is currently entertainment, and telecommunications is a market in which the company has a minority share but which it therefore hopes to increase.

Despite the limitations inherent in the use of share price behavior as an indicator, we may infer from the foregoing analysis that the event to have the most impact on the groups of companies now declared as being dominant economic agents was the announcement of the Reform on 11 March 2013, particularly on the telecommunications sector.

One possible interpretation of the observed effects on share prices in these sectors, notably in the telecommunications sector, is that the effects of asymmetric regulation are seen as a credible threat to market power and respective profits. This potentially sheds light on the actions announced by this group of companies to reduce their market share by divesting some of their assets, in order to no longer be subject to asymmetric regulation. These observations suggest that in the case of the telecommunications sector, markets are contestable: in other words, the creation of a competitive environment is possible through serious institutional and regulatory change.

By contrast, in the case of Televisa, the regulatory action taken over the past few months does not appear to have affected share price behavior, indicating that the company's market position remains robust even with asymmetric regulation. Also Televisa is indirectly benefiting from the threat that regulation will create an environment of increased competition in these markets, in which it has a minority share that it plans to increase.

**Share's performance of Preponderant Economic Agents
(October 1st, 2012 = 100)**



4. Effect of the Act on end user tariffs

Based on a price index that incorporates the prices of both landline and mobile services, over the period 1 December 2012 to 15 May 2014, no decrease was observed in the prices offered to end users. The effects of the declarations of market dominance and the strict enforcement of asymmetric regulation will surely lead to a more competitive environment, which could result in lower tariffs for users, greater diversity in the services offered to consumers and an improvement to the quality of such services.

Coversely, there is a risk of collusion between companies, even though there is every indication that the declaration of market dominance has been successful in creating incentives for operators to avoid concentrations of power within the sector. These measures could create incentives for collusive agreements that could lead to markets being shared between operators, thereby avoiding a 50% concentration by distributing profits between the companies in collusion with one another¹². In that case, there would not be sufficient competition, and the expected fall in prices would not be observed.

¹² As mentioned above, *dominance* is defined in terms of 4 metrics: number of users, number of subscribers, traffic across the company's networks and the capacity used across these networks.

V. Digital Inclusion

The Reform elevates citizens' access to connectivity to the status of a fundamental right,¹³ and hence the Reform also guarantees the right to access information, broadcasting and telecommunications services, including broadband and the Internet.¹⁴

The Federal Telecommunications and Broadcasting Act sets out a universal inclusion policy, bringing together programs and strategies designed to provide access to information and communications technologies, including broadband Internet access for the entire population. Particular emphasis is placed on more vulnerable groups, with the aim of bridging the digital divide between individuals, homes, businesses and geographical areas of different socioeconomic levels when it comes to opportunities for accessing and using information and communications technologies (Federal Telecommunications and Broadcasting Act, Article 3).

In May 2013, Mexico's Federal Telecommunications Commission published a plan for the deployment of a national transport network (COFETEL, 2013), which had been adopted as one of the digital inclusion projects by the Communications and Transport Secretariat (SCT) under its Information and Knowledge Society Coordination program. The main initiatives of this project are:

- An expanded national fiber-optic backbone and a shared (wholesale) wireless access network using the 700 MHz frequency band, to be deployed through a public-private partnership (COFETEL, 2013a)¹⁵.
- “*México Conectado*” (“Mexico Connected”), a nationwide program with a target of installing 250,000 Internet public access points in government facilities across the country by 2019 (SCT, 2014a)¹⁶ Secretaría de Comunicaciones y Transportes. (SCT, 2014a).

1. A new state-operated backbone network

TELECOMM, a state-managed company devolved from the Secretariat for Communications and Transport,¹⁷ will be operating an optic fiber transport network, in which 35,000 km of optic fiber will be added to the existing government-operated 25,000 km.

To the existing 112 points of presence an additional 972 access points will be added (“*hoteles*” and “*minihoteles*”). Under the Plan, only 26.9% of the population will be within 40 km of a backbone point of presence. Access to the latter will be provided via microwave links. This would provide coverage to 97.7% of the population. The purpose of the network backbone is to

¹³ Political Constitution of the United States of Mexico, as amended, art. 6^o (VI), 7^o.

¹⁴ Constitution, Art. 6o.

¹⁵ Comisión Federal de Telecomunicaciones (COFETEL) (2013a).

¹⁶ Secretaría de Comunicaciones y Transportes. (Secretariat for Communications and Transport, SCT: 2014a).

¹⁷ A decentralized body devolved from the Secretariat for Communications and Transport.

provide mobile and cable TV service operators, who have a data carrier network distributed throughout the country with the capability to link in with other networks abroad. All communities in the center and most of those in the south would be covered by points of access to the national carrier network. In the northern area of the country, smaller towns would be excluded. However, 85% of these towns (21,540) are places with 100 inhabitants or less, and of these, 13,237 have ten inhabitants or less (52%).

The Reform stipulates that the installation of the shared public telecommunications network will begin before the end of 2014 and that the network will be operating by the end of 2018. To date, information is not available on the proposed expansion of this network (35,000 km, in addition to the existing 25,000 km). Nor was information available on the fitting of 972 further points of presence in addition to the existing 112.

Regarding the installation of the wholesale wireless network in the 700MHz frequency band, the first stage for enabling this is to free up the spectrum in question by ousting current licensees via the switch from analogue to digital terrestrial TV. The implementation of this switch began in 2013 in the border town of Tijuana, and in general this process of “analogue switch-off” has suffered delays meaning that it is difficult to ascertain whether or not the process will be complete by the end of 2015. As a result, the installation of this wholesale wireless network may be pushed back.

2. Wholesale mobile services and local cable TV operator network

There are 1,500 cable companies distributed throughout the country. Most of these offer unidirectional pay TV services only, due to the high cost of access to—or lack of coverage of—the existing backbone. The new backbone will encourage mobile and cable TV operators, who until now have not had access to the necessary data transport infrastructure, to provide “triple play” services. These operators will have an incentive to provide broadband access within a triple play scheme. It is hoped that around 10 million homes (50 million citizens) will have increased broadband and telephony options.

3. The “Mexico Connected” Program

A proposal was set out to turn public places into network access points with links to the optic fiber network, thus promoting universal access to broadband: schools, universities, clinics, hospitals, government buildings, public open spaces, and any place providing public services. There are approximately 250,000 such public places in the country, with 44.6% located in rural localities of fewer than 500 inhabitants, home to just 9% of the population. The public access points, in addition to offering broadband connectivity, will aid the provision of government (e-Government), education, health and other services.

A precursor to this program consisted of Digital Community Centers (or CCDs with their Spanish acronym), part of the Communications Secretariat's Information and Knowledge Society Coordination program, which started up in 2002 with the aim of providing public access to the Internet and to information technology, and thus helping to bridge the digital divide. The connectivity strategy consisted of setting up CCDs providing public Internet access as well as access to computing and printing facilities and training in the use of such technologies.

Moreover, these CCDs or telecenters were the result of collaboration and joint responsibility agreements between the Secretariat's Information and Knowledge Society Coordination program and various Government offices tasked with developing content in the areas of education and training, health, social development and distance government administrative procedures.

Over the first decade or so after the CCD scheme was set up (2002-2009), the number of CCDs saw an average annual increase of 19.3%, rising from 1,838 CCDs in 2002 to 8,971 in 2009. For 2011 (SCT, 2012), it is reported that only 6,788 CCDs were operational, representing an annual drop of 13.0% between 2009 and 2011 (see also "National Digital Agenda", SCT, 2012).

As a result of the *Mexico Connected* policy, during 2014 there were 39,167 public Internet access points in operation. The number of Internet access points has seen a 500% increase in just three years. However, this scheme does not involve CCD-type facilities but rather locations offering Internet access only.

The *Mexico Connected* project makes provision for a "digital promotor" to be present, along with services appropriate to the public place in question. For example, administrative applications if the center is located in a government building, or education if it is located in an educational institution; similarly, for health services if the access point is located in a clinic.

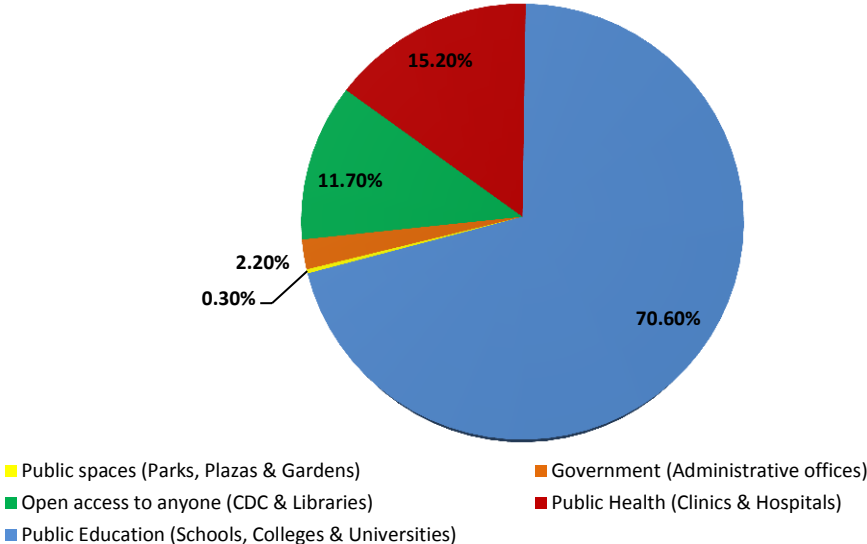
Out of the 39,167 Internet access points, the Secretariat states that approximately 13% of these have a *digital promotor*. According to the document "*Mexico Connected*" (SCT, 2014a), the latter is responsible for "administering and promoting" digital services within the center (SCT, 2014b). It remains to be determined who might be responsible for providing digital skills and administration for the remaining 87% of these broadband network access points.

From the SCT's report and that of the Information and Knowledge Society Coordination program on the subject of these broadband Internet access points, it is unclear whether they are simply such, or whether they are actually CCDs. While it is suggested in the documentation that these places represent more than simply an Internet connectivity service, with means of accessing training programs and content relevant to learning and development of the local economy (Type 1 CCDs), the information available is not conclusive in terms of what progress has been made in this regard as of August 2014. Moreover, while further types of CCDs are mentioned, referring to Internet access points in educational establishments (Type 2), health institutions (Type 3), government offices (Type 4) and public spaces (Type 5), no reference is made to the content or roles that these other types of CCDs will actually serve.

This lack of information suggests that Type 1 CCDs are in the minority, equivalent to the number of digital promoters (only 13% of CCDs have one of these staff members). The report on the 39,167 Internet access points does not necessarily imply that these are CCDs; it is more likely that most are simply broadband Internet access points. Such facilities are undoubtedly a starting point for the future development of spaces for digital literacy and access to value added services in the areas of education, health and e-Government.

The distribution of these access points in Mexico is largely biased towards educational establishments and health institutions, as shown in Figure 1. (SCT, 2014)

% of "Mexico Connected" access points to Internet by location



Despite the huge advance in the number of broadband access points, it is worth contrasting potential demand (defined as the number of citizens between 12 and 54 years of age) with the actual number of these access points available. Taking as our sample those states with the greatest proportion of citizens living in poverty (CONEVAL, 2014), such a comparison is given in Table 1.

Table 1. Estimated potential demand for broadband Internet access points

Potential Demand (5 poorest states), 2014.				
State	Population ¹	Access points ²	Access points ² /municipality ²	Population ¹ /Access points ²
Chiapas	2,941,511	2,664	22.6	1,104.2
Guerrero	2,046,847	2,299	28.4	890.3
Puebla	3,581,433	1,854	8.5	1,931.7
Oaxaca	2,302,561	3,502	6.1	657.5

Tlaxcala	742,652	465	7.8	1,597.1
1/ INEGI: Population Census, 2010; 2/ Mexico Connected (2014).				

Thus, in an attempt to estimate how well Internet access point coverage fulfils potential demand, an estimate was made of the ratio of Internet access points to the reported population size of 12-54 years of age in the poorest states of the country. The result is an extremely high potential demand compared to available telecenter provision (see Table 1). It should be noted that in many cases, the community in question is likely to have other means of commercial Internet access at its disposal. The estimate presented here is therefore very approximate. Nonetheless, it suggests that the level of provision of both Internet access and other IT services offered by the broadband Internet access points is extremely limited compared to the potential level of demand.

4. Social obligations

The Federal Communications and Broadcasting Act provides for two measures to broaden service coverage and digital inclusion. The first of these consists of the IFT's powers to impose social coverage obligations on all service licensees, stipulating geographic, demographic or social coverage criteria.¹⁸ The second measure consists of a public policy designed to increase universal and social coverage, headed by the Executive through the SCT.

5. Digital inclusion in broadcasting

The Federal Telecommunications and Broadcasting Act encourages competition and thereby goes towards making broadcasting service markets more efficient in the future, by removing barriers to entry for new broadcasting service providers via the following measures. In a consistent vein, the Act legislates and enforces net neutrality, thereby creating a framework that encourages optimal use of infrastructure for the provision of all services. Moreover, telecommunications service operators may participate in the provision of broadcasting services. The infrastructure sharing measures set out in the Act make it easier for new broadcasting service providers to fast-track their entry into the market. These measures supplement the licenses for two additional TV channels mentioned above (IFT, 16 April 2014).¹⁹

Of the measures included in the Act to boost competition for broadcasting services, the most significant are intended to increase the efficiency of the relevant markets. There is reason to suggest that the “must carry, must offer” measure may benefit Pay TV audiences by offering them a larger range of content with the retransmission of free-to-view TV. This measure does

¹⁸ Federal Telecommunications and Broadcasting Act, 2014, Article 15, Num. XLIII.

¹⁹ The basis for this call for tenders has been published, but its implementation has been delayed until September 2014 due to the delay to the ratification of the Act.

not, however, directly benefit the most vulnerable sectors of the population, who have limited access to Pay TV: we recall that only 36.7% of households have this service.

V. Conclusions:

The constitution was amended, laws were re-written and approved by Congress, now what is left is to change Mexico's reality, a country where many millions of citizens have few opportunities to get ahead (Pardinas, 2014).

The constitutional reform of telecommunications and broadcasting services (2013), and its implementing legislation in the form of the Federal Telecommunications and Broadcasting Act (2014), is part of a set of third-generation structural reforms intended to stimulate economic growth. An additional facet of the Reform lies in the fact that it elevates citizens' access to connectivity to the status of a fundamental right.

The two central tenets of the Reform and corresponding legislation include, on the one hand, the aim to foster healthy competition in the telecommunications and broadcasting sector, along with the positive effects associated with such competition: lower prices, improved coverage and better quality of service provision. The result of this is a benefit to the end consumer, an indirect distributive effect on income, and finally, a contribution to the growth of the economy.

The second tenet of the Reform and its corresponding legislation lies in universal coverage, specifically in relation to broadband services, which have the potential to offer any type of telecommunications and broadcasting service across a single infrastructure.

In relation to the first of these, boosting competition, an assessment of the situation as of 2014 reveals that the Reform and its institutional embodiment in the form of a new regulatory body, the IFT, has begun to bear fruit by way of declarations of dominant economic agents in both the telecommunications and broadcasting sectors, and the proposal of specific asymmetric regulation measures to be imposed on these economic agents. In addition, investigations are underway into illegal market concentrations in relation to the provision of certain *services*, with a view to issuing a declaration of significant market power in relation to the provider in question in the very near future.

These declarations, and the application of asymmetric regulation that is coming into effect, promise to set a more level playing field and stimulate greater investment in both of these sectors. A number of European and North American investment groups have shown an interest in the Mexican market.

The impact of these regulations, designed to boost competition in the given markets, will take some time to mature. And despite the measures put forward by the economic agent, América Móvil, the goal of freeing up these markets will be difficult to achieve in the short term. However, we may still state that the telecommunications markets in Mexico have seen a rise in

their *contestability*, attributable to the institutional strength of the regulatory framework. The chances of greater competition in the telecommunications markets, as a result of this new regulatory framework, have never been better.

The contestable markets approach takes a radically different view to the theory of perfect competition: a threat of entry will suffice to put pressure on producers to act competitively. Any sector under consideration remains competitive as long as it stays contestable, i.e. there is the threat of entry from other companies (Baumol et al, 1983). "...any individual firm has to act 'efficiently' and competitive, if the threat of entry can function as an economic watchdog (Machaj, 2013: 480).

In the case of broadcasting services, on the basis of share price performance, we may make inferences on the impact that regulation is having on the sector, and suggest that the Reform in this sector will not, in the short term, result in greater competition, and that this explains the company's stock market behavior (January-August, 2014). Nonetheless, the broadcasting service markets are contestable as a result of the Reform. The announcement that two new TV channels would enter the market, along with the "must carry, must offer" requirement, with the potential to re-transmit the respective broadcasts, levels the playing field and ensures greater competition for the future.

When it comes to the second tenet of the Reform, digital inclusion, observed progress falls short of the targets set by the government. Unlike the previous case, which is essentially regulatory, public policy in this case lies in investment in construction, in the expansion of infrastructure and in the human capital needed to operate this infrastructure and guarantee the benefits of digital inclusion.

We are not aware of progress on the rollout of the two wholesale transport networks. With regard to the "Mexico Connected" program, an increase of approximately 500% is reported in the number of public Internet access points in public places, but there is a lack of information on the extent to which these access points are equipped with the necessary infrastructure for developing digital skills that would foster the adoption of such technologies and trigger a process of economic development.

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