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Telecommunications reform in Mexico

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Telecommunications reform in Mexico

An in-depth analysis on the
socio-economic consequences
of liberalisation of Mexico's
telecom services industry

Friso de Jong

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Telecommunications reform in Mexico

An in-depth analysis on the socio-economic consequences of liberalisation of
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Executive summary

Liberalisation of Mexico's telecom services industry fits in the neo-liberal movement of the middle 1980s, when import substitution was no longer thought of as an alternative to international trade. The main reason to privatise incumbent Telmex in 1990 and to liberalise the market hereafter, was the inability of the government to provide the huge amounts of capital required to catch up with demand. Until 1996, regulation was limited to enforcement by the Ministry of Transport and Communications (SCT). Hereafter, most day-to-day regulatory functions were delegated to a Federal Telecommunications Commission, Cofetel. Other institutions regulating Mexico's telecom services industry are the Federal Competition Commission (CFC), established in 1993 and a Federal Telecommunications Law (LFT), enacted in 1995, five years after the government set in motion the liberalisation of its telecom services industry.

This study seeks to analyse the socio-economic impact of liberalisation of Mexico's telecom services industry. Reform of telecommunications has been found to be responsible for a considerable pickup in network investments. Higher telecom penetration rates (in both fixed-line telephony and mobile telephony) were consequently the result. Furthermore, tariffs decreased and quality of services increased. Improvements were however reserved to areas with 'critical mass'; that is, areas with profit potential or high dense populated areas. An internal digital divide is manifest, reflected by the income gap between the northern part of Mexico, which generates most of economic output, and the southern states, which rely primarily on agricultural activity. Moreover, multinational corporations particularly benefited from the consequences of liberalisation, whereas small- and medium sized enterprises, which tend to be mainly users of local telephone services, were affected by higher tariffs hereon after liberalisation.

Telecommunications is a prerequisite for economic growth and is therefore considered to be of particular importance for areas that are deprived from properly functioning telecom services. This withholds them from connection with the economy at large, whereas this could have a huge impact on these communities for the better.

Reasons for the recent situation are manifold and diverse. Basically, the regulatory climate has not been able to implement the promises the 1995 telecommunications law comprehends, adding to uncertainty. Moreover, 'internal' or 'regulatory' measures have been found to impede market access in many ways, obstructing competition and development. This has a tremendous repercussion on credibility of policy and subsequently investments into telecommunications. Efforts should be directed at re-establishing Mexico's telecom services industry to the favour of investors, given ample opportunities that remain unexplored.

Preface

The aim of this thesis is to contribute to insight into developing countries' specific situation with regard to liberalisation of trade in services through a case study on Mexico's telecom services industry. The Science Shop of Economics, Management & Organization (Groningen University) initiated research on the impact of the liberalisation of services for developing countries, with support of the Netherlands' Ministry of Foreign Affairs (Development Cooperation). Low participation in the General Agreement on Trade in Services (GATS) of developing countries is the main reason to instigate research hereon. This multilateral framework aims at the progressive liberalisation of trade in services since its establishment in 1995. Not much is known, however, about the effects of liberalisation of trade in services for developing countries, whereas insight hereon would be beneficial for both developing and developed countries.

My study benefited tremendously from the special dedication of many individuals. Above all I am most grateful to those supporting my efforts to continue research in Mexico. With their support, the last year of my study has been more valuable than possibly imagined. I owe thanks to Nanno Mulder and Jorge Máttar for respectively arranging and providing me with an inspiring place to work at the Economic Commission for Latin America and the Caribbean (ECLAC) in Mexico City. Although the impact of working with the infrastructure ECLAC provided me with is hard to quantify, the experience added tremendously to the success of my research. Furthermore, their valuable tips and enthusiastic support motivated me to continuously improve my study. I would like to thank Albert Oosterhoff, Katja Schoemaker and the economic department at the Netherlands' embassy in Mexico City as well. Among other things, they helped me establishing contacts. My gratitude goes as well to Natalia Volkow for her dedication in establishing contacts within Mexico's telecom services industry. All industry representatives, from government to private sector, and persons formerly affiliated to the industry, who were willing to exchange thoughts with me are thanked as well; for their kindness, time and knowledge. The latter has been key in my study. The CIDE (Centro de Investigación y Docencia Económicas) and its Telecommunications Research Consortium, has proven to be a valuable source of reference and knowledge of which I was able to benefit fully, due to their hospitality.

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Abbreviations and acronyms

ABT	Agreement on Basic Telecommunications
ALADI	Asociacion Latinoamericana de Integracion
APEC	Asian Pacific Economic Council
AT&T	American Telephone and Telegraph Company
CFC	Comisión Federal de Competencia
COFETEL	Comisión Federal de Telecomunicaciones
CPC	Central Product Classification
CPP	Calling Party Pays
DC	Developing Country
D.F.	Distrito Federal
DLD	Domestic Long-Distance
ECLAC	Economic Commission for Latin America and the Caribbean
EU	European Union
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GBT	Group on Basic Telecommunications
GDI	Gross Domestic Investment
GDP	Gross Domestic Product
ILD	International Long-Distance
IMF	International Monetary Fund
ITT	International Telephone and Telegraph Co.
LD	Long-Distance
LFT	Ley Federal de Telecomunicaciones
MERCOSUR	Mercado Comun del Sur
MFN	Most-Favoured-Nation
MNC	Multinational Corporation
NAFTA	North American Free Trade Agreement
NGBT	Negotiating Group on Basic Telecommunications
OECD	Organisation for Economic Co-operation and Development
PAN	Partido de Acción Nacional
PCS	Personal Communications Service
PNR	Partido Nacional Revolucionario
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Purchasing Power Parity

PRD	Partido Revolucionario Democrático
PRI	Partido Revolucionario Institucional
PRM	Partido Revolucionario Mexicano
PTO	Public Telecommunications Operator
SBC	Southwestern Bell Corporation
SCT	Secretaría de Comunicaciones y Transportes
SE	Secretaría de Economía
SME	Small- and Medium sized Enterprise
SOE	State Owned Enterprise
Telecomm	Telecomunicaciones de México
Telmex	Teléfonos de México
U.K.	United Kingdom
U.S.	United States
WTO	World Trade Organization

Chapter 1 Introduction

§ 1.1 Problem statement

The services industry will be an important determinant for development, because of its growing economic importance¹ and its impact on all other economic activities. Liberalisation is believed to spur developments in this sector, as investments, both Gross Domestic Investment (GDI) and Foreign Direct Investment (FDI), are likely to rise as a consequence. The gain for developing countries (DCs) of liberalising their own service sector (unilaterally) could be substantially higher, since the services sectors in most DCs are projected to expand (McGuire, 2002: 1). Besides, savings in DCs are not sufficient to finance investments needed to generate growth. FDI is needed to deal with this deficit. Foreign participation is believed to transfer technology and therefore add to productivity and modernisation. By removing restrictions on all modes of service supply, DCs are projected to be better off by US \$130 billion (McGuire, 2002: 10).²

Liberalisation of services is however subject of controversy. In the General Agreement on Trade in Services (GATS), which aims for the progressive liberalisation of trade in services worldwide, DCs scheduled a much smaller share of activities than developed economies. Activities where commitments have been made by most DCs include the tourism-related services of ‘hotels and restaurants’ (69 of 77 participating DCs), reflecting the current importance of this sector in foreign exchange earnings of many DCs. Remarkable, though in line with economic growth theory, about the limitations to commitments by DCs is the more frequent exclusion of cross-border supply from commitments, not covered in almost one-half of commitments compared to 25 percent in developed countries (Altinger and Enders, 1996: 319). Since cross-border supply is considered to be a substitute for the supply of services through commercial presence in many service activities, the frequent exclusion of this mode of supply underlines the emphasis placed by DCs on attracting investment commitments. At the same time however, even for commercial presence, limitations on access are more frequent in DCs than in developed countries (75 percent of commitments compared to 60 percent respectively).

Given the ever-increasing importance of services in today’s knowledge based society, the relative low participation of DCs in the GATS and the fact that not much is known about the effects of liberalisation of trade in services for DCs are the main reasons to generate insight

¹ The services sector is the largest and fastest-growing sector of the world economy, providing more than 60% of global output and in many (especially developing) countries an even larger share of employment.

² For the methods used to reach this figure I refer to McGuire. The main point is that high potential exists in liberalising trade in services.

on the impact of liberalisation on DCs. Insight generates understanding and awareness among both DCs and developed countries and will add to securing results established until so far and further future efforts on the liberalisation of trade in services. A case study on Mexico's telecom services industry has been designed to provide for such a DC perspective. The main question of this study relates directly to the impact of liberalisation on Mexico's telecom services industry. What is the influence of liberalising Mexico's telecom services industry, on Mexico's telecom services industry and how does this influence socio-economic development?

The term socio-economic development is used to take account of criticism on the identification of development with economic growth as elaborated on by Szirmai (2002: 5). Important indicators like, for example, poverty, malnutrition, income inequality, the employment situation, literacy, health, life expectancy and the environmental situation are not captured by mere economic growth. Szirmai refers to the emergence of so-called 'social indicators' as reaction hereon (2002: 5). The availability of telephones has been mentioned with regard hereto and illustrates its importance in socio-economic development on which emphasis will be placed.

In sum, this study aims at a better understanding of liberalisation policies and their effect on the services provided. The central issue of this study is twofold. In the first place, the prospect for investments into Mexico's telecom services industry is subject of study to adopt a future perspective. This generates insight on the likeliness of the inflow of investments into the sector and consequently on future sector-specific growth and development. Furthermore, the extent to which the objective of universal service, that is connecting *everyone* against *low* costs, is reached will be analysed. This will lead to analysis of socio-economic consequences. A case study has been chosen since liberalisation is not an unambiguous concept. Its implementation may differ substantially among countries and consequently the consequences hereof. Besides, insight into country specific situations is likely to increase mutual understanding, necessary to reach agreement.

The next section will elaborate on the choice for Mexico's telecom services industry.

§ 1.2 Choice for Mexico's telecom services industry

Poorly developed, inadequate physical infrastructure is a barrier to economic development (Szirmai, 2002: 17). Telecommunications provides for such a physical infrastructure. Its importance stems from its nature in an economy. It provides not only final consumer products, but also basic production inputs for a wide variety of user industries (WTO, 2001: 1). Continuing international trade is as well responsible for its ever-increasing importance. Its role in international trade stems from the interesting developments in the sector since the late 1970s. Since then, telecommunications went through a strong process of technological,

economic and policy advances throughout the world. These developments have modified the characteristics of the telecom services industry and reshaped the conditions under which both developed countries and DCs develop their telecom services industry. Ever advancing technological developments (think of Internet, satellite-based mobile telephony and the auctioning of third generation mobile telephony) provide economies with ‘new’ infrastructure needed to participate in today’s information based society. Technological developments are, however, not merely the result of continuing international trade; it also aids the globalisation of business services.³ Telecommunications is responsible for bridging time and place and is therefore seen as an important force behind the globalisation of economy and technology. The flow of information is key in this process and access and control over information flows via technology has consequently become an important factor for companies competing internationally.

In sum, the telecom services industry is considered to be a prerequisite for economic growth. Telecom services in most DCs nevertheless continue to fall short of needs. The demand for telephone and more advanced services typically far exceeds the supply, and the number of unmet applications for telephone connections often exceeds the number of existing lines (Saunders et al., 1994: 9). Long waiting lists of people wanting a telephone connection have thus been quite common in DCs. Furthermore, the quality of the network has traditionally been poor. This leads to the result that development is constrained significantly throughout these economies (Saunders et al., 1994: 3). The importance of telecommunications within any economy, together with the notion that telecom services continue to fall short of needs in DCs is the reason to base research on the influence of liberalisation of telecommunications on a DC.

Mexico is chosen as country of study for several reasons. First, it was believed that Mexico would catch up with developed economies because of constant economic growth emanating from the beginning of World War II.⁴ Development stagnated severely as a result of the impact of the 1982 debt crisis and never reached forecasted prosperity. Policy reforms were implemented as a reaction hereon and Mexico sought to connect with the international trend of trade liberalisation since the middle 1980s. Worldwide restructuring of government agencies, responsible for regulating national telecommunication markets and services during the 1990s, fits in this neo-liberal movement. In many cases these governments have created independent organisations to regulate, monitor, and guide the liberalisation of their telecom markets. Many Latin American economies also made market access commitments at the 1997

³ It is difficult and not necessary to go into the discussion of what was first: globalisation and the need for a worldwide communication network, or the latter followed by the first. The main point to be grasped here is that a world-wide market exists and that, especially developing countries, should adapt to it in order to support economic growth.

⁴ This period is referred to as ‘The golden age of growth’, which lasted from 1950 to 1973 (Szirmai, 2002: 38).

World Trade Organization (WTO) agreement. Mexico opened basic telecom services to competition and foreign ownership prior to the January 1998 'start date' for the WTO convention. This made Mexico one of the early reformers of telecommunications markets in Latin America.⁵ It privatised its monopoly carrier Teléfonos de México (Telmex) in 1990, and the market was liberalised gradually from this very same date. Consequences of reform are likely to be seen 13 years from then, which is the main reason to study the consequences of liberalisation on Mexico's telecom services industry.

Fundamental decisions with regard to the design of this study will be elaborated upon in the following chapter.

⁵ Within Latin America, Chile was the first in privatising and opening up to competition since 1988.

Chapter 2 Research design

Growth and development is the objective of individual governments to serve its citizens. The ultimate aim of any government is (or should be) to promote human welfare in the broadest sense. Trade liberalisation is one of many means to reach this generic objective, via the exploitation of comparative advantages. Investments increase as a result of increased competition and are responsible for development. Figure 2.1 models the relationships among concepts subject of study and simultaneously provides for a blueprint of this thesis.

This chapter elaborates on decisions taken with regard to the research design. First of all, relationships as schematised in figure 2.1 are elaborated upon in paragraph 2.1. Research questions are formulated in paragraph 2.2 and the method of research is addressed in section 2.3. Telecommunications as such encompasses a wide array of communication services and is necessarily delineated in paragraph 2.4. Finally, paragraph 2.5 provides an overview of chapters, constituting this thesis.

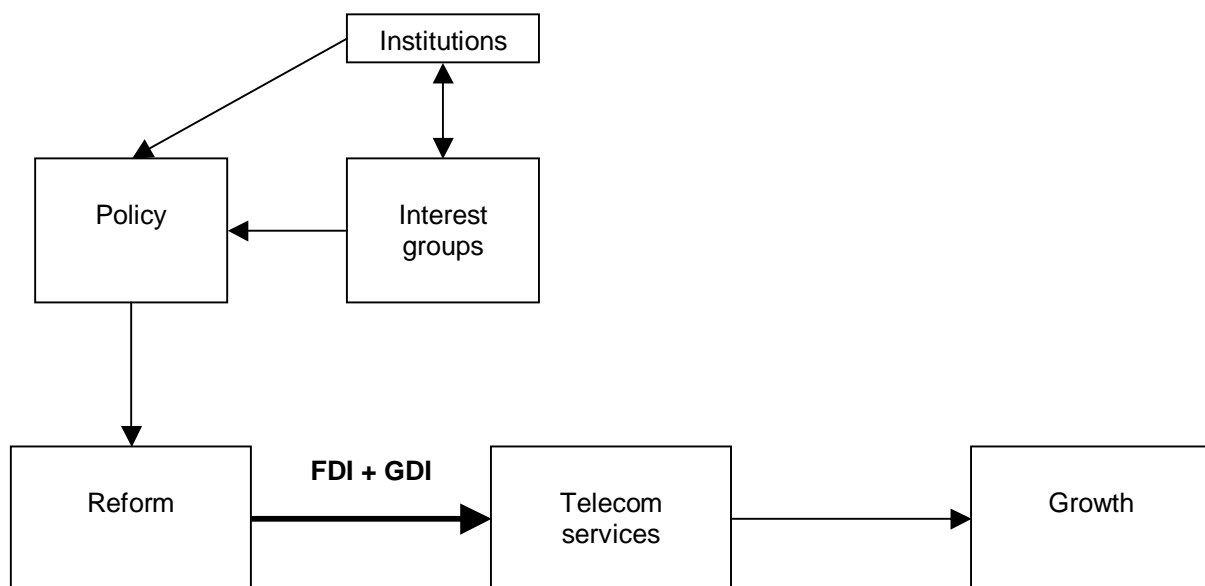


Figure 2.1 Interrelationships between concepts⁶

§ 2.1 Elaboration on concepts of study

The choice for researching the impact of liberalisation on Mexico's telecom services industry stems from its potential to generate growth as elaborated on in chapter 1 and scheduled in figure 2.1. Saunders, Warford and Wellenius (1994) use microeconomic or project-specific analysis of telephone benefits to demonstrate the relation between telecommunications and its effect on the economy in general. They found strong linkages between the transport, energy,

⁶ Relationships modelled, represented by arrows, could be drawn in the opposite direction as well. These relationships are, however, not subject of study and therefore not included, nor elaborated upon.

and telecommunications sectors. For DCs, the changes in the relative costs of transport and telecommunications; the relative immaturity of both sectors; the widespread inefficiencies in the transport sector resulting from information deficiencies (unnecessary trips, empty return trips, badly timed trips); and the limited spatial dispersion of trade, commerce, and industry (also partly related to information deficiencies) all indicate that potential gains from increased coordination between the two sectors and from increased penetration of the telephone network into both urban and rural areas may be relatively large (Saunders et al., 1994: 152). In sum, Saunders, Warford and Wellenius conclude that telephone services are an important means for facilitating economic activity. This was found to be true for business, residential, and public telephone services. Besides the relative larger benefits for DCs to improve telecommunications' performance as stipulated by Saunders, Warford and Wellenius, Hilbert and Katz point at the relevance of access to information and its role in creating knowledge for especially DCs (Hilbert and Katz, 2003: 38). DCs would be able to advance closer in the direction of developed countries in educational and health standards, new business models, public sector administration and living standards in general. Castells agrees on, and emphasises the facilitating role telecommunications plays in today's information based society (2000).

In this context telecommunications are now widely considered to be a strategic investment that is key to maintaining and developing competitive advantage at the level of the nation, the region, and the firm. Telecommunications constitute the core of, and provide the infrastructure for the information economy as a whole. They are an integral part of financial services, commodities markets, media, transportation, and tourism, and they provide vital links among manufacturers, wholesalers, and retailers. Moreover, industrial and commercial competitive advantage is now influenced not only by the availability of telecommunications facilities but also by the choice of network alternatives and the ability to reconfigure and manage networks as corporate objectives change. Countries and firms that lack access to modern systems of telecommunications cannot effectively participate in the global economy (Saunders et al., 1994: 305). Telecommunications thus provides a country with a type of physical infrastructure that generates economy-wide-spill-overs and is therefore of high importance in effectuating growth within a country. The effect of telecom services liberalisation on the economy has been researched by Mattoo, Rathindran and Subramanian (2001). They found a positive relationship between openness in financial and telecommunications sectors and long-run economic growth. The growth of economies with fully open telecommunications and financial services was found to be 1.5 percent higher than that of other economies.

Clifton (2000) and Mariscal (2002) point at the importance of the policy context in analysing developments. Indeed, an economic system does not come about in a vacuum but functions in a wider system of institutions (Van der Krogt, 1996: 22). Hilbert and Katz refer to a wider

system of institutions as the ‘institutional setting’ and use it as explanatory factor of growth and development. Heins (1997) and Castells (2000) show the importance of the policy context by pointing at the role society, mainly through the state, can suffocate the globalisation trend. Although the concept of liberalisation should not be confused with globalisation, it shows clear resemblance with the globalisation concept when deploying Gunning’s definition (in Heins and Van der Veen, 1997: 38). According to Gunning, globalisation is directed to more openness or, to put it differently, to fewer restrictions for international trade in manufactured goods and services and for the flow of labour and capital between countries. Fewer restrictions for international trade in manufactured goods and services points at deregulation on a national level. Deregulation is defined as “a policy that allows the forces of supply and demand to operate free of government interference” (Mariscal, 2002: xx). History has shown, however, that in reforming the market the rules of the game have to be adjusted accordingly. Institutions and the government are needed to guide reform and to allow the forces of supply and demand to interact. Policy is hereby distinguished as decisive in liberalisation. Therefore, the upper part of the model (figure 2.1) is based on the policy decision process as elaborated on by Mariscal (2002). Figure 2.2 exemplifies the policy decision process.

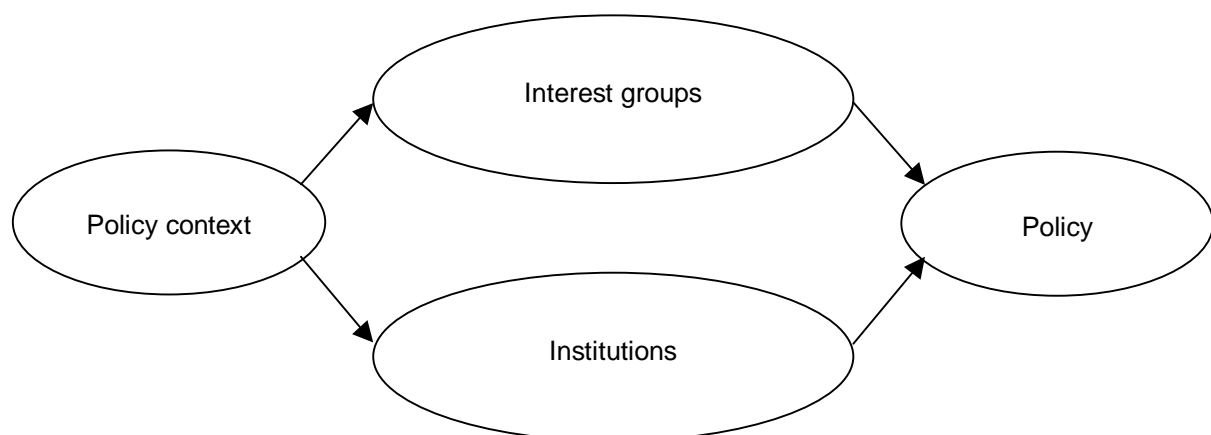


Figure 2.2 The policy decision process

Source: Mariscal, 2002: xvii.

In connection with the need to guide reform to allow the forces of supply and demand to interact, liberalisation thus comprehends both deregulation as well as re-regulation. Besides, liberalisation should not be confused with privatisation. Privatisation is the selling of a state-owned enterprise (SOE) at the stock market or to private consortia by the national government and brings about a change in the ownership structure of a firm. Privatisation and liberalisation do not necessarily coincide. The Mexican government, however, intended privatisation to prepare its Public Telecommunications Operator (PTO) Telmex, on a liberal market. Therefore, privatisation of Telmex in 1990 marks the starting point in the process of reform in Mexico. Liberalisation was actually introduced in 1990 as well. Reform in Telecommunications will be studied from this date and is exemplified by a thick arrow in

figure 2.1. My study focuses on the effect of liberalisation policy for telecommunications development. Since reform is defined as comprising both privatisation and liberalisation, privatisation of Telmex is as well incorporated in the analysis.

It is generally assumed and shown that liberalisation of telecommunications has a positive effect on the sector's development. Castells points, for example, at a "Darwinian undercurrent in enhancing competitiveness, so that best business practices are generally rewarded in the marketplace, while laggard firms are phased out in an increasingly competitive world that has both winners and losers" (2000: 98). Van der Krogt states that competition between firms promotes the development and introduction of new innovative types of value-added services, and ensures competitive prices (1996: 46). Saunders, Warford and Wellenius (1994) discern three major trends causing sector policy reforms, leading to, amongst others, many more players, increased competition, and new services (see figure 2.3). Wallsten (1999) conducted econometric analysis on effects of privatisation, competition and regulation on telecommunications performance in 30 African and Latin American countries. Competition was found to be significantly associated with increases in the per capita number of telephone main-lines, number of payphones, connection capacity, and with decreases in the price of a local call. In opening up to competition, new entrants to the market invest to capture market share. Reform both potentially leads to Gross Domestic Investment (GDI) and Foreign Direct Investment (FDI). In answering the main question, the focus will be on both forms of investment. It is however recognised that FDI may be of particular interest for DCs since FDI is the largest component of external resource flows in DCs (World economic situation and prospects, 2003: 26). Szirmai points at the fact that a significant part of investments in DCs is represented by foreign investment (Szirmai, 2002: 10). Establishing a commercial presence through direct investment is an important mode of delivery for most services, particularly where ongoing contact with consumers is important, like in telecommunications. Long-term benefits include transfer of technology, which in turn will improve productivity that promotes economic growth.

It is, however, also recognised that liberalisation will not automatically lead to the optimal development of markets (Van der Krogt, 1996: 48). The possible negative consequences of a fully deregulated market for basic telecom services are, for example, multiple. The main problem is the threat of unfair competition by the former public or private monopolist, which may result in welfare losses to the consumer. Given the economies of scale and scope and the natural entry barriers in local services and, to a lesser extent, in long-distance services, the former monopolist can use selective predatory pricing and discriminatory terms for network access to avoid competition and to establish monopolistic prices (Van der Krogt, 1996: 51). In turn, foreign participation may have a detrimental influence on national policies. It may, for

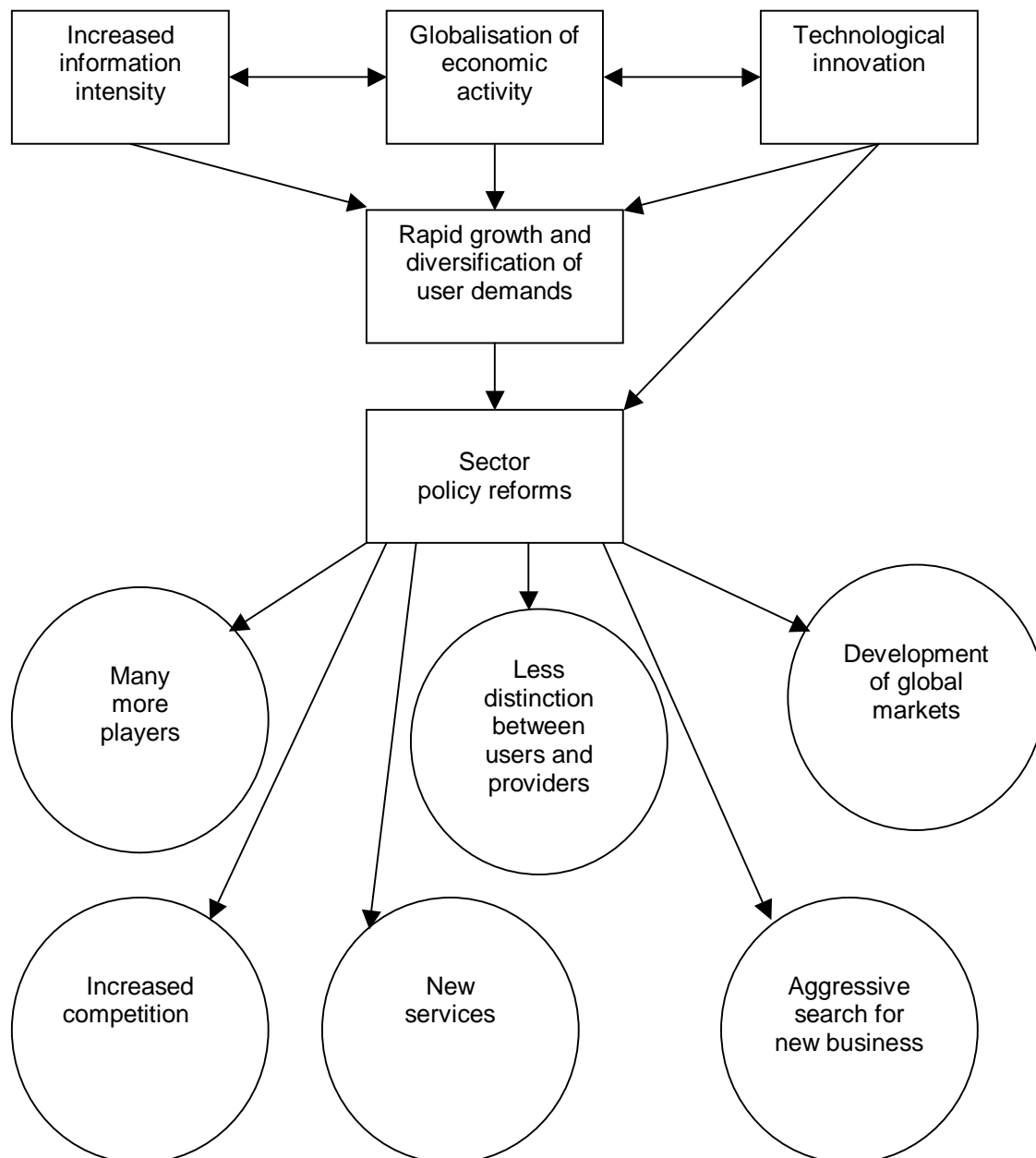


Figure 2.3 Driving forces of reform in the telecommunications sector

Source: Saunders et al., 1994: 306.

example, excavate local producers and undermine local governments' control. National interests may be at stake with an unpleasant future prospect of developed countries' firms dominating their markets before domestic industries are able to mature. McGuire found, however, that FDI is more productive than domestic investment. Rather than crowding out domestic investment, FDI has been found to stimulate such investment (McGuire, 2002).

Based on Mexico's specific situation with regard to liberalisation of telecommunications the consequences hereof are analysed.

§ 2.2 Research questions

For this study one main question and three research questions have been formulated.

“What is the influence of liberalising Mexico’s telecom services industry, on Mexico’s telecom services industry and how does this influence socio-economic development?”

As investments increase as a result of reform, it is of interest to determine what factors or variables attract investments. Then, it has to be established what liberalisation of Mexico’s telecom services industry actually signifies. Determinants of investments will be projected on Mexico’s telecom services industry. Finally, consequences of Mexico’s chosen liberalisation path are addressed. The following research questions explicitly address the working out of the main question.

1. What are determinants of investments into Mexico’s telecom services industry?
2. What does liberalisation of Mexico’s telecom services industry involve?
3. How does this affect telecommunications performance?

Two categories of consequences, which are referred to as socio-economic consequences, are distinguished and will subsequently be subject of study. First of all, the consequences of liberalisation of the telecom services industry for Mexico’s inhabitants will be looked for. This coincides with the objective of universal service: “making it possible for *everyone* to communicate through *low* prices”. This objective is subject of analysis and provides input into the analysis of socio-economic consequences. The next section makes this objective measurable. In the second place, consequences are placed in a wider context, *i.e.* its impact on growth and development will be looked for. This will be done by applying figure 2.1 in which the line of argument unfolds from the policy context, via liberalisation and GDI and FDI to growth and development. Consequences will be connected to growth and development via the role telecommunications plays in an economy. The relation between telecommunications and economic growth is not subject of study in this thesis. Literature referred to in paragraph 2.1 will be used to link developments within Mexico’s telecom services industry with its implications for socio-economic growth.

In answering the research questions and the main question, the following research objective has been formulated.

“To generate insight on Mexico’s specific situation with regard to telecommunications liberalisation in order to determine its impact on growth and socio-economic development”.

Insight provides the Netherlands' Ministry of Foreign Affairs with a transparent view on consequences of liberalisation based on the case of Mexico. This adds to understanding and possibly shows the importance of country specific research in negotiating free trade agreements, like the GATS.

§ 2.3 Research method

This study is based on both quantitative and qualitative research. Quantitative data has been used to analyse telecommunications' performance. This is done by measuring the extent to which the citizens of a country have access to the telephone system (rate of telecommunications penetration). Changes in penetration are used to track progress toward the goal of universal service, which is achieved when everyone is able to communicate through low prices (World Bank and PPIAF, 2002: 21). Main-line penetration (main-lines per capita, or teledensity) is the number of operational fixed-lines in service per 100 inhabitants and is the most common indicator of telecom performance (Wallsten, 1999). As technology evolves, the importance of mobile telephony is growing as it is believed to provide lower population density areas with a suitable alternative to main-line density. The nature of investments into cellular technology is such that, regardless of subscriber density, costs of network infrastructure remain equal (Van der Krogt, 1996: 38). Mobile penetration rates are thus included in the analysis. As telecom services in most DCs continue to fall short of needs, public telephone services (pay phones) are important in order to provide access to telecommunications throughout the country. It provides inhabitants of low main-line density areas the opportunity to communicate (one-way however).⁷ In sum, main-line penetration, mobile penetration, and pay phone penetration figures will be used to analyse industry developments.⁸ Tariffs of telecommunication services are necessarily included in the analysis since, according to the objective of universal service, low-income groups should be granted access to telecom services as well. Data on tariffs were however particularly hard to acquire as telecom operators charge different tariffs. Trends in tariff structures were used to complete the analysis. Quality of services is of importance since it states as well the possibility to be communicated. Bad network quality for example has its influence on communicating everyone.

Applied, exploratory research has been designed to analyse the consequences of reform. More specifically, the investment decision process in Mexico has been subject of scrutiny. Furthermore, retrieved quantitative data is put in perspective. This is needed to address different perspectives (multiformity). Research is based on both semi-structured interviews as

⁷ Wallsten (1999: 6) suggests the percentage of the population within walking distance of a public pay phone as a good indicator of universal service. As data hereon is not available, pay phone penetration, despite its shortcomings, provides a fair alternative.

well as on secondary data. The population of research consists of entities operating in the policy context. As exemplified in figure 2.1 and 2.2 these include institutions and interest groups. Both have been discerned as determinants of policymaking and thus influence the process of liberalisation. For the purpose of this study, institutions are defined as relevant regulating organs. These are regulatory authorities, like the Federal Telecommunications Commission (Comisión Federal de Telecomunicaciones, Cofetel) and the Federal Competition Commission (Comisión Federal de Competencia, CFC) and the government, like the Ministry of Economy (Secretaría de Economía, SE) and the Ministry of Transport and Communications (Secretaría de Comunicaciones y Transportes, SCT). Interest groups include telecom carriers operating in Mexico's telecom services industry. (Regulatory-) managers of both Telmex, as the formerly state owned enterprise (SOE), and its competing telecom operators were approached. Telmex went through the process from privatisation to liberalisation and new entrants experienced Mexico's competitive climate, which is of particular interest. An 'others' or 'independent' category has been discerned for persons formerly affiliated with the industry since they are believed to elaborate more objectively on the subject than the incumbent ones. All mentioned organisations or persons are distinguished as the most important players within Mexico's telecom services industry. Bias is always to be accounted for, though in interviewing individuals not presently and/or directly related to the industry, a more independent perspective is added.

These four interest groups and institutions have been distinguished since they all reflect various (conflicting) interests. The sample taken is thus considered to be representative, which excludes the possibility of random sampling errors. Non-sampling errors are minimised with the inclusion of an 'others' category. I refer to appendix I for an overview of interviewed parties. Understandably, some interviewees requested anonymity. Therefore, information retrieved from all interviews is treated confidential. Within each distinguished group numbers were appointed at random to the interviews. Information retrieved from a specific interview, and referred to throughout this thesis, will be referred to by mentioning the number it has been assigned.

§ 2.3.1 Data collection method

Quantitative data on coverage, tariffs and quality of services was collected over a period of 13 years, starting with the privatisation of Telmex in 1990 and ending with 2002. Evaluation of data retrieved will be on the basis of the objective of universal service. Country comparisons will be used to put data in an international context. Ideal for this purpose are OECD countries and Latin American countries of which Mexico is both respectively a member and culturally affiliated with. For information on coverage and quality of services, Cofetel was approached

⁸ The goal of universal service does not state the technology by which telecom services ought to be delivered.

for most up-to-date data. Country comparisons are as well on the basis of information provided by Cofotel. This ensures equality in methods used.

16 Interviews and even more meetings have been set up among the population of research. The sample size is representative since all different interests are present (regarding my problem definition) and the concerning respondents all held representative, managerial positions. With respect to telecommunications, the most important players on the market have been approached. Selection criteria included market share as well as percentage of foreign ownership as FDI has been discerned as particularly important for development. Semi-structured interviews were developed leaving ample room to change or add questions in particular interviews, given the specific organisational context. Interviews have been held in English and in general an hour duration was accounted for. Contact details were asked in all cases in order to be able to get back on specific issues in case other interviews raised the need for re-questioning. Interviews were taped when no objection existed against the use of a tape-recorder. When the use of a tape-recorder was not desirable, notes were made and worked out immediately after interviewing. Although the highest level of confidentiality was assured, this was the case in 4 interviews. In 3 other cases, the interview setting was such that taping was either impossible or undesirable. I met for example with most ‘independent’ respondents in (noisy, though fancy) restaurants. In some other cases I decided not to use a tape-recorder because several persons attended the meeting. Then, I rather chose to make notes. This means that 9 interviews have been taped and transcribed.

Respondents were selected on the basis of their role within Mexico’s telecom services industry. Contacts were established before going to Mexico, though this proved to be quite a task. A contact was established via the Netherlands’ embassy in Mexico City. Another contact provided me with some contacts of interest with regard to my research. Authors who published before on the subject were asked for their research strategies in Mexico and appendices were looked through for names. Being on the spot was of particular importance in establishing contacts since after my arrival things evolved quite smoothly. In interviewing I asked for contacts in the industry worth the effort to meet up with, in light of my research objective (snowball method).

§ 2.3.2 Data analysis

Saunders, Lewis and Thornhill discern two strategies for qualitative data analysis (2000, 390-192). An inductive, grounded theory approach is chosen for analysis in order to represent the social reality (different perspectives) of the research participants. This approach lends itself particularly well for a case study as the results are derived from the events and circumstances of the setting in which the research is conducted.

Opinions were gathered on different themes as set out in figure 2.1. These included the policy context and liberalisation in particular. Frequent mentioning of specific views with regard to these themes illustrated the importance hereof. Categorisation of data on the

privatisation of Telmex, the liberalisation of the sector and politics involved, revealed three predominant themes: regulation, competition and development. Statements on each theme are shown by 3 variables. Each statement on a variable says something about the theme involved. A total of 9 variables were thus developed on which analysis is based. Retrieved data is mapped in a table as it provides a summarised and workable overview of statements made. Themes discerned are reproduced on the vertical axis. Respondents are recorded on the horizontal axis and classified according to their industry affiliation. This classification corresponds to the one in appendix I: regulatory authorities, government, telecom carriers and an 'others' category. Respondents' dispositions with regard to these themes and their representing variables are rendered in appendix II: perspectives on reform. Their views are of interest to consider distinct interests, assign values hereto and conclude on its impact. This is possible since the sample is considered representative in light of the problem definition. Regulatory authorities, the government and telecom carriers have been distinguished as important determinants of development in this sector and are responsible for tomorrow's telecom services industry. Here, the connection with the research question becomes apparent. In order to conclude on the meaning of telecommunications liberalisation in Mexico for development, the actors responsible for this are of interest. By relating statements on specific variables with others, conclusions will be drawn. Regulation and competition have proven to be important determinants of development. Development as a theme allows for the adoption of a future perspective on the basis of which recommendations can be based.

§ 2.4 Telecommunications defined

Telecommunications contains a wide spectrum of different services. The United Nations' Central Product Classification (CPC) system for service activities is used to describe the sectoral coverage of commitments within the GATS. The GATS Services Sector Classification List breaks down telecommunications into 14 sub-sectors and an 'other' category, which is to be found in table 2.1.

Based on these sub-sectors a division can be made between 'basic telecommunications' (a-g) and 'value added services' (h-n). Basic telecommunications, for example, simply implies the relay of voice or data from sender to receiver. Value-added telecommunication services are telecommunications for which suppliers "add value" to the customer's information by enhancing its form or content or by providing for its storage and retrieval.

Basic telecommunication services account for the largest share of revenues in the fixed communications market and is therefore subject of study. It is as well the largest recipient of investments. In 2001 84.3 percent of total investments into telecommunications went into fixed and cellular phone services (Cofetel). In 2002, a similar percentage is expected to be applicable, illustrating the sector's importance within telecommunications. The focus will thus be on basic telecom services. These services include local and long-distance (LD)

telephone services (provided by both fixed and wireless technology). Internet services will continue to be the fastest-growing segment of the Mexican telecom services industry. This prospect, together with its ever-advancing importance in today's information based society is the reason of inclusion of Internet services in the analysis.

Table 2.1 Telecommunications defined

Basic telecom services	Value added services
a. Voice telephone services;	h. Electronic mail
b. Packet-switched data transmission services	i. Voice mail
c. Circuit-switched data transmission services	j. On-line information and data base retrieval
d. Telex services	k. Electronic data interchange (EDI)
e. Telegraph services	l. Enhanced/value-added facsimile services, incl. Store and forward, store and retrieve
f. Facsimile services	m. Code and protocol conversion
g. Private leased circuit services	n. On-line information and/or data processing (incl. Transaction processing)
	o. Other

§ 2.5 Outline of chapters

This study is organised in the following way. Chapter 3 concerns determinants of investments. Developments within telecommunications are dependent on investments and foreign investment in particular. Accordingly, the thread throughout this thesis is represented by the investment decision process. Figure 2.1 emphasised the importance of the policy context in liberalisation and thus the level of investments. Others factors are however decisive as well for investments into telecommunications. These are discerned in this chapter and a start is made on the analysis hereof by addressing macroeconomic fundamentals. Chapter 3 provides as well for a contextual description out of which reform evolved.

The institutional, regulatory framework will be subject of study in chapter 4. The focus will be on government policies and regulation as their role has been distinguished as decisive in the decision to invest. Hereby, it is determined what liberalisation of Mexico's telecom services industry actually means.

Chapter 5 determines the consequences of reform. The objective of universal service will be subject of study, which will both provide insight in socio-economic consequences and its repercussion on investments.

Primary, qualitative research has been set up to put retrieved quantitative data in perspective and determine the prospect for investments into telecommunications. Data retrieved is subject of analysis in chapter 6.

Conclusions and recommendations will be drawn in chapter 7.

Chapter 3 Determinants of investments

§ 3.1 Introduction

Since investments are of paramount importance in services trade and development, Mexico's telecom services industry's receptivity hereof is of interest to determine its potential to generate growth and development. Therefore, the following research question has to be answered: 'what are determinants of investments into Mexico's telecom services industry'?

The political climate, the economic climate, the regulatory climate and the competitive climate are discerned as determining in the investment decision process. Paragraph 3.2 elaborates on these determinants, which are based on the FDI decision process. The importance of Gross Domestic Investment (GDI) is however not neglected since factors developed are considered generally applicable. Emphasis on distinct determinants will defer, however, but will not change the picture of investments in telecommunications in general. The political climate will be addressed in section 3.3 and the economic climate will be elaborated upon in paragraph 3.4. The context from which developments within telecommunications evolved will be described and conclusions can be drawn with regard to future GDI and FDI inflow into telecommunications, based on Mexico's macroeconomic fundamentals. Mexico's commitments as adhered to in the GATS fits in as indicator of liberalisation on the basis of specific commitments made with regard to telecommunications. These are addressed in paragraph 3.5. Mexico's implementation hereof is of interest (chapter 4) since investors will direct investments on the basis of transparent implementation of regulation. This is deducted from the third distinguished determinant of investments: 'nationalism', 'internal measures' or 'regulatory measures'.

§ 3.2 The investment decision process

Companies must adapt to their environment to survive (contingency perspective). How to adapt is the focus of strategic planning, a procedure of which Ansoff is believed to be the pioneer during the 1970s.⁹ Within the strategic management process, environmental assessment, or environmental analysis as Phatak prefers to call it, focuses on discovery and evaluation of business opportunities and on the threats, problems, and risks associated with them (1989: 54). It involves the analysis of certain factors in the environment that could have a significant positive or negative impact on the operations of a firm, and over which the firm has little or no control (when active in such an environment). Phatak refers to those factors as

⁹ See Ansoff (1972), Mintzberg (1994a/b) and Ansoff (1994) for a discussion on the value of strategic planning. Important for the purpose of reviewing the investment decision process is that most companies engage in strategic management processes (Deresky, 2000: 223).

critical environmental factors (Phatak, 1989: 55). Scanning should focus on the future interests of the firm and should cover the following major variables:

- Political instability. This variable represents a volatile and uncontrollable risk to the multinational corporation. MNCs must carefully assess such risk because it may result in a loss of profitability or even ownership.
- Currency instability. This variable represents another risk; inflation and fluctuations in the exchange rates of currencies can dramatically affect profitability when an MNC is operating overseas. In early 1995, for example, both foreign and local firms got a painful reminder of this risk when Mexico devalued its peso.
- Nationalism. This variable, representing the home government's goals for independence and economic improvement, often influences foreign companies. This may include the imposition of restrictive policies, import controls, equity requirements, local content requirements, limitations on the repatriation of profits, and so forth. Other forms of nationalism may be exerted through the following: (1) pressure from national governments; (2) lax patent and trademark protection laws, which erode a firm's proprietary technology through insufficient protection; and (3) the suitability of infrastructure, such as roads and telecommunications.
- International competition. Conducting an international competitor analysis is perhaps the most important task in environmental assessment and strategy formulation. The first step in analysing the competition is to assess the relevant industry structures as they influence the competitive arena in the particular country (or region) being considered. For example, will the infrastructure support new companies in that industry? Is there room for additional competition? What is the relative supply and demand for the proposed product or service? The ultimate profit potential in the industry in that location will be determined by these kinds of factors.

(Deresky, 2000: 226-228)

McGuire would subscribe to the importance of these variables. He states that the benefits from FDI are enhanced in an environment characterised by open trade and investment, an active competition policy, macroeconomic stability, privatisation, regulatory reform and flexible labour markets (McGuire, 2002: 28-29). GDI is assumed to benefit from the same favourable characteristics.

Since companies have practically no control over these variables, Mexico will be analysed on the basis hereof. The political climate (paragraph 3.3) and the economic climate (paragraph 3.4) will shed light on 'political and currency (in-) stability'. 'Nationalism' is subject of analysis in chapter 4 by addressing regulatory issues. With regard to international

competition, or competition policy, the telecom services industry is subject of study in chapter 5.

§ 3.3 Political climate

It is virtually impossible to address Mexican politics, without referring to the interesting, turbulent past out of which it resulted. Mexico was conquered by Spain in 1521 and remained under Spanish rule until 1821, after 11 years of war for independence. A period of half a century of unrest followed, characterised by cleavage between liberals and conservatives (Keen and Wasserman, 1984: 169). In 1836, Texas (then part of Mexico) declared itself independent and after the definite loss of Texas through annexation by the United States (U.S.) in 1845 came the greater disaster of the Mexican War (1846-1848) (Keen and Wasserman, 1984: 171). Mexico ceded about half of its territory to the U.S. Spain, France and Britain jointly intervened in Mexico in 1862, looking for compensation of seized or destroyed foreign property during the tremendous Three Years' War (1857-1860). After Spain and Britain received assurances of future satisfaction of their claims, the French government pursued. Finally, the French retreated as a consequence of American pressure (Keen and Wasserman, 1984: 176). Benito Juárez took office in 1867. He was, among other things, responsible for the separation of Church and State. Then, from 1876 to 1910 (with interruptions), Porfirio Díaz ruled with economic development as great object (Keen and Wasserman, 1984: 200). Economic development requires political stability. This was achieved through elimination of all effective opposition (Keen and Wasserman, 1984: 201). Its dictatorship proved to be fragile, in the end leading Mexico into revolution. A period of bloodshed was the result and it was not until 1929 that the Partido Nacional Revolucionario (PNR) was founded. Then, from 1934 to 1940, Lázaro Cárdenas became Mexico's president and the PNR changed to PRM (Partido de la Revolución Mexicana). Finally, political stability was achieved. Cárdenas became Mexico's most favoured president in the 20th century by nationalising the railways in 1937 and oil interests, which were originally developed by foreign interests, in 1938. The centre-right PAN (Partido de Acción Nacional) and the left-wing PRD (Partido de la Revolución Democrática) are established in 1939 and 1988 respectively.

The different administrations, despite internal competition and frequent conflict over policy issues, had experienced a long period of overreaching consensus over political action and a shared view of the national economic development project. A so-called presidential system was in place in which the President's decisions were mostly validated by the legislative and, to a lesser extent, the judiciary branches as elaborated upon by Mariscal. Near absolute power was his part since the president could choose all party candidates, including his successor (the president is not to be re-elected). Presidential powers were, however, not unlimited; they were restrained by political networks that contain the relationship between the

state and society, fundamentally the state's alliances with the labour and peasant movements as well as with the business sector (Mariscal, 2002: 37).

In 2000, Vicente Fox Quesada of the centre-right PAN was elected president, which is the first time in the country's long history that one regime has given way to another peacefully (The Economist, 2000: 3). In the same time more than 70 years of PRI domination came to an end. This period is as well referred to as a dictatorial democracy, or an autocracy.

§ 3.3.1 Political outlook

With a change in regime, Mexico is changing from an authoritarian regime to an open democracy, which is the more true when considering the fact that no single party holds the majority of the seats in the Senate and in the Chamber of Deputies. Rivalry among political parties accordingly, has resulted in an extremely slow reform process (Pyramid Research, 2003: 15). The July 2003 mid-term elections have not provided president Fox with a majority in Congress and changes will only be implemented with their support. Consequently, president Fox has its hands tied. Government control for the remainder of Fox's term until 2006 will thus be difficult. At present, deteriorated relations between the PAN and the main opposition party, the PRI, are responsible for a virtual standstill in policymaking (Pyramid Research, 2003: 17).¹⁰

§ 3.4 Economic climate

The Porfirio Díaz administration created the conditions for a large inflow of foreign capital. Mexico became an important contributor to world trade and a key source of raw materials (especially minerals and petroleum) for the industrialised countries (Furtado, 1976: 51). During and after World War II, domestic industry had done well as imports from the fighting countries dried up. President Miguel Alemán Valdés (1946-1952) built hereon by promoting import substitution, imposing high tariffs to protect local industries from foreign competition. The economy flourished: between 1950 and 1970 real GDP per capita nearly doubled, but so did the population (The Economist, 2000: 5). Especially during the presidential periods of Luis Echeverría Álvarez (1970-1976) and José López Portillo (1976-1982) the view was adopted that all main industries in the country should be state controlled companies. The number of SOEs increased from 84 in 1970 to 845 in 1977. Mexico's most important export sector at that time was petroleum (oil accounted for 75 percent of exports). The rise in petroleum in world trade, the discovering of extensive new oil reserves, and rising prices led to euphoria among politicians. Based hereon, investments in this sector were raised significantly, financed by loans. The trade deficit widened, however, and the situation became unsustainable. When the bubble burst, Mexico fell victim of an economic crisis because of its

¹⁰ The deterioration in PAN-PRI relations is the result of investigations into two financing scandals involving their respective presidential campaigns in 2000 (Pyramid Research, 2003: 17).

dependency on oil exports. The peso was devalued for the first time in 22 years. Mexico decreased its dependency on oil substantially since the 1982 collapse of oil prices. During the early 1980s, the *maquila* industry for example, emerged as Mexico's second most important source of export income.¹¹ The trend of 'Mexicanisation' or expropriation was halted by thorough reforms as reaction on the debt crisis of 1982 and decades of import substitution.

§ 3.4.1 Economic reform

The 1980s is also known as the 'lost decade' in Latin American countries in general because of extensive restructuring. Before the debt crises in 1982, the Mexican state had been actively involved in the economy through SOEs which had been created with the intention of attending a multiplicity of goals: the improvement of infrastructure, import substitution, regional development, and the creation of jobs. In 1982, 1,155 SOEs were to be distinguished and they participated in nearly every sector of the economy. The main purpose of these reforms was to privilege market mechanisms in economic activities, which meant reducing the state's direct and indirect involvement in the economy (Máttar et al., 2002: 5). By 1986, Mexico joined the General Agreement on Tariffs and Trade (GATT) and implemented a drastic unilateral reduction in trade barriers. The administration continued liberalising trade, despite the collapse of oil prices in 1986. While in 1982, import permits covered nearly all production; by 1987 only 19 percent of production required these permits. The maximum tariff was cut by $\frac{3}{4}$, and the weighted-average tariff, which was approximately 24 percent in 1982, fell to 11.8 percent in 1987. Non-tariff barriers such as official import prices were eliminated (Krugman, 1996: 141-142).

The unravelling of the state sector began in 1983. Mexico's government launched a privatisation program that dismantled government operations in 49 different industries. It has been one of the most extensive in the world in terms of both size and number of companies privatised (La Porta and Lopez-de-Silanes, 1997). Over the next two years, the number of SOEs was greatly reduced through mainly liquidations and mergers. By June 1992, 361 SOEs had been privatised and the number of firms remaining under state ownership had been reduced to 225. During the Salinas administration (1988-1994), the divestiture of state enterprises took a more explicit character. Larger and more productive enterprises were privatised, among them the fertiliser, steel, mining, airline, and telephone companies (Mariscal, 2002: 46). 96 Percent of all assets privatised were sold during the period 1989-1992. By 1992, the government had withdrawn from most sectors of the economy with the

¹¹ Maquiladoras are the factories that import materials or parts to make goods for re-export. They represent labour-intensive operations such as assembly of vehicles and electrical goods and manufacturing of textiles and furniture. In 2000, the maquila industry made up around 50% of Mexico's total exports and around 40% of total imports (EU, 2002: 2).

exception of oil, petrochemicals, and the provision of major infrastructure services (such as gas, water, electricity, highways, railways and ports).

There is overwhelming evidence that privatisation has had positive effects on profitability and performance of privatised enterprises. When private incentives are allowed to work and corporate governance improves, productive efficiency at the firm level increases (OECD, 2000). In their study on Mexico's privatisation program, La Porta and Lopez-de-Silanes confirm these positive effects (1997). Mariscal points at the positive results of the program as well. The public sector's internal debt was reduced. Privatisation generated income for the government, increased private spending, and set a more efficient management of enterprises (Mariscal, 2002: 45).

§ 3.4.2 Mexico's free trade agreements (FTAs)¹²

One reason why modern Mexican leaders have been signing trade treaties is to make it impossible to revert to the disastrous protectionist policies of the past (The Economist, 2000: 7). Trade treaties lock in a country's economy into the economies of its trading partners. Mexico became a full member of the Asia-Pacific Economic Co-operation (APEC) forum in 1993 and was admitted as a member of the Organisation for Economic Co-operation and Development (OECD) in 1994. Internationally, Mexico signed agreements with Israel and the European Union (EU) (2000). In addition, Mexico continues trade negotiations with Singapore, South Korea and Japan (Pyramid Research, 2003: 21).

On a regional level, the most important FTA is the North American Free Trade Agreement (NAFTA) on which negotiations started from the early 1990s.¹³ NAFTA came into effect on 1 January 1994 and covers tariff and non-tariff concessions, liberalisation of investment and services, rules relating to standards, competition policy, state monopolies and intellectual property rights. Mexico is also a member of the Latin America Integration Association (Asociacion Latinoamericana de Integracion, ALADI). ALADI was set up in 1980 by eleven countries¹⁴ by creating a system of regional and bilateral trade preferences. Preferences may be established for certain ALADI members without extending them to all other parties. Mexico has bilateral FTAs with Costa Rica, Bolivia, Venezuela, and Colombia (1995); Nicaragua (1998); and Chile (1992 and 1998) (Pyramid Research, 2003: 22). Since 2001 Mexico is a member of the Triángulo del Norte (Northern Triangle) trade bloc.¹⁵ Mexico continues efforts to form a regional trading block with the most important trading block in Latin America, the Mercado Comun del Sur (MERCOSUR).¹⁶

¹² Unless otherwise indicated, this paragraph is based on the 'market access and trade barriers database' (EU, 2002).

¹³ NAFTA is a Mexican initiative. Signatories to the agreement are Mexico, the United States and Canada.

¹⁴ Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela.

¹⁵ Guatemala, Honduras and El Salvador.

¹⁶ Comprising Argentina, Brazil, Paraguay and Uruguay.

The above FTAs may widen the scope to diversify trade relations. Although Mexico's exports are now more diversified when compared with the early 1980s, its dependency on its main trading partner, the U.S., is considerable. Nearly nine-tenths of exports go to the U.S. and 74% of imports come from the United States (U.S.). The EU comes second with 6% of total trade in 2000. Other important partners are Japan and Canada (both with about 2.2% of total trade). Mexico's trade with South American countries as a whole is only 2% of total trade.

The applicable trade agreement with regard to liberalisation of telecommunications is the Agreement on Basic Telecommunications (ABT) attached to the GATS. Mexico's commitments and exemptions herein are referred to as representing Mexico's devotion towards opening up its telecom services industry. Basic knowledge of the GATS is needed in order to understand its implications and commitments made. Paragraph 3.5 will elaborate on the GATS and the ABT in particular.

§ 3.4.3 Economic outlook

Right now, Mexico is the second biggest national market in Latin America (after Brazil), the world's 13th largest economy, the eight largest exporter of goods and services (maquiladoras activity included), and fourth largest oil producer. Growth expectations were shattered at the end of 1994 when a sharp devaluation of the peso led to Mexico's worst recession in sixty years (Máttar et al., 2002: 11; The Economist, 2000: 5). The economy shrank by 6.2% in 1995 (see table 3.1). Once the 1995 recession was overcome, growth averaged more than 5% for four years and reached 6.6% in 2000. Because of America's slowing economy and the overall economic situation as elaborated on in the following sub-paragraph (3.4.4.), the Mexican economy slowed significantly in 2001 and is only to recover a bit in 2002.

Table 3.1 Growth in GDP 1990-2002

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001 ^e	2002
Real GDP Growth (%)	5.2	4.2	3.5	1.9	4.5	-6.2	5.2	6.8	5.0	3.6	6.6	-0.3	1.0

e: estimated

Source: INEGI.

Mexico's social situation is characterised by enormous duality, as is the case in other Latin American countries (EU, 2002: 9; Pyramid Research, 2003: 23). Some of the population lives at the level of the most advanced countries in the world. However, poverty still affects large part of the population. In 1998, 15.9 percent earned income below US \$1 a day and 37.7 percent earned less than US \$2 a day. Besides, 10 percent of the lowest income groups earned 1.3 percent of total income, whereas the highest 10 percent earned 41.7 percent (World Development Report, 2003). A growing difference in wealth is to be seen between the modern north and the backward south (The Economist, 2000: 4). Nevertheless, institutions have been

established committing to long-term development. These include a Federal Institution (to oversee the elections), a Human Rights Commission and the Federal Competition Commission (CFC). Courts, the central bank and the electoral authorities have become more independent (The Economist, 2000: 3).

Overall, Mexican macroeconomic fundamentals remain solid, with the Mexican peso showing resilience compared to other Latin American currencies (Pyramid Research, 2003: 15; Goldman Sachs, 2002: 5). Nevertheless, the peso is expected to weaken, before stabilising in 2004 (Pyramid Research, 2003: 20). Macroeconomic fundamentals, however, prove to be shakier just about everywhere else. Furthermore, inequality is greater in Brazil, violence is far more extreme in Colombia, democracy is weakening in Nicaragua and Venezuela just as it is firming up in Mexico, and corruption is more present in a number of countries (The Economist, 2000: 4). This year, as political and economic troubles spread across South American countries, Mexico has emerged largely unscathed, reinforcing the perception that Mexico is no longer a 'Latin American' economy (Pyramid Research, 2003: 21). This is demonstrated by Goldman Sachs' equity research. Although Mexican country risk has been highly correlated with other South American countries like Brazil, Argentina, and Venezuela, Mexico started to decouple from South America at the beginning of 2001 and exhibited clearly differentiated behaviour. Neither the Argentine crisis in 2001 nor the Brazilian volatility caused by the elections had a material impact on Mexico (Goldman Sachs, 2002: 3).

§ 3.4.4 World economic outlook

Mexico becomes ever more integrated into the world economy. As described in paragraph 3.4.2, trade treaties have locked in Mexico's economy with the rest of the world and most importantly with the U.S. Because of the growing interconnectedness of economies in the 21st century, it is of importance to address the world economic situation. Table 3.2 addresses growth of world output and trade from 1993 to 2003.

From this table it can be seen that the world economy was only able to recover minimally after its sharp slowdown in 2001. Recovery in 2002 was not able to take off, mainly due to corporate scandals in major industrial countries and particularly in the U.S. Several Latin American countries showed worsening fiscal and external debt problems (*e.g.* Argentina and Venezuela). Business and consumer confidence, which were strengthening from their low levels in the wake of the terrorist attacks of 11 September 2001, reversed their course during the year. The economic recovery of a large number of countries, and most notably Mexico's economy, depend to a large extent on the health of the economy of the U.S. (World economic situation and prospects, 2003: 5). On the assumption of modest U.S. growth, Mexican GDP is expected to increase by an average of 3.1% per year from 2003 to 2007 (Pyramid Research, 2003: 15). Mexican trade is expected to grow and diversify as a result of improved market access to Europe and Latin America (Pyramid Research, 2003: 20).

Table 3.2 Growth of world output and trade (annual percentage change), 1993-2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 ^e	2003 ^f
World output ¹⁷	1.4	3.0	2.7	3.2	3.5	2.2	3.0	4.0	1.1	1.7	2¾
of which:											
Developed economies	0.9	2.9	2.3	2.7	3.0	2.5	2.8	3.4	0.7	1.3	2¼
Economies in transition	-6.7	-7.2	-0.6	-0.1	2.2	-0.7	3.0	6.3	4.4	3.5	4
Developing economies	5.2	5.6	5.0	5.7	5.4	1.6	3.5	5.8	2.0	2.9	4¼
World trade	4.6	10.5	8.6	5.5	9.2	3.3	5.2	12.3	-0.8	1.9	6¼

e: partly estimated

f: forecasts

Source: World Economic situation and prospects 2003: 2.

§ 3.4.5 FDI

World FDI flows are estimated to have declined by slightly more than a quarter in 2002, to about US \$450 billion (World economic situation and prospects, 2003: 26). Three main factors are to be distinguished: steep falls on world stock markets; a drop in the number of cross-border transactions; and restricted access to enterprise financing (ECLAC, 2002: 19). According to the Economic Commission for Latin America and the Caribbean (ECLAC), net FDI inflows into Latin America and the Caribbean have continued to fall, declining 33 percent from US \$84 billion in 2001 to US \$56.2 billion in 2002 (representing about 10.5% of total world net FDI inflow). In comparison with 2001, the decline in investment flows was proportionally greater than the one observed worldwide (ECLAC, 2002: 23). Although global trends contributed to this reduction in FDI, this decline was also compounded by national and regional factors that influenced the investment decisions taken by MNCs (ECLAC, 2002: 19).

The decline was concentrated in Mexico, where inflows in 2001 were partly inflated by Citigroup's purchase of Grupo Financiero Banamex-Accival (Banamex), which alone accounted for a US \$12.5 billion inflow (see figure 3.1). The rising trend in FDI inflow into Mexico since the 1995 crisis was thus distorted. Excluding that investment, the upward trend is continued in 2002, despite the economic slowdown at home and in the U.S. The composition of flows has, however, changed, with investments in services overtaking investments in manufacturing (ECLAC, 2002: 26). NAFTA has been the main stimulus behind the tripling in FDI into Mexico throughout the 1990s. Not surprisingly, the U.S. is the most important source of foreign investment reaching 86 percent of total FDI inflow in 2000. Canada, the EU and Japan reduced their share (2, 17 and 2.3 percent respectively) (Máttar et al., 2002: 18). Brazil regained the position of largest recipient of FDI in the region, despite a

¹⁷ Calculated as a weighted average of individual country growth rates of gross domestic product (GDP), where weights are based on GDP in 1995 prices and exchange rates.

27 percent decline. As a result, competition for FDI among DCs is intensifying, with host countries adopting a more targeted approach in an effort to attract FDI that conforms with their development strategies and capacities. Mexican authorities have relaxed reporting requirements on new projects and eased restrictions on foreign ownership in some sectors accordingly (Pyramid Research, 2003: 20). Nevertheless, Mexico's investment regulations are not as liberal as those of other countries in the region (*e.g.* compared with Argentina, Chile, and Venezuela) (Máttar et al., 2002: 15).

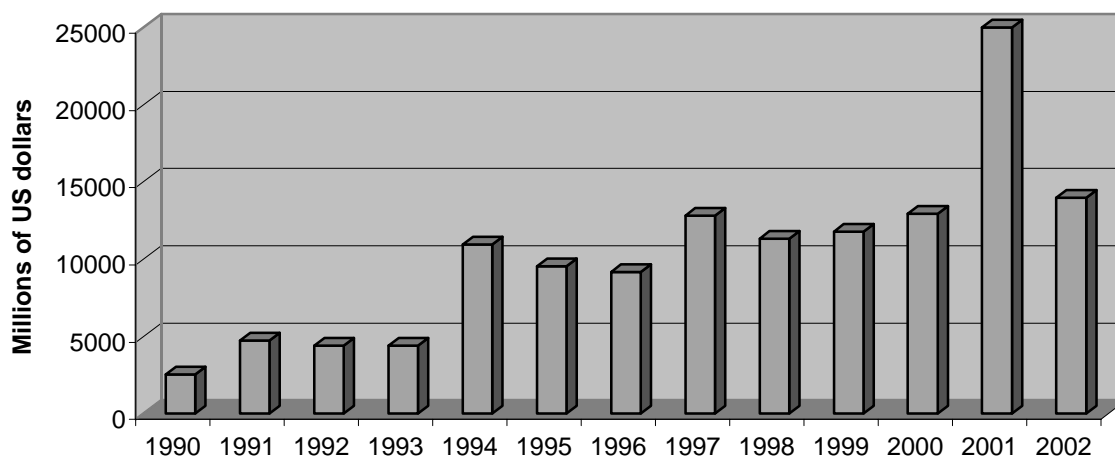


Figure 3.1 Net inflow of FDI to Mexico, 1990-2002^a (millions of US dollars)

a: Net inflows of direct investment in Mexico minus capital taken out of the country by the same foreign firms

Source: ECLAC, 2002.

The extent to which Mexico commits its telecom services industry to liberalisation is thus of particular importance as determinant of FDI inflow. Besides, transparency in implementation of regulation has been discerned as determinant of investments. The applicable free trade agreement with regard to services liberalisation is the GATS. First, general features of the GATS and its relevance will be elaborated upon. Furthermore, Mexico's commitments and exemptions as adhered to in the GATS with regard to telecommunications will shortly be touched at.

§ 3.5 The GATS

With the growing dependence of economies on information and the continuous globalisation trend, proper guidelines are needed in order to prevent people being (involuntarily) excluded from the 'new economy'.¹⁸ The World Trade Organization (WTO), established in 1995, actively participates in pushing for development by means of liberalisation. This should make

¹⁸ This controversial concept is believed to have imploded at the end of the 20th century. I however, still like to refer to this paradigm in terms of its dependence on information in a knowledge based society.

it easier for domestic and foreign companies to do business and would therefore encourage economic growth in all countries. It was not until the Uruguay Round that the General Agreement on Trade in Services (GATS) entered into force as of January 1995. This round was only a first step in a longer-term process of multilateral rule-making and trade liberalisation with regard to the services industry. The GATS aims at the progressive liberalisation of trade in services worldwide. To be more precise, the main objectives of the GATS are the expansion of trade in services, progressive liberalisation of such trade through negotiations, transparency of rules and regulations, and increasing participation of DCs.

The GATS sets out a framework of legally binding rules governing the conduct of world trade in services. The GATS consists of two parts: the framework agreement containing the general rules and disciplines; and the national ‘schedules’ which list individual countries’ specific commitments on access to their domestic markets by foreign suppliers. To start with the latter, each member lists in its national schedule those services for which it wishes to guarantee access to foreign suppliers. All commitments apply then on a non-discriminatory basis to all other members (see GATS’ general rules and guiding principles, paragraph 3.5.1). In addition to the services committed, the schedules limit the degree to which foreign services providers can operate in the market. All services are covered, except those supplied in the exercise of governmental authority, and air traffic and related rights, which are the subject of bilateral agreements. Four ways in which a service can be traded are distinguished:

1. Cross-border trade; is defined to cover services flows from the territory of one member into the territory of another member¹⁹;
2. Consumption abroad; refers to situations where a service consumer moves into another member’s territory to obtain a service;
3. Commercial presence; implies that a service supplier of one member establishes a territorial presence, including through ownership or lease of premises, in another member’s territory to provide a service; and
4. (Temporary) presence of natural persons; consists of persons of one member entering the territory of another member to supply a service (*e.g.* a national of country A supplies construction services in country B). The Annex on Movement of Natural Persons specifies, however, that members remain free to operate measures regarding citizenship, residence or access to the employment market on a permanent basis.

With regard to foreign participation in telecommunications, MNCs’ strategies focus on mode 3: commercial presence (ECLAC, 2002: 35).

¹⁹ Members are defined as those countries that joined the WTO up till now. These include some 144 economies of which most are developing countries.

§ 3.5.1 GATS' general rules and guiding principles

The GATS is based on four principles (see appendix III for the contents of the GATS by article). The 'Most-Favoured-Nation' principle (MFN), or the non-discrimination principle, defines that each government is required to "accord immediately and unconditionally to services and service suppliers of any other member treatment no less favourable than that it accords to like services and service suppliers of any other country".²⁰ Departures from the MFN principle are permitted for the measures listed in the Annex on Article II: Exemptions (Altinger and Enders, 1996: 308). Moreover, the GATS respects regional integration as an exception to the MFN principle. In addition it allows measures that prevent member states from benefiting from the benefits enjoyed through trade with direct neighbours or in locally produced products.²¹ The second principle is 'proportionality'. Article VI for example stipulates that requirements a service supplier has to live up to are not more burdensome than necessary to ensure the quality of that service. Article XIV provides member states with the general exceptions. It covers a broad range of exceptions that should be based on legitimate reasons. In practice the concept 'legitimate reason' can cover a broad array of arguments to limit the liberalisation of services. 'National Treatment' is the third general principle.²² When a foreign supplier of services enters the market, he should not have to live up to other or higher demands than his domestic competitors on that market. Finally, the principle of 'transparency' requires each government to publish all measures of general application for services (laws, regulations, rules, procedures, decisions, administrative actions), including domestic regulations and international agreements, as well as changes thereto.²³ WTO members are required to promptly respond to requests for information by other members, and establish enquiry points. This will make it possible for member states to know to what standards they have to live up to and can get information about market access.

Those principles are likely to augment the scope for trade and competition in services. Revealing the policy regime in services will enhance the quality of the domestic debate on services liberalisation. With foreign service suppliers more aware of the business opportunities that exist in other countries, the scope for competition in the domestic services market will be enhanced. Equal treatment of services from different origins will help ensure that consumers have access to the most competitive foreign providers of services. However, they do not necessarily lead to liberalisation or limit the scope for policy reversals (Altinger and Enders, 1996: 309). On the other hand, Drake and Noam raise question marks as to the effectiveness of such a multilateral FTA. The WTO is characterised by limited processing capacity and a high level of bureaucracy. The benefits of any new international collaboration

²⁰ Art. II.

²¹ Art. II.3.

²² Art. XVII.

²³ Art. III.

must be weighted against the transaction costs incurred, and in particular against the risk that multilateralism may reduce policy innovation at the national level (Drake and Noam in Hufbauer and Wada, 1997: 59).

§ 3.5.2 Categories of commitments

Entries in the schedules of commitments fall into one of three categories. ‘None or no limitations’, refers to the case that a country is committing itself to ensuring that there are no restrictions which are inconsistent with GATS rules covering participation in the market by foreign service suppliers. In the market access column, none means that foreign service suppliers are free to enter the market, while in the national treatment column, none means that the foreign service supplier is guaranteed the same level of fair treatment as domestic counterparts. ‘Unbound’ means that a country has not bound its actions for a particular sector and mode of supply; in effect it is making no commitment either to open-up its market or to keep it as open as it was at the time of accession to the WTO. This does not mean that the market is necessarily closed to foreigners, but does mean that the country is not bound by any commitment to maintain a certain level of openness in the future. All other entries describe in detail the measures otherwise inconsistent with market access or national treatment, which the government reserves the right to apply.

The agreement allows a high level of flexibility. Member governments are able to choose those service sectors or sub-sectors on which they will make commitments guaranteeing the right of foreign suppliers to provide the service. Governments are also allowed to set limitations on those services that are committed, specifying the level of market access and the degree of national treatment they are prepared to guarantee. Limitations to one of the four modes of supply are permitted as well and commitments may be withdrawn or renegotiated. Finally, Governments may take exemptions, in principle limited to ten years, from the MFN principle, which is otherwise applicable to all services, whether scheduled or not (WTO, 2001: 6-7). Developing countries are expected to commit according to their development situation. This is the reason that commitments of DCs are in general less extensive than those of developed countries as elaborated on in chapter 1.

§ 3.5.3 The Agreement on Basic Telecommunications

Negotiations on the liberalisation of the telecom services industry evolved from the Uruguay Round. Hereafter, negotiations were extended under auspices of the Negotiating Group on Basic Telecommunications (NGBT). Negotiations began in May 1994 and finally, when the Group on Basic Telecommunications (GBT) was responsible for implementing the further extension of negotiations, the talks had resulted in offers from 69 governments (contained in

55 schedules²⁴) of legally binding commitments to open some or all of the participating countries' basic telecommunications market to foreign competition. The conclusion of the negotiations was recorded in the Fourth Protocol to the GATS on basic telecommunications services, which entered into force on February 5, 1998.

Another 48 WTO members undertook additional commitments on regulatory principles on the basis of the so-called 'Reference Paper', which lays out six key principles for the redesign of national regulatory rules and institutions to ensure compatibility with trade disciplines. Principles are formulated on issues such as interconnection, anti-competitive practices, licensing conditions, scarce resources, universal service and independence of the regulatory authorities. The approach adopted by the Reference Paper aims at striking a balance between two objectives: international market openness and national sovereignty. In order to accommodate all the different regulatory regimes, these principles are general and non-binding. Nevertheless, Blouin sees the Reference Paper as a strength (2000). In practice, the Reference Paper will make regulatory requirements and governmental policies of different jurisdictions more similar and will result in a certain amount of policy convergence. Nevertheless, it remains that the objective is only to provide guidelines to respect. Drake and Noam describe the agreement to create a Reference Paper on regulatory reform as the biggest conceptual and policy breakthrough in the process (in Hufbauer and Wada, 1997: 37).

§ 3.5.4 Mexico's commitments and exemptions²⁵

Mexico commits to the Reference Paper on regulatory principles. Excluded from the agreement are Radio broadcasting, cable television, satellite transmissions of DTH and DBS services and of audio-digital services. With regard to cross-border supply it is stated that "international traffic must be routed through the facilities of an enterprise that has a concession granted by the Secretary of Transport and Communications (Secretaría de Comunicaciones y Transportes, SCT)". With regard to commercial presence "a concession from the SCT is required". Furthermore FDI up to 49 percent is permitted in an enterprise set up in accordance with Mexican law. Excluded here from are cellular telephone services for which permission is required from the Foreign Investment Commission for a greater level of foreign participation. Telecomunicaciones de México (Telecomm) has exclusive rights to links with Intelsat and Inmarsat. Services other than international long-distance services that require use of satellites must use Mexican satellite infrastructure until the year 2002.

McGuire concludes that Mexico is moderately restricted. Moderate limitations on FDI in telecommunications are in place. Its restrictions on access to leased lines and networks are similar to those of the most restricted economies. Actual implementation of the ABT is of

²⁴ The European Commission negotiates on behalf of European Union member governments and submitted one schedule for all of them, hence the numerical discrepancy.

interest, since the GATS acknowledges the importance of internal measures as potential barriers to trade. Regulatory measures can impede market access in many ways, even if regulation is applied in a non-discriminatory manner to domestic and foreign firms.

§ 3.6 Summary and conclusions

Four variables, or ‘critical environmental factors’ have been distinguished as decisive in the investment decision process. These are: political instability, currency instability, nationalism, and international competition. This chapter elaborated on the former two by addressing the political and the economic climate.

The political landscape has changed considerably with a change in regime after more than 70 years of a so-called dictatorial democracy. A more open democracy may be the result in the long run. Short-term obstacles have to be dealt with, however, since no single one party holds the majority in Congress. This is the main reason for a standstill in policymaking, contributing to uncertainty.

Mexico’s macroeconomic fundamentals are projected to remain solid with a resilient peso when compared with other Latin American countries. Mexico diversified the nature of trade, but remains highly dependent on the U.S. economy. Its numerous signed free trade agreements (FTAs) may widen the scope for diversifying trade relations. ‘May’ since its investment regulations are not as liberal as those of other countries in the region. Mexico’s commitments and exemptions as adhered to in the GATS with regard to telecommunications are to be labelled as relative restrictive. Nevertheless, FTAs secured or locked in, long-term economic dedication to open up the economy. A binding commitment to keep a sector open to foreign competition provides investors with the certainty and predictability that domestic, unilateral liberalisation alone cannot give. The ‘insurance policy’ aspect of these agreements should therefore, not be neglected. It has been determined that compliance with FTAs in general is an indicator of certainty and predictability. Actual implementation of commitments as adhered to in the GATS is accordingly of interest

Internal, or regulatory measures have been distinguished as variables of market openness. These measures show clear resemblance with the distinguished critical environmental factor ‘nationalism’ and are subject of study in the next chapter by addressing the institutional framework.

²⁵ This enumeration is by no means exhaustive. For a complete overview on commitments and exemptions on telecommunication services I refer to the schedules themselves included in appendix IV. Commitments and exemptions assimilated here are to provide an impression on Mexico’s commitments and exemptions.

Chapter 4 Institutional framework

§ 4.1 Introduction

As discerned in chapter 3, the investment decision process is dependent as well on the factor ‘nationalism’ or ‘internal measures’ and has been discerned of particular interest for foreign companies. In order to determine the influence hereof, it has to be established what liberalisation of Mexico’s telecom services industry actually constitutes. Then, by comparing Mexico’s actual commitment towards liberalisation with its commitments on telecommunications made in the GATS, certainty and predictability are assessed. The following research question has been formulated: ‘what does liberalisation of Mexico’s telecom services industry involve’?

The context in which reform took place is of interest in paragraph 4.2, by addressing the driving forces underlying reform. Privatisation of Telmex is subject of discussion in paragraph 4.3. Paragraph 4.4 assesses Mexico’s telecommunications regulatory framework.

§ 4.2 Driving forces underlying reform

In most industrial countries, telecommunications services were provided on a monopoly basis by government departments or state enterprises. Telecommunications used to be regarded as a natural monopoly and a relatively straightforward public utility. Economies of scale, political and military sensitivities, and large externalities made telecommunications a typical public service (Saunders et al., 1994: 305). In fact, these monopolies generally succeeded in building and profitably operating national infrastructures, meeting the demand for basic telephone services, and introducing more advanced services. During the 1960s and the 1970s, however, policymakers gradually began to recognise telecommunications systems as essential infrastructure for economic development. In the 1980s, major structural changes took place. Three major causes are identified underlying the fundamental changes in the telecom sector (Saunders et al., 1994: 304-305; Van Marrewijk, 1999: 74-76). First, the growing number of multinationals led to an increase in the demand of cheap global telecom networks. In the 1980s, information came to be regarded as a fundamental factor of production, along with traditional factors like capital, land and labour. Economic activity became increasingly intensive in information, and the globalisation of capital flows, trade, manufacturing, and other activities advanced. This produced a strong demand for better, more varied, and less costly communication and information services. Public telecommunications operators (PTOs) have not managed to meet these needs for a long time, which led multinationals to invest huge budgets to create their own global private networks (Van Marrewijk, 1999: 76). An example hereof is the creation of Infratel, a company that provided Mexico’s largest bank Banamex

with telecom services.²⁶ Second, an ideological wave of free market competition, liberalisation, privatisation and deregulation has changed the telecom sector. Third, growth in demand became intertwined with rapid changes in telecommunications technology and led to a convergence of telecommunication technologies and services. Advances in microelectronics, software, and optics fuelled changes in technology. These changes have greatly reduced the cost of transmitting and processing information, altered the cost structures of telecommunications and many other industries, created new ways of meeting a wider range of communication needs at lower cost, and reduced the dependence of users on established telecommunications operating companies. The driving forces underlying reform in the telecommunications sector are summarised in figure 2.3.

Deregulation and divestiture of the Bell system in the U.S. were followed by privatisation and the introduction of competition in the United Kingdom (U.K.), Japan and Australia and New Zealand. By the early 1990s, virtually all OECD countries were in the midst of, or had completed, restructuring their telecommunications sectors. Overall, these reforms increased the system's ability to satisfy user needs, greatly broadened user choices, increased productivity, and reduced prices. Governments of developing countries (DCs) realised the need of restructuring and the movement toward change was driven by the same factors underlying reforms in the industrial world, amplified by five additional factors:

- State monopolies had reached the limit of their ability to accelerate the supply of telecommunications services. In particular, governments realised that they could not provide the huge amounts of capital required to catch up with demand;
- In recent years, many developing countries have begun to adopt market-oriented economic strategies, including measures to liberalise trade, promote competition, deregulate financial and capital markets, reduce restrictions on foreign investment, and restructure public enterprises. In order for these broad economic reforms to be effectively implemented, adequate telecommunications infrastructures urgently needed to be developed;
- Popularly elected governments found that public dissatisfaction with service and, in many countries, extensive corruption of telephone company personnel resulted in widespread public support for major reform initiatives;
- Parallel changes in the telecommunications sectors of industrial countries raised international awareness of a wide range of sectoral policy issues and options and demonstrated the viability and increasing political desirability of alternatives to a state monopoly;

²⁶ With the creation of Avantel by Banamex and MCI (now WorldCom), Infratel was incorporated into the former.

- Telecommunications operating companies in industrial countries, repositioning themselves in their own changing domestic and regional markets, aggressively pursued new business opportunities in developing countries.

(Saunders et al., 1994: 308-310)

In order to evaluate telecommunications reform in Mexico, the underlying reasons to privatise Telmex and liberalise the sector are of interest.

§ 4.3 Privatisation of Telmex

Although the origin of the telephone industry in Mexico dates back to 1881, it was not until 1947 that Telmex was established as a private national monopoly. Telmex was the result of the merger between the U.S. firm International Telephone and Telegraph Co. (ITT) and the Swedish firm L.M. Ericsson. The Alemán administration (1946-1952) forced the merger of the two telephone systems because they refused to interconnect each other (for a more extensive overview of Mexico's telecommunications history see Mariscal).

Telmex began to develop as a very successful enterprise. The Echeverría administration (1970-1976) reckoned the strategic importance of telecommunications (as it did with other sectors as exemplified in chapter 3) and decided to establish a telephone tax, in addition to the regular taxes. The nature of that tax was to foster investments in the company, by re-investing tax revenues. Hereby, the government began to get increasingly involved in Telmex.²⁷ This culminated in the purchase of Telmex's majority shares in 1972. Mariscal explains this process of 'Mexicanisation' as culminating from the adherence of the government to the import substitution model within the economy at large (2002: 70). Revenues generated were, however, not totally reinvested into Telmex.²⁸ Parts of those tax revenues were dedicated to other purposes. The company hereby became a tax collector for the government. The 1982 financial crisis in Mexico had a strong impact on Telmex, though despite its poor performance, Telmex remained profitable. Mexico's PTO faced operational and management problems and was hampered by its dual autonomy to take the appropriate decisions on investments, demand and so on.²⁹ Telmex's poor performance clearly indicated the need for sectoral reform.

On a more general level, the government's devotion towards a more open economy (as outlined in paragraph 4.2) became apparent. Reform of Mexico's telecom services industry

²⁷ Interview 6: 2.

²⁸ Interview 6: 2.

²⁹ In 1982/1983 the investment budget for those years was not approved until October of the same year. It took 10 months of proceedings to get the approval for the investment budget that should have been approved 10 months before. This example illustrates the irrational situation back in those days. Government limitations became also Telmex's limitations (Interview 6: 2).

(containing the privatisation of Telmex and the liberalisation of the sector) fits in this neo-liberal movement of the middle 1980s of trade liberalisation as an answer on years of import-substitution. The additional factors pointed at by Saunders Warford and Wellenius in paragraph 3.1, responsible for reform of telecommunications in especially DCs, are as well responsible for change within Mexico's telecom services industry. The inability of the government to provide the huge amounts of capital required to catch up with demand has been mentioned as the most important factor underlying reform.³⁰ The 1985 earthquake destroyed lots of Telmex infrastructure and investments were needed to restore the network. Telmex's investments would, however, directly raise the government's budgetary debt, which was subject to some stringent limitations. The International Monetary Fund (IMF), intervening in Mexico during the debt crisis in the 1980s, imposed these limitations.³¹ Privatisation seemed the solution to cope with the challenges at hand.

The reason why SOEs have been considered in the past within practically all industries are the instruments they form capable of curing market failures by implementing pricing policies that take account of social marginal costs according to the 'social view' on privatisation. The 'agency view' however, argues that managers of SOEs may lack high-powered incentives or may not be properly monitored according to the 'managerial view' (Vickers and Yarrow, 1988). The 'political view' stresses that political interference in the firm results in excessive employment, poor choices of product and location, lack of investment, and ill-defined incentives for managers. Paragraph 4.2 pointed at the applicability of both the agency view and the political view on privatisation in the decision to privatise Telmex. Benefits of scale and scope were, as a consequence, not reaped and the government was thus not able to expand the benefits of telecommunications to the community at large.³² In September 1989, the government announced its intention to sell Telmex. The following objectives were pursued by the government:

- Guarantee the State's control of the telecommunications sector;
- Radically upgrade telephone service;
- Guarantee the rights of workers;
- Conduct research and development in order to strengthen the sovereignty of the country; and
- Maintain telecommunications under control of a Mexican majority.

(Mariscal, 2002: 75)

³⁰ Interview 2; 8.

³¹ Interview 6: 2.

³² Interview 6: 2.

The original ownership structure changed in 1990 as can be seen in table 4.1.

Table 4.1 Ownership structure of Telmex

Original structure	Modified structure
51% share of series AA	20.4% of shares series AA
49% share series A	19.6% of shares series A
	60% of shares series L (limited voting rights)

Source: Annual report Telmex 1990 cited by Escobar de Medécigo, 1999: 12.

In December 1990 the control of Telmex was transferred to a consortium including Grupo Carso (a Mexican conglomerate owned by Carlos Slim), Southwestern Bell Corporation (SBC) and France Telecom. This consortium bought 20.4% of the social capital of the firm representing type “AA” shares. This 20.4 percent controlling stake yielded US \$1,757 billion for the government. The remaining government shares in the company were sold through public offerings and private sales, which raised more than US \$6 billion according to the World Bank and Public-Private Infrastructure Advisory Facility (PPIAF) (2002: 17). The decision to maintain a vertically integrated firm was mainly based on short-term needs, impatience in selling the PTO, and the establishment of new alliances between the government and the private sector, as well as the labour union (Mariscal, 2002: 26).

Operating as a private entity, a different culture and different decision making procedures became manifest and changed operations for the better.³³ Telmex has been able to focus efforts at efficient operations. As a result, Forbes Magazine declared Telmex the world’s most efficient company in 2001. Telmex’s EBITDA margin in that very same year was 54% compared with an average among telecom carriers like Bell South, Telefónica, Verizon, BT and NTT of 38%.

§ 4.4 Regulatory framework

Until 1996, formal regulation was limited to enforcement by the Ministry of Transport and Communications (SCT). Telmex got its concession title (license to do business) from the SCT, which obliged Telmex to modernise (digitalise) the network (as a necessary prerequisite to provide interconnection) and expand coverage. To be more precise, Telmex had to expand lines by 12 percent per year until 1994, reduce the waiting period for repairs, improve quality of services, and improve services in rural areas (at least one telephone in each town with 500 inhabitants or more by 1994). Telmex had to pay a fine for not complying with the agreement on quality of services in certain geographic areas in 1990, the first year of operating as a private company.³⁴ Except for this, Telmex was able to comply with the goals on quality of

³³ Interview 6: 2.

³⁴ Interview 6: 2.

services and also with rural public telephone coverage. Within this concession title it was determined that Telmex would preserve its monopoly on long-distance telephony until 1996. This six-year monopoly was accounted for to allow Telmex to rebalance the tariffs between long-distance (LD) and local services. Local services were generally subsidised by revenues generated from highly profitable LD services (see figure 4.1) and in order for competition to take place, transparent prices had to be established. Another reason for this six-year period of monopoly on LD services was to make Telmex an attractive opportunity to invest in. It has definitely increased the value of Telmex and thereby the amount of money yielded from privatisation.

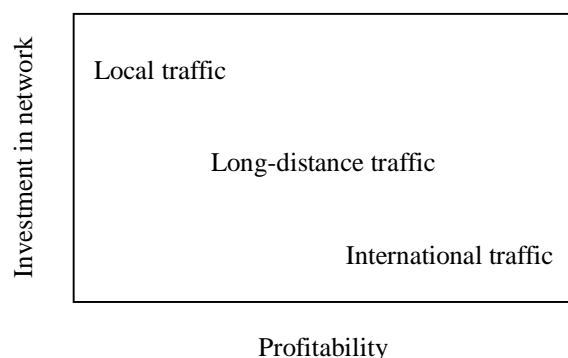


Figure 4.1 Profits of international and national telephone traffic

Source: Van Marrewijk, 1999: 85.

No truly autonomous body was created until 1993, the establishment of the Federal Competition Commission (CFC). The CFC, created together with the taking into effect of the Federal Law of Economic Competition, is an agency with technical and operational independence responsible for enforcement of antitrust law. Its influence on the telecom services industry is significant as controller of monopolistic practices. In 1995, Federal Telecommunications Law (Ley Federal de Telecomunicaciones, LFT) was enacted, five years after the government set in motion the liberalisation of Mexico's telecom services industry.

§ 4.4.1 The LFT

The law of 1931 (Ley sobre Vías Generales de Comunicación y Medios de Transporte) had to be changed prior to the introduction of competition. With the privatisation of Telmex in 1990, no attempts however were made to work on a new law, though the need for a new one was pretty obvious. Time was needed to draw a new law, but after Salinas' period (which ended in 1994) no draft was ready.³⁵ Since the market for long-distance telephony was opened up as of August 1996, haste was needed to pass a new law. The Zedillo government settled in December 1994 and in May 1995, the law was passed. Before the passing of the law, the industry was in uncertainty about the regulatory environment within Mexico. Speed was

³⁵ Interview 16: 2.

needed to pass the law to provide the industry with clear guidelines on the market, to secure investments.

The LFT opens to competition all segments of the market. Concessions are required to operate public telecommunication networks and the use for radio spectrum and satellite orbital slots are awarded through competitive bidding. Value-added service providers only need to be registered. The law confirms SCT authority to manage the use of spectrum auctions, to issue new concessions, to solve issues of interconnection, and also envisions the founding of an independent regulatory authority (Mariscal, 2002: 77-78). The spirit of the LFT is pro-competitive; it establishes a basic institutional framework for effective regulation of networks. It furthermore favours telecom infrastructure development and wide-scale competition over generating revenue for the government (Pyramid Research, 2003: 42).

Mariscal points at several issues that have been subject to controversies (2002: 78). One of these is the requirement for facilities-based competition; in order to promote network expansion, the law obligated new providers to build new infrastructure. In some instances, this requirement forced operators to build more infrastructure than originally planned and thus discourages competition and may limit the overall level of investments. Additionally, the LFT does not provide sufficient independence of the regulator from the government. The law does not provide sufficient detail, leaving ample room for confusion and loopholes that operators can, and have taken, advantage of. All the firms in the industry have filed litigations against Cofetel's decisions and resolutions. The Mexican judicial system provides a legal recourse, *amparos*, or legal suits that allows a plaintiff to demand a temporary suspension of regulatory actions when he or she considers regulatory resolutions to have violated their constitutional rights. *Amparos* have been used frequently by both the incumbent and competing operators alike, to avoid fulfilling Cofetel's sanctions (Pyramid Research, 2003: 30). Given the fact that the court system operates slowly, *amparos* have remained in place for two to three years. The result has been a temporary suspension of most regulatory decisions. As of November 2002, there were at least 60 *amparos* pending between Telmex and Cofetel (Pyramid Research, 2003: 30).

Before competition took off on LD services as of January 1997, issues were resolved in a different manner. The entrance of mostly American carriers changed the business climate and issues were rather solved in court. This was in contradiction with Mexican business culture and this 'new', 'aggressive' way of resolving disputes had not been accounted for in drawing the 1995 law, which left Cofetel with insufficient means to enforce regulation. It was not until 2000 that telecom carriers, after 4 years of fighting, settled issues among themselves.

The last couple of years, efforts have been directed towards the revision of the LFT. In 2000 a PAN Senator promoted a meeting to focus efforts within the industry at the same direction. Mexican Congress appointed a commission of Senators and Congressmen the same year to work on initiatives and to gather opinions. No new law resulted from these efforts however.

In fact, both initiatives added to the polarisation of the debate (Pyramid Research, 2003: 42). Congress is highly divided and the future prospect for a new law does not seem that promising since mid-term elections in July 2003 have not changed this situation.

§ 4.4.2 The regulatory authority

Several transitory articles attached to the law arranged the institutionalisation of a regulatory authority.³⁶ In 1996, Cofetel was created by presidential decree. Most day-to-day regulatory functions were delegated to this agency. Cofetel's main concerns are healthy competition and protection of national interests, *i.e.* coverage throughout Mexico against affordable prices and sufficient quality. Cofetel is responsible for execution and compliance, that is, enacting regulations and technical standards; ensuring that holders comply with the terms of their concessions and permits; suspending operators without concessions; resolving interconnection disputes between competitors; and maintaining a registry of applicable rates. Cofetel is a semi-autonomous entity of the SCT. Cofetel's dependence on the government is best illustrated by the appointment of the first president who happened to be the vice-Minister within the SCT. Initially such a dependency relationship seems inevitable since such an authority needs resources (human capital, money) in order to start operations.³⁷ It is on the basis of resources that Cofetel remains highly dependent on the government via Treasury (Hacienda). Furthermore, Cofetel's board members do not have fixed terms. In fact, between 2000 and 2001, Cofetel's board had a vacancy, inhibiting its ability to move forward (Pyramid Research, 2003: 30).

The SCT is the telecommunications policy-maker, and retains the authority to grant all concessions and permits. Cofetel makes recommendations to the SCT on major issues, such as amending existing telecommunications laws and regulations, allocating spectrum, granting, transferring, renewing or revoking concessions and applying penalties for concession violations. Recommendations are however not binding, which leaves the SCT with final decision-making power on these issues. Once a final decision is made, Cofetel implements the related regulations (Briceño, 2000: 6). Furthermore, functions and agencies overlap in the regulatory system. Within Cofetel, authorities and responsibilities are in unbalance, causing situations of stress. Cofetel's number one responsibility is to further competition, but no proper means are reserved for Cofetel to reach this objective. This leaves Cofetel to operate in a vacuum.

In the following paragraphs the process of applying for a concession, interconnection policy and price cap regulation will be elaborated upon to illustrate the effect of the regulatory climate on 'internal measures', the third distinguished determinant of investments as discerned in chapter 3.

³⁶ Transitive article 11 to the LFT arranges the institutionalisation of an independent regulatory body.

³⁷ Interview 16: 3.

§ 4.4.3 Concessions

Applying for a concession entails a far more elaborate specification of the facilities and services that the carrier will offer than would be the case if entrants required licenses or permits. To grant a concession, Cofetel is required to review an entrant's detailed business plan and its technical and financial competence to provide the service described in the plan. The premise behind concession review is that public oversight is needed to ensure that a carrier offers adequate service at reasonable prices. Such reviews can have substantial value in a monopolised market or when a licensee uses a public resource that offers limited opportunities for competition. Careful reviews of entrants serve no valid purpose when a market is competitive and where customers decide whether to patronise a new entrant. Thus a concession process is unnecessary for these cases, and forces Cofetel to use its (already very limited) resources in unproductive ways (World Bank, 2002: 21).

If however all the prerequisites for a concession title have been met, the granting of such a concession by the SCT remains uncertain. This is best illustrated with an example. The use of Mexican satellite infrastructure until 2002 was mandatory (see paragraph 3.5.4 and appendix IV), though requests for concession titles to operate in this market were only considered after 2002, which delayed developments within this specific sector with a year. Until now, a Dutch satellite company, New Skies Satellites, has not been granted a concession. To make it even more complicated, Mexican law states that Mexico has to have a reciprocity agreement with the country in which a new entrant is based (the Netherlands in this case). Although such agreements exist with Canada, the U.S., and Argentina, such an agreement does not exist with the Netherlands.

§ 4.4.4 Interconnection policy

Interconnection allows customers from one network to communicate with customers using another network and use the services provided by another network. Interconnection is a necessary condition in order for competition to work. It provides the owner of infrastructure a reimbursement for construction. Costs of network development are mirrored in interconnection rates.³⁸ Article 42 of the LFT establishes that all carriers have to interconnect each other and reach an agreement hereon. It furthermore provides a generic obligation that Telmex's interconnection charges must be non-discriminatory, cost-based, and publicly available (based on a resolution on interconnection published by the SCT in 1994). Although the LFT does include the basic steps for the creation of an interconnection framework, the law leaves it up to the carriers themselves to negotiate interconnection rates on a bilateral basis. This process has been seriously disturbed by a lack of transparency on the side of the incumbent. Since 1997, Telmex refused to provide information on costs. The concessionaires have a period of 60 days from the date one party requests interconnection to the other party to

³⁸ Interview 7.

reach agreement hereon. Cofetel³⁹ is entitled to intervene if the parties do not reach an agreement after 60 calendar days to take a decision regarding those issues on which the parties have failed to reach agreement (OECD, 2001: 40). In practice however, 60 days are not always complied with, hindering compatibility of services provided.

Interconnection rates are thus the result of a laborious process. The main reason for this is to be found in Telmex's process of rebalancing the tariffs between local and long-distance telephony. Telmex was granted a five-year exclusivity period, with the option to extend the period if it exceeded the network build out requirements as established in its concession title.⁴⁰ This exclusivity period was granted in order to allow Telmex to rebalance those tariffs, according to a predetermined calendar system providing for quarterly adjustments. The target was to raise prices on local services until these were high enough to recoup the costs. The severe 'Tequila' crisis of 1994/1995 made Telmex abandon the schedule to rebalance the rates. Consequently, telecom carriers did not reach agreement and Cofetel was asked to intervene. Since Telmex refused to provide information on costs, the regulator needed to base interconnection rates on assumptions. Again, these assumptions have been subject to litigation since the regulatory authority is not supposed to develop the method. The model thus lacked a legal foundation. In between 1998 and 2000 tariff balancing was terminated. It was not until 2001 that the largest telecom operators in Mexico finally reached an agreement, putting an end to a vicious cycle of disputes. Interconnection rates that have to be paid are rendered in table 4.2.

Table 4.2 Mexico's interconnection rates, 1997-2002 (US \$ per minute)

Service	(1997-1998)	(1999-2000)	2001	2002
Long-distance (transport)	0.057	0.0261	0.0125	0.00975
Local (termination)	n.a.	0.0261	0.0125	0.00975
Mobile-fixed	0.0261	0.0261	0.0261	0.0261
Fixed-mobile	0.19	0.18	0.18	0.18

n.a.: not applicable

Source: Pyramid Research, 2003: 38.

Nevertheless, Telmex remains in a structural beneficiary position as a result of its extensive telecommunications infrastructure. When competitors are expanding operations, interconnection has to be requested beforehand. In this way, Telmex is always knowledgeable

³⁹ The law was drawn without the existence of a regulatory authority. Therefore the SCT is responsible for eventually attending meetings between carriers to reach an agreement. The SCT transferred this responsibility to the regulatory authority when it was institutionalised.

⁴⁰ It managed to do so and the period was extended to August 1996. I refer to Wallsten (2000) for the effects of exclusivity periods.

about its competitors' implementation of strategies and is in the position to use this information strategically. This could, for example, lead to the decision to exploit a specific line themselves.⁴¹ Telmex thus possesses a structural first mover advantage. Settlement rates comprise international long-distance traffic. Since about 90 percent of international long-distance traffic is with the U.S., these are most important. The rates have fallen significantly for the past four years as is to be seen in table 4.3.

Table 4.3 Settlement rates U.S.-Mexico traffic, 1997-2002 (US \$)

Year	1997	1998	1999	2000	2001	2002
Per minute settlement rate (US \$)	0.395	0.37	0.25	0.19	0.135	For 2002, carriers agreed on different settlement rates depending on the city of termination. This means that calls to Mexico City, Monterrey, and Guadalajara are charged at US \$0.055, while rates on calls to the next 200 largest cities in Mexico are US \$0.085 and to the rest of the country, US \$0.1175.

Source: Telmex, Pyramid Research.

In sum, absent (legal) processes, criteria or guidelines to follow in the LFT are the cause for frequent and successful litigation against interconnection resolutions drawn by Cofetel. Telmex's unwillingness to provide information on costs influenced transparency and troubled interconnection negotiations. This eventually culminated in the U.S. taking a complaint to the WTO with respect to measures affecting telecommunications services in Mexico.⁴²

§ 4.4.5 Price cap regulation

Price cap regulation is the only means of Cofetel to influence pricing policies of Telmex. Telmex's revised concession specified that a general tariff regulation would apply to a basic basket of core services: installation fees, monthly service charges, usage charges for local calling, and prices for domestic and international long-distance calls, with the first two tariffs differentiated between residential and commercial customers. The concession stipulated that the method of tariff regulation would be a price cap for the bundle of these services, with the remark that no service would be cross-subsidised. The problem associated with this method, however, is that when long-distance services were opened up to competition and local services remained a de facto monopoly, this basket included services under competitive markets and non-competitive markets. This provided incentives for the incumbent to behave anti-competitively (Mariscal, 2002: 79). The cap has recently been extended which enlarges

⁴¹ Interview 1: 3.

⁴² Mexico – Measures affecting telecommunications services (WT/DS204), First written submission of the United States of America, October 3, 2002. Mexico's answer is to be found in: México – Medidas que afectan los servicios de telecomunicaciones (WT/DS/204), Primera comunicación escrita Estados Unidos Mexicanos.

the opportunity for Telmex to raise prices in sectors where it (practically) does not have to deal with competition (*e.g.* local services) and cut back prices in sectors where competition is more fierce (*e.g.* LD services). Under current law it is hard to prove cross-subsidisation practices.

§ 4.5 Summary and conclusions

Privatisation of Telmex was decided upon because of the inability of the government to provide the huge amounts of capital required to catch up with demand. Telmex's concession title was changed in 1990 but it was until 1996 that regulation was limited to enforcement by the Ministry of Transport and Communications. Hereafter, most day-to-day regulatory functions were delegated to a Federal Telecommunications Commission, Cofetel. Other institutions regulating Mexico's telecom services industry are the Federal Competition Commission (CFC), established in 1993 and a Federal Telecommunications Law (LFT), enacted in 1995, five years after the government set in motion the liberalisation of its telecom services industry. Although fairly pro-competitive, the 1995 LFT contains many loopholes of which both Telmex and its competitors have taken advantage of by challenging the regulator's decisions taken and resolutions drawn in court. Besides, the Mexican judicial system provides legal suits (*amparos*) that allows a plaintiff to demand a temporary suspension of regulatory actions when he or she considers regulatory resolutions to have violated their constitutional rights. Given the fact that the court system operates slowly, *amparos* have remained in place for two to three years. Both frequent litigations of decisions and resolutions, and *amparos* severely affected the regulator's credibility and highly added to uncertainty. Furthermore, the LFT has not provided Cofetel with sufficient means to redeem the promises the law constitutes. Because of Cofetel's dependency on the government it has not been able to successfully implement applicable regulation. Based on a description of the concession title application process, interconnection policy and price cap regulation, Mexico's telecom services industry is found to be more restricted than communicated by both its commitments made in the GATS and the LFT. Internal, regulatory measures have been found to impede transparency in regulation.

The next chapter elaborates on the consequences of reform.

Chapter 5 Consequences of reform

§ 5.1 Introduction

The consequences of Mexico's liberalisation policy are subject of study in this chapter to determine the extent to which *everyone* is able to communicate against *low* costs. This will provide information on the state of telecommunications within Mexico, which will be used to determine the impact of telecommunication liberalisation on growth and development. An answer to the following research question is sought for: 'how does liberalisation of Mexico's telecom services industry affect telecommunications performance'? It has been argued before that liberalisation has a direct influence on telecommunications performance via Gross Domestic Investment (GDI) and Foreign Direct Investment (FDI). Both GDI and FDI are responsible for developments within telecommunications. Simultaneously, the state of telecommunications determines the additional room for improvement and thus investment opportunities.

Based on delineation in paragraph 2.4, developments within fixed-line telephone services, mobile telephone services and Internet services are subject of analysis. Paragraph 5.2 addresses both local and long-distance telephone services. Mobile telephone services are elaborated upon in section 5.3 and paragraph 5.4 discusses Internet services. Throughout this chapter, data on penetration rates, quality of services and tariffs are interwoven to allow for utterances on socio-economic development.

§ 5.2 Fixed-line telephone services

Local telephone services and long-distance (LD) services will be subject of analysis on the basis of the competitive climate and their contribution towards the achievement of making it possible for everyone to communicate through low prices. The latter determines as well the scope for improvement.

§ 5.2.1 Local telephone services

The local services market is a strategic component of most service providers' strategies due to the sheer size of the local market in terms of revenue and its position in the overall services value chain. From a strategic point of view, local networks are a fundamental piece in the dynamic telecommunications landscape. By controlling the last mile, operators have direct access to the end user, making it easier to offer packaged or additional services such as LD or Internet services (Pyramid Research, 2003: 111).

The market for local telephone services was opened up to competition, together with the privatisation of Telmex in 1990. In theory, competitors could have entered this segment, but in practice no concessions were granted. Two Mexican companies, Iusacell and Pulsar sought

but were denied concessions for fixed wireless local service. For years to come, no one entered the market. Three reasons are to be distinguished. First, competition rules were not published until October 1997. Second, Telmex was in the midst of the process of rebalancing the rates between LD and local services. The latter were offered below costs and cross-subsidised by revenues from LD telephony. Third, as elaborated on in paragraph 4.4.4, interconnection rates were high, obstructing competition. It was not until 1999 that the first local service customers were signed up by competitors. The market share in that very same year of competitive new entrants was 0.45% (OECD, 2001: 32). Table 5.1 provides an overview of local telephone services providers. Avantel and Alestra, who entered local telephone services in 2001, target large corporate customers. Axtel and Maxcom, who launched services in 1999, focus on niche markets including residential users. Telmex covers the whole spectrum from business to residential users. Telmex holds 96% of local subscribers in the country (Pyramid Research, 2003: 100).

Table 5.1 Local providers

Telmex	Avantel ⁴³	Alestra ⁴⁴	Maxcom ⁴⁵	Megacable	Telnor ⁴⁶	Axtel
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Source: Cofotel.

Not much is to win on this market since prices of Telmex are under pressure. Furthermore, negotiations on interconnection fees among companies have, until 2001, always been unsuccessful. This, together with the absence of a framework for local-loop unbundling⁴⁷, prompted many providers to construct their own infrastructure to circumvent Telmex's ubiquitous network (Pyramid Research, 2003: 111). Excess (redundant) capacity is the result and no one actually benefits from this type of competition, since the decrease in costs by switching from telecom operator does not outweigh the absence of number portability. Competition on local telephone services remains limited as a consequence. Financial problems in the sector at large, pose another threat to competition on local telephone services. Many competitors of Telmex are in the midst of restructuring debts and are often to proceed

⁴³ Avantel has been established on October 1994 with participation of Grupo Financiero Banamex-Accival and MCI WorldCom. Today, foreign interests are represented by WorldCom.

⁴⁴ Alestra has been established on November 1994 by a strategic alliance formed by AT&T (49%) and Onexa (51%). The latter is a company created by the co-operation of Alfa and BBVA Bancomer.

⁴⁵ Maxcom covers the states of Tamaulipas, San Luís Potosí, Veracruz, Puebla, Distrito Federal, Estado de México, Tabasco, Campeche, Yucatán, Quintana Roo, Chiapas, Oaxaca and Morelos.

⁴⁶ Telnor, a subsidiary of Telmex, covers the state of Baja California and in the northwestern section the state of Sonora.

⁴⁷ Unbundling the local loop means the division of the network resulting in competing carriers reaching end users without the significant cost of deploying their own networks. Unbundling will not augment teledensity but will further competition through access to the last mile. Although most players recognise the need for an unbundling framework, the manner of determining the prices or costs of each element of the network is of great controversy (Pyramid Research, 2003: 43).

on a limited scale. Telmex's financial situation on the other side, allows it to continue investing and thus prolong its grip on the local market. Growth in subscriber lines in Mexico thus far, can be attributed to network expansion of incumbent Telmex (Pyramid Research, 2003: 102). Slow economic growth and limited access to financial resources within telecommunications will not change this situation in the short run.

In terms of revenue, local services are projected to grow and will account for 74% of basic telephone service revenues by 2007, compared to 56% in 1998, as projected by Pyramid Research (Pyramid Research, 2003: 101). The ever-increasing importance of local services in terms of revenues, provides carriers an incentive to compete on this market.

§ 5.2.2 Long-distance services

Cofetel began awarding long-distance licenses in 1995, more than one year before the August 1996 LD liberalisation date, which enabled new entrants to build nationwide transmission networks (Pyramid Research, 2003: 39). Concessions included several of Mexico's largest banking and manufacturing groups in a joint venture with U.S. long-distance providers. The tensest situation is to be found within this sector because of disputes on interconnection. This may be because of its size. Mexico has the majority of its international traffic with the U.S. Briceño states that in 1997, 84 percent of outgoing traffic and 95 percent of incoming traffic were with the U.S. (2000: 5). Initially, 11 concession titles were issued (Escobar de Medécigo, 1999: 31). Eventually, 22 concessionaires were issued of which only 11 are providing a service (see table 5.2 for an overview of long-distance providers). The other half have been unable to put their licenses into operation, primarily because they cannot compete with Telmex and cannot pay the high interconnection fees that Telmex charges them (Calvo, 2002: 4-5). This actually causes the recent situation in which three key long-distance operators can be distinguished: Telmex and 49% US funded Avantel (WorldCom) and Alestra (American Telephone and Telegraph Company, AT&T). They hold over 92 percent of total LD revenues (Pyramid Research, 2003: 116).

Table 5.2 Long-distance providers

Alestra	Atsi	Avantel	Axtel	Bestel
Iusatel ⁴⁸	Marcatel	Maxcom	Miditel	Protel
RSL Com Net	Telereunión	Telmex	Telnor	Unefón

Source: Cofetel.

Prices on international long-distance (ILD) were lowered significantly since 84 percent of outgoing traffic is directed towards the U.S., which charges low call termination rates

⁴⁸ Iusatel is the long-distance carrier of Iusacell. It is under the management and operating control of Verizon Communications Inc., which holds 39.4% of Iusacell. Vodafone Group Plc holds a 34.5% interest in Iusacell and the public controls the remaining 26.1%. In June 2003, Mexico's Salinas Group announced its intention to acquire mobile operator Iusacell through the group's paging subsidiary, Movil Access.

(Pyramid Research, 2003: 109). A rather positive development was the uniform price setting for phone calls inside Mexico (domestic long-distance, DLD). A phone call that starts in a foreign country on the other hand has to be finished with Mexican infrastructure. Settlement rates apply and, as dictated by the Rules of International Long-Distance, Mexico operates under a proportional return system and uses uniform settlement rates. This means that the proportion of ILD incoming traffic that each carrier operating in Mexico is entitled to terminate is determined by the volume of outgoing ILD traffic that the carrier originates in a given period of time. The carrier accounting for the largest share of ILD traffic is entitled to negotiate settlement rates with its counterparts in other countries. ILD is expected to be fully liberalised beginning in 2004 by allowing market-based settlement rates to be negotiated individually by carriers (Pyramid Research, 2003: 33). Now, the largest carrier in terms of generated ILD traffic, Telmex, solely negotiates with foreign telecom operators on interconnection. It thus represents Avantel and Alestra as well during these negotiations.⁴⁹ Logically, these companies would like to terminate ILD traffic originating in the network of their American holding companies.

Although liberalisation of this specific segment was arranged to happen in August 1996, interconnection was provided since January 1997.⁵⁰ Competing LD service providers were able to gain market share (measured by minutes) of roughly 30 percent of both DLD and ILD services. As of 2002, Telmex controls 68 percent of DLD and 59 percent of ILD.⁵¹ Dropping tariffs resulting from intense competition have not been compensated by a sufficient increase in traffic, and revenues from LD services have fallen accordingly (Pyramid Research, 2003: 108). The economic slowdown of 2002, combined with the consolidation of local areas, has had a negative impact on DLD usage (Pyramid Research, 2003: 109). Furthermore, the DLD market is estimated to shrink because the medium to large business segments approach saturation levels. Since they are the most intense users of DLD services, growth in business lines will come from medium to small-sized businesses, which are not intense users of DLD services (Pyramid Research, 2003: 109). In addition, government entities and large corporations are migrating from publicly switched solutions to IP-based solutions, accelerating the downward trend in LD services (Pyramid Research, 2003: 107). The economic slowdown in the U.S. has had an effect on both incoming and outgoing international traffic. Based on projected modest U.S. growth, a slight recovery is foreseen. With the liberalisation of negotiations on settlement rates in 2004, competition is likely to intensify. Linkages that exist between (partly) American funded LD providers active in Mexico and their American investors will put pressure on Telmex.

⁴⁹ Interview 1: 2; 6: 5, 6; 8: 3; 9: 2.

⁵⁰ The regulatory authority granted Telmex these additional months in order to prepare for interconnection with new entrants.

⁵¹ Interview 6: 4.

With the granting of LD concessions from 1995, investments into telecommunications increased as can be seen in table 5.3. These are aggregate figures and do not distinguish GDI from FDI.

Table 5.3 Investments in the telecom services industry 1995-2002 (millions of US dollars)

1995	1996	1997	1998	1999	2000	2001	2002 ^e
1,488	1,596	1,964	3,162	4,027	5,165	5,736	4,020

e: estimated

Source: Cofetel.

Investments were allocated towards building infrastructure and higher penetration rates (see table 5.4) are thus a direct consequence of liberalisation. Nevertheless, the effect of liberalising telecom services does not totally add to higher penetration rates since carriers decided to build their own infrastructure causing redundant capacity instead of contributing to penetration rates.

Table 5.4 Number of operational fixed-lines 1990-2002

Year	Number of operational fixed-lines (thousands)	Annual growth rate (%)
1990	5,352.8	-
1991	6,024.7	12.6
1992	6,753.7	12.1
1993	7,620.9	12.8
1994	8,492.5	11.4
1995	8,801.0	3.6
1996	8,826.1	0.3
1997	9,253.7	4.8
1998	9,926.9	7.3
1999	10,927.4	10.1
2000	12,331.7	12.9
2001	13,774.1	11.7
2002	14,944.3	8.5

Source: Cofetel.

Until 1994, main-line penetration grew rapidly as a result of Telmex's changed concession title, which was issued after its privatisation. Its concession title forced Telmex to compel with obligations on network expansion and contained requirements as to the quality of services provided. Developments in coverage and quality of services during the first five years of study are thus a direct consequence of privatisation and thus reform. Both the agency view and the political view on privatisation support the statement that these improvements are a direct consequence of privatisation. Growth in main-line density stagnated in 1995 as can be seen in table 5.4. Two reasons can be distinguished. First of all Telmex's concession title

included the obligation to increase lines at a rate of 12 percent per year until 1994, not hereafter. Secondly, a recession created by the peso crisis caused lots of uncertainties, which is often referred to as well being the reason for stagnation in main-line density (investments). Although data on investments from 1990 to 1994 is not available, investments reflected expansion in operational fixed-lines and were solely yielded by Telmex. The investment figure for 1995 is therefore assumed to be lower than the one registered in the preceding years. Hereafter, (foreign) investments increased as a consequence of opening up LD services to competition as of January 1997. Infrastructure was build before the actual liberalisation of LD services and alliances among telecom carriers were concluded as early as 1994 (*e.g.* Alestra, Avantel). Since 1997, the number of operational fixed-lines grew again significantly.

In 1990, main-line density in Mexico stood at 6.4 percent compared with 14.6 percent in 2002. Main-line penetration has improved with more than 100 percent, but is still alarmingly low when compared with OECD countries.⁵² Mexico's penetration rate in fixed-lines is even below Latin America's average, which is striking considering Mexico's high, for purchasing power parity (PPP) adjusted, GDP per capita when compared with Latin American countries, and the high correlation between PPP adjusted GDP per capita and main-line density.

Competition is focussed at highly dense populated areas like the country's capital, Mexico City. What is known as Mexico City comprises both the Federal District (Distrito Federal, D.F.) and the metropolitan areas surrounding it (the state México) and accounts for some 20 million inhabitants (or about 20% of Mexico's total population). The level of urbanisation is thus high. Low dense populated areas like Chiapas, Oaxaca and Tabasco are deprived from basic telecommunications services. No 'critical mass' (potential to generate profit) is available for telecom carriers to base operations on. Uneven development between different regions of the country in terms of main-line density is thus to be seen (see table 5.5).

The income gap between the northern and southern states is mirrored in telecom infrastructure development. Most of economic output is generated by Mexico City and northern states such as Nuevo León (Monterrey) and Jalisco (Guadalajara) and thus have the highest GDP per capita. Mexico's poorest provinces in terms of GDP per capita are located in the south (*e.g.* Oaxaca, Chiapas). The type of productive activity carried out in these areas is mostly agricultural. The majority of their inhabitants are simply not able to afford telecommunications.

⁵² It is recognised that differences existed in the point of departure in liberalising telecommunications between developed and developing economies. Generalising, the latter liberalised its telecom services industry without well-developed infrastructure in contrast with developed countries. Comparison is merely used to show the gap existent between Mexico and other OECD members.

Table 5.5 Main-line density in selected districts (2000)

District	Main-line density
Chiapas	3.6
Oaxaca	4.1
Tabasco	5.4
Hidalgo	6.1
Zacatecas	6.5
Baja California Sur	16.6
Jalisco	16.6
Baja California	18.1
Nuevo León	21.8
Distrito Federal	33.4

Source: Cofetel.

Interests defer among interest groups discerned. ‘How to expand the benefits of telecommunications to all’ or more specifically ‘how to expand the network in order to improve coverage’ is the government’s main concern. It thus has to deal with a distribution problem. This has been discerned by Szirmai as an important part of the Latin American development problem. The question is ‘how can the masses share in the increased average welfare, achieved in the course of the twentieth century’ (Szirmai, 2002: 20). Telecom operators on the other hand, will be reluctant to provide services to low-income groups and low-density rural areas, expecting low marginal benefits and elevated marginal costs as elaborated on by Van der Krogt (1996).

The number of pay phones has tripled during the 1990s, making Mexico one of the Latin American countries with the highest pay-phone penetration at 3.28 per 1,000 inhabitants in 2000. However, this rate is well below the OECD average of 4.9 per 1,000 inhabitants (World Bank and PPIAF, 2002: 21-22). In light of high main-line penetration in OECD countries (on average) the number of pay phones is still relatively small.

Quality of services has been found to improve as well as a result of telecommunications reform. For example, customers of Telmex would have to wait 23.9 months in 1990 to get a connection, whereas only 1.1 month was to be accounted for in 2000. Furthermore, 1.7 failures per 100 Telmex lines have been registered in 2002, compared with 13.5 failures in 1990 (Cofetel). Aggregate data on quality of services is unfortunately not available, which makes it hard to generalise these findings. It is however rather likely that similar results are to be found with other telecom carriers. As a result of increased competition, quality of services became an important asset of customers on which to value telecom carriers. Improvements

with regard to quality of services are thus a direct consequence of liberalising the market. Many respondents subscribed to this conclusion.⁵³

§ 5.3 Mobile telephone services

In 1987 when the cellular market was initiated, Mexico was divided into nine regions and duopoly concessions were granted in each. Telcel, then still under operating control of Telmex, got one in each, obtaining the sole nationwide license in Mexico. Telcel is a subsidiary of América Móvil, a communications powerhouse with investments in Latin America and the U.S. that forms part of Carso Global Telecom, the telecommunications arm of Grupo Carso. América Móvil was created in late 2000 as a spin-off of Telmex.

Prepaid mobile programs, introduced in 1995, and calling party pays (CPP), introduced in 1999, have resulted in skyrocketing growth and penetration rates as can be seen in table 5.6.

Table 5.6 Mobile subscribers 1990-2002

Year	Mobile subscribers (thousands)	Annual growth rate (%)
1990	63.9	-
1991	160.9	151.8
1992	312.6	94.3
1993	386.1	23.5
1994	571.8	48.1
1995	688.5	20.4
1996	1,021.9	48.4
1997	1,740.8	70.4
1998	3,349.5	92.4
1999	7,731.6	130.8
2000	14,077.9	82.1
2001	21,757.6	54.5
2002	25,928.0	19.2

Source: Cofétel.

The rapid growth in mobile subscribers in between 1999 and 2001 caused a number of network saturation problems. Operators have since invested in augmenting network capacity and coverage and transmission quality have improved as a consequence.

Sinclair argued that both prepaid mobile programs and CPP have released the demand for communication services in low teledensity market segments (2002: 27). With mobile penetration of 25.4 percent in 2002, Mexico has the third highest penetration rate in Latin America. As can be seen in figure 5.1, the level of mobile penetration has trespassed the amount of fixed-lines in 2000. Since 2002, almost 26 million Mexicans were mobile

⁵³ Interview 3: 4; 4: 2; 13: 4; 14: 6; 15: 3

subscribers; of these more than 90% are estimated to use prepaid programs. As a consequence, Sinclair established a reverse relation between growth in fixed-line telephony products and economic development. With the preference of the mass market for prepaid products that allow consumers to more easily control their spending, these lower income echelons simply are not consumers of fixed-line telephony products (Sinclair, 2002: 26). This leads to the conclusion that growth in fixed-line penetration is more a result of, rather than a motor for, economic development.

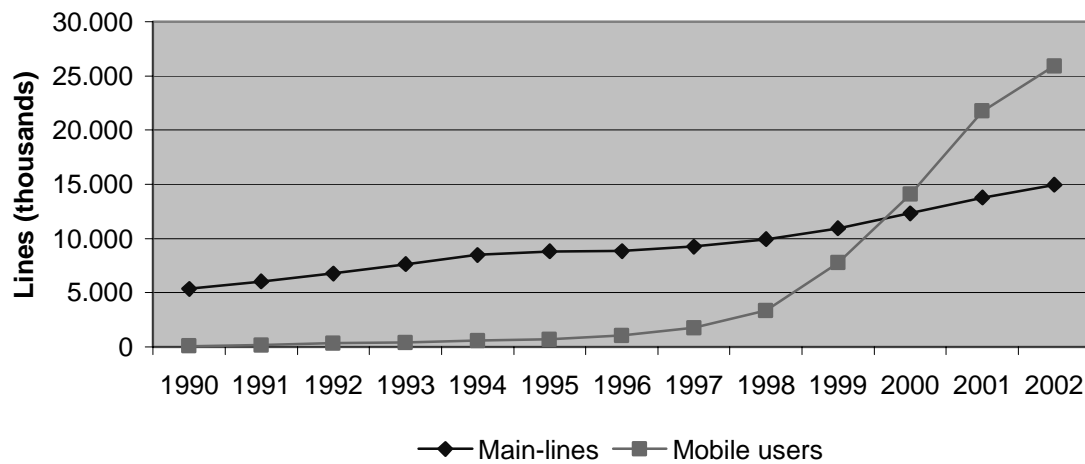


Figure 5.1 Main-lines and mobile users combined

Source: Cofetel.

The difference in mobile penetration per region, however, again reflects their economic situation. Region 1, which includes the northern states of Baja California Norte, Baja California Sur, and the municipality of San Luis Rio Colorado in Sonora, accounts for the highest penetration rate in the country, at about 49 percent in 2002 (Pyramid Research, 2003: 53). Region 7 and 8, which comprise respectively the south-eastern states of Guerrero, Oaxaca, Puebla, Veracruz, and Tlaxcala; and Campeche, Chiapas, Quintana Roo, Tabasco, and Yucatán, have penetration rates of 14 and 15 percent respectively in 2002. The amount of subscribers, especially in these provinces, is expected to rise substantially after total, or nationwide, CPP is installed.⁵⁴ Currently, local CPP is in place, which means that all subscribers (both prepaid and post-paid) must pay to receive a long-distance call. The boom in mobile subscribers was, as a consequence, centred in Mexico's biggest cities. CPP means nothing for rural customers because 99 percent of calls in these communities are long-distance. So, the poorest people in the country are the ones to pay for all incoming calls. They are simply not able to afford this, and are deprived from a potential alternative to low main-line penetration rates.

⁵⁴ Interview 15: 3.

Since 41.7 percent of the country's wealth is earned by the highest income group (representing 10 percent of the country's population) this segment is as good as saturated. Mobile telephony is still relatively expensive when compared with fixed-line alternatives. It will be via diffusion that rural, remote areas will be able to benefit from mobile technology.⁵⁵ Opposite to the highest income group in which mobile telephony is rather complementary, it is considered to be a substitute to fixed-line telephony for the lowest income groups.

Telcel has been able to remain the most important player within mobile telecommunications with a market share of 78% in 2002. Telcel's performance in the face of competition is remarkable according to Pyramid Research. Rarely has an incumbent mobile operator sustained, much less increased, its market share upon the entry of new market players (Pyramid Research, 2003: 73). The reason is to be found in economies of scope.⁵⁶ Telcel's mobile network is easy to connect with Telmex's fixed network and separate interests will not obstruct negotiations since both Telcel (via América Móvil) and Telmex are owned by Carso Global Telecom. Both Telmex and Telcel developed synergies in their negotiating power with equipment vendors such as Ericsson (Pyramid Research, 2003: 74). Besides, Telcel's monopoly on nationwide coverage until recently has been responsible as well for its dominance in this market. Finally, its continuous technological innovations and its wide distribution network contribute to its performance.

Only a year ago, Mexico had nine competitors in the mobile arena. Due to consolidation, less than half remain at present. *Telefónica Móviles* acquired *Pegaso* recently and Mexico's *Salinas Group* announced its intention to acquire *Iusacell* as of June 2003. Including this acquisition, three distinct mobile operators remain: Telcel, *Telefónica*, *Iusacell* and *Unefón*, the original mobile operator of the *Salinas Group*. Otero (2003) argues that the successful integration of *Iusacell* into the *Salinas Group* will increase the competitive pressure on the market's other small players, while having almost no short-term impact on Telcel's dominance.

Competition for consumer's spending on communication services between fixed and mobile providers is projected to intensify as mobile carriers begin offering data, Internet, and multimedia services over their mobile networks. Now, Mexico relies primarily on two technologies: cellular service and Personal Communications Service (PCS), which is similar to cellular but can accommodate a broader range of telecommunications services, including text and video. With the awarding of PCS licenses, a new wave of competition entered the market in the late 1990s. At the moment mobile telecom operators like Telcel and *Telefónica* are updating their networks through investments in GSM infrastructure. This, together with the possible implementation of nationwide CPP in the future and investments, which are

⁵⁵ High-end business consumers will change handsets at a high pace. These handsets can still be used and get passed through (Interview 15: 6).

⁵⁶ Interview 1: 3; 13: 4.

increasingly directed at mobile technology, leads to the conclusion that opportunities to expand in this segment are manifold. Calvo states that cellular phone services have the highest growth potential for years to come (2002: 4). Pyramid Research even considers Mexico's mobile market as one of the most attractive in the world because of its dynamism and size (Pyramid Research, 2003: 48).

§ 5.4 Internet

The Internet market is Mexico's fastest growing telecommunications segment. The market is, however, small with Internet penetration of 3.6 percent in 2001. This is rather low when compared with other Latin American countries, and especially with OECD countries, exposing ample room for growth. Closely linked to the development of Internet accounts is the adoption of personal computers (PCs). In 2001, 6.9 PCs per 100 inhabitants were in use. Therefore, most service providers have made available bundled packages of Internet access and PCs. In addition, Mexico's per call rate (as opposed to per minute rate) for local calling has greatly contributed to Internet users spending a considerable amount of time browsing the web and thus becoming more acquainted with it. Furthermore, the widespread number of Internet cafés throughout the country is helping access providers reach a segment of the market that has not yet been able to own a PC (Pyramid Research, 2003: 150). Internet usage at schools is promoted through numerous initiatives as well, with the government as an important initiator. These initiatives are important since only a limited number of Mexican households and large businesses are able to purchase a PC. A limited installed base of PCs acts thus as an important inhibitor for Internet uptake (Pyramid Research, 2003: 153). This is as well the reason that business in Mexico has not been a rapid adopter of information technology as the majority of businesses in the country tend to be small-sized enterprises focused on labour-intensive activities (Pyramid Research, 2003: 151). Finally, Internet usage is stimulated as well through aggressive efforts of, for example, banks developing e-commerce initiatives.

The six largest Internet service providers accounted for roughly 86% of total Internet accounts in service in 2002. Telecom operators, together with cable operators are the main players on this market (Pyramid Research, 2003: 160). Cable operators are of importance due to the important proportion of broadband accounts. Telmex's Internet service, Prodigy, is by far the largest and most important player. Telmex had close to 65% of the total dial-up market in Mexico in 2002 as estimated by Pyramid Research. Its share surpasses 90% in the ISDN and DSL access markets. Combining all types of Internet access, Telmex is again market leader, with 58% of total accounts in service in 2002 (Pyramid Research, 2003: 161).

Given the large number of dial-up connections in the country, revenues from fixed narrowband access have traditionally accounted for the bulk of Internet service revenues. Broadband (*e.g.* DSL) will be the fastest growing access means, however, for years to come

(Pyramid Research, 2003: 153). An additional means of Internet access is projected to be offered by mobile technology. With investments of mobile service providers allocated towards GSM and the projected introduction of next-generation technologies in 2006/2007, faster data transfer speeds will result, allowing a wider variety of Internet-based services to be accessible by end users (Pyramid Research, 2003: 157).

Comparing Mexico's main-line penetration rates and Internet penetration rates with penetration rates of OECD countries, a 'digital divide' reveals itself.

“Digital divide refers to the gap that exists between geographic areas or individuals at different socio-economic levels in respect to their opportunities to access information and communication technologies”.

(OECD, 2001: 265)

The concept of digital divide differs from the common concept of universal service in that it places emphasis on access to those information and communication technologies needed to access the Internet and engage in electronic commerce. Access to basic telecommunications infrastructure is however, fundamental to any consideration of the issue given the large number of dial-up connections in the country. Huge differences in telecom penetration, both in fixed-line telephony and mobile services, per district throughout Mexico point at an internal digital divide. From a consumer based perspective this is even more alarming than the digital divide between Mexico and other OECD countries. Investments in network expansion and modernisation of the telecom services industry were mostly for the benefit of business. Part of these investments have been allocated inefficiently and created redundant capacity.

Tariffs on ILD decreased, mainly for the benefit of business, while DLD and local service became more expensive. Past cross-subsidisation of local services was no longer desirable after liberalisation, directly affecting users hereof (for example small- and medium sized enterprises and low-income urban subscribers). DLD becoming more expensive after liberalisation, negatively contributed to universal service obligations. Network facilities were improved as a result of these obligations (Telmex had to provide services, according to its concession title to all villages with 500 inhabitants or more), but high-priced long-distance services directly limited the accessibility to the poor rural subscribers, predominantly users of LD services. This painfully exposes the tension between liberalisation and regulation (through universal service obligations).

§ 5.5 Summary and conclusions

The market for local telephone services was opened up to competition in 1990, but it was not until 1999 that the first local service customers were signed up by competitors. The absence of number portability, however, is the main inhibitor for competition to take off. Competition is more fierce on the market for long-distance (LD) services, which is liberalised since January 1997. Many concession titles were issued, though actual competition remains limited to three main competitors: Telmex, Avantel and Alestra, which represent over 92 percent of total LD revenues. The market for mobile telephony was initiated in 1987 and Mexico was divided into nine regions. Duopoly concessions were granted in each and Telcel obtained the sole nationwide license. This is one of the reasons Telcel has been able to remain the most important player within mobile telecommunications with a market share of 78 percent in 2002. Internet services are dominated by both telecom operators and cable operators. The dial-up market remains by far the most important, however, dominated by Telmex with close to 65 percent market share in 2002. Combining all types of Internet access, Telmex is market leader with 58 percent of total accounts in services in 2002.

Competition led to increased investments, which were allocated towards building infrastructure. Higher penetration rates consequently resulted. The effect of liberalising telecom services does not totally add to higher penetration rates, however, since carriers decided to build their own infrastructure causing redundant capacity. When comparing the level of main-line penetration with penetration rates in OECD countries, Mexico's rates are alarmingly low with a registered rate of 14.6 in 2002. Together with low Internet penetration rates (3.6 percent in 2001) a digital divide reveals itself. More importantly, based on main-line density figures per district an internal digital divide is manifest. The income gap between the northern and southern states is mirrored in telecom infrastructure development. This goes as well for mobile telephony, although prepaid mobile programs, introduced in 1995, and (local) calling party pays (CPP), introduced in 1999 have resulted in skyrocketing growth and penetration rates. The amount of mobile subscribers trespassed the amount of operational fixed-lines in 2000. Now, almost 26 million Mexicans are mobile subscribers. Overall, quality of services has been found to improve as a consequence of reform and tariffs were taken down. The objective of providing access to telecommunications to everyone against low costs remains far from being reached, however.

Given low penetration rates and favourable economic conditions, there is still significant room for growing adoption of telecommunication services. In terms of revenue, local services are projected to grow providing carriers with incentives to compete on this market. The attractiveness of LD services dropped as a result of decreasing tariffs (resulting from intense competition), which have not been compensated by a sufficient increase in traffic. Furthermore, the domestic LD market is estimated to shrink because the medium to large business segments approach saturation levels. Technological solutions to publicly switched

solutions are likely to accelerate this trend. Competition on international LD services is likely to intensify with the liberalisation of negotiations on settlement rates in 2004. Cellular phone services have the highest growth potential for years to come. Especially with the introduction of nationwide CPP, growth in mobile subscribers will be substantial. It is the question, however, in how far telecom carriers are able to bear the costs involved in competing with Telmex and Telcel. Financial problems within telecommunications are widespread and many carriers are in the process of restructuring their debts. Moreover, international capital markets are practically closed to telecom operators.

Chapter 6 Analysis: perspectives on reform

The political climate, the economic climate, the regulatory climate and the competitive climate have been elaborated upon in the preceding chapters. Primary research has been set up to more specifically address the implications of reform for the long run. Institutions and interest groups, active in the policy context as determined in figure 2.2, were approached since they have been discerned as determining in development of the sector. The government, regulatory authorities and telecom carriers are distinguished as designers of tomorrow's telecom services industry. Opinions were gathered on different themes as set out in figure 2.1. These are the policy context, liberalisation and its implications for developments within Mexico's telecom services industry. Questions posed ranged from relationships within the institutional framework to the meaning hereof for the respondent's operations (in the case of telecom carriers). Different interests within the population of research were reckoned from the beginning. Universal service proved to be of particular importance and different perspectives hereon were gathered. The 1995 Federal Telecommunications Law (LFT) proved as well to be of the utmost importance and has been addressed in all interviews. Furthermore, frequent mentioning of items like the limit on foreign direct investment (FDI) and anti-competitive practices led to their incorporation in the analysis. Although not incorporated initially, these kinds of subjects proved to be excellent variables or indicators on themes discerned beforehand. These themes are subject of analysis and made operational through categorisation of data.

Regulation, competition and development have been discerned as predominant in discussion of reform of Mexico's telecom services industry. Respondents' dispositions with regard to these themes and their representing variables are summarised in appendix II: perspectives on reform. These themes are subject of analysis in consecutive order.

Regulation

Politics, the 1995 LFT and the telecommunications regulator, Cofetel, have been addressed in interviewing. Special attention was paid to relations among institutions. In concrete terms, questions were directed at the implication of the implementation of regulation for the respondent's operations. First, Cofetel is subject of analysis, followed by the 1995 LFT. Finally, politics will be elaborated upon.

The role of Cofetel has frequently been subject of discussion. Despite different interests among the population of study, agreement seems to exist about its weak institutional embedment within the regulatory framework. Several causes are to be distinguished. First, its establishment was arranged by some transitory articles attached to the 1995 LFT. A lack of resources and dependence hereon of the Ministry of Transport and Communications (SCT) is

another reason of its weak basis. The regulator's dependence on resources was inevitable in its first stage of operations as respondent XVI rightly noticed. Human capital and resources were to be obtained from the responsible Ministry. Now, Cofetel's budget is still appointed by the SCT obstructing its decisiveness. Overarching consensus exists to modify its authorities and responsibilities and secure its independence. Respondent V, however, argued that independence of the regulator of the government is not mandatory as agreed on in the Reference Paper on regulatory principles. The Reference Paper (see section 3.5.3) states that "regulatory bodies are to be separated from service providers and not accountable to them". On the basis hereof one can speak of an independent regulator, though especially telecom carriers agreed on the importance of an independent regulatory authority to create a level-playing field. A politically dependent regulator causes uncertainty in the regulatory environment. Political dependence appears from the pace at which Cofetel presidents were succeeded. Since its establishment in 1996, three times has been changed from president, forming a serious threat to stability and sustainability in policy.

Cofetel's means are fixed in the LFT of 1995. Although the law is praised by all groups of respondents because of its pro-competitive foundation, the regulatory environment has not been able to implement its promises. The law lacks clear guidelines and procedures for the regulator to follow. On the one hand, the legal foundation of Cofetel is not properly arranged, and on the other, methodology is lacking on which to base procedures. The main reason the law was not properly equipped is the difference in business culture existent in different countries. Logically, the law was drawn based on Mexican business culture. This meant that when problems arose, parties involved would gather to discuss the issues at hand.⁵⁷ With the entrance of (mostly American) competitors, the climate changed towards settling disputes in court. Therefore, Telmex and its competitors alike have been successful in challenging decisions taken and resolutions drawn by Cofetel in court. Since all telecom carriers pinpointed at the importance of a well-equipped regulator, the need for its proper institutionalisation is manifest. Two respondents argued, however, that Cofetel could be more active under current law. The reason for Cofetel commissioners not to do so could be their weak protection as public servants. Decisions taken, which do not have a foothold in the law, can be challenged on a personal level on the basis of abuse of position, which is subject to criminal law. Therefore, operating as a public entity poses the constant threat of being charged with abuse of position. This causes the recent situation in which decisions are reluctantly taken or even not taken at all, adding to uncertainty. This situation is amplified by a highly divided and indecisive Congress. Basically all respondents argued that regulation is severely hampered by political indecisiveness. Efforts were guided towards the revision of the 1995 law but no new law resulted.

⁵⁷ Interview 6: 6; 15: 3.

The cause of regulatory uncertainty leads back into the political climate. Respondent XII noted the importance of the overall, macroeconomic climate on the basis of which investment decisions are taken, illustrating the seriousness of this impasse. Lack of willingness on the part of the government in relation to the implementation of liberalisation policy, indicated by respondent III, IX, XII, XIII, and XV, is mentioned as well as an important variable of political uncertainty. Telmex's, or Mr. Slim's firms (as owner of Grupo Carso), high value on the stock market may explain political unwillingness to deal with Telmex. Reliability hereof has to be assured, however. One respondent stressed this and hereafter the issue has been addressed structurally. Respondents may have liked this explanation but one respondent noted that the former under-Secretary of the SCT (in charge of Telecommunications) in fact mentioned Telmex's value on the stock market as explaining why the government did not want to interfere. Obviously, Telmex benefits from preserving the status quo. Based on existent network infrastructure it has an excellent business. Many technological developments, like calling party pays, have been constrained for this reason by Telmex.

On the other hand, government interference has been subject of complaints. This is illustrated by the imposition of the limit on foreign direct investment (FDI), the imposition of taxes on mobile telephony and the burdensome process of obtaining the right permits to expand the network. The limit on FDI of 49 percent is imposed on the industry to develop strong national competitors as mentioned by respondent IV and XVI. This is not to say that they do not recognise the potential benefits of FDI. This can best be described as the dilemma on, in GATS terminology, 'mode 3': commercial presence. Mode 3 addresses the supply of a service through the commercial presence of the foreign supplier in the territory of another WTO member. Although FDI may promote growth, productivity and better services, it may as well excavate local producers and undermine local governments' control. National interests may be at stake with an unpleasant future prospect of developed countries' firms dominating their markets before domestic industries are able to mature. Governments may even be afraid to lose their sovereignty.

Impressive growth rates in mobile telecommunications have drawn the attention of the government and taxes were imposed on the industry. This forces prices to decline obstructing competition in this segment on the long run. As respondent XII noticed, prices reached costs and thus attractiveness of this specific segment. It is the question whether this is the case, but the point is that the government takes an interventionist stance, which is against the spirit of free markets as proclaimed in the LFT of 1995 on the basis of which many foreign investors decided to enter the Mexican market.

On a lower level, government intervention hinders development as well. Respondent VII and VIII mentioned the difficult procedures to obtain permits from, often different, local governments to expand the network. In some cases expansion directly increases main-line penetration (as companies attack niche markets) and is thus of direct importance to the consumer.

Competition

The competitive climate has been addressed by the 49 percent limit on FDI (see section 3.5.4 and appendix IV), anti-competitive practices, and dominant carrier regulation. Effectiveness of regulation was hereby assessed. The limit on FDI was consistently raised in interviewing as it directly affects the inflow of foreign direct investment. Questions related to the competitive climate brought up elaborations on anti-competitive practices and dominant carrier regulation showing its important influence on operations within Mexico's telecom services industry. First, the limit on FDI will be elaborated upon. Then, anti-competitive practices are subject of discussion, followed by dominant carrier regulation.

Most of telecom carriers' representatives and 'independent parties' alike, mentioned the limit on FDI as severely hindering operations. It is discriminatory in nature as well. Mobile telephone services are exempted from this limit on FDI. The limit on FDI has been found to obstruct investments, directly affecting the competitive climate and thus development. Resources of Mexican owned telecom carriers have proven insufficient to challenge Telmex's position in the industry. Respondent VII and XVI did mention the possibility to circumvent the limit on FDI by attracting neutral, or non-voting share, investments. This construction is implemented by many telecom carriers already and should be considered since the limit on FDI is projected to remain in place (it is not part of telecom policy). Non-voting share investments are, however, equally difficult to acquire and compels telecom carriers to consider complicated financial constructions, hindering flexibility.

Anti-competitive practices, ranging from 'slamming' to 'bypass' respectively, obstructed and obstructs transparency and fair competition. Slamming points at a process by which telecom carriers obtain customers without their prior consent. This has been a problem in the process of opening up long-distance services to competition. Bypass means disguising international long-distance traffic as domestic long-distance traffic by which the paying of (relative high) settlement rates is circumvented. This situation may change in 2004 when market-based settlement rates are to be negotiated individually by carriers. Another practice that hinders healthy competition is the need to request interconnection with Telmex when expanding operations, revealing competitive sensitive information as elaborated on in paragraph 4.4.4. As owner of an extensive network these advantages simply exist. Not much can be done to change this situation, especially since unbundling is not to be regarded as a solution hereto. Both advocates and opponents of unbundling are to be distinguished with the latter representing the majority. One respondent ironically noted that 'unbundling would not be worth the legal fights that are likely to arise under current law'.⁵⁸ Anti-competitive behaviour on the part of the incumbent is exercised by its opportunity to cross-subsidise. Although

⁵⁸ Interview 16: 5.

Cofetel retains the authority to influence Telmex's prices via price cap regulation; as a vertically integrated company, Telmex is still able to increase prices on markets where it practically does not have to deal with competition (*e.g.* local telephone services) and decrease prices on markets where competition is more fierce (*e.g.* long-distance services).

Price cap regulation, together with the 'average price rule' are part of Telmex's concession title and constitute the only asymmetric regulation that can be imposed on Telmex. Efforts to impose dominant carrier regulation on Telmex by the Federal Competition Commission (CFC) and Cofetel failed, due to, among other things, a clear definition of dominance in the LFT. The effectiveness of the average price rule or the symmetric pricing scheme faced by Telmex is recently destroyed as well, further deteriorating the competitive climate. This is best described with an illustration.⁵⁹ This rule determines that prices are not to be de-averaged. Telmex is thus obliged to apply average prices throughout the country, meaning that services in low dense populated areas are cross-subsidised by high dense populated areas. The lowest investment cost per line is to be found in high dense populated areas, whereas the highest average cost per line is to be found in low dense populated areas. The reason here for can be traced back to the price of copper that has to be deployed in the last mile, representing a significant part of investments. Thus, the lower the population density, the more expensive the line. An equilibrium exists, which opens markets for competitors to attack. Figure 6.1 shows this equilibrium in LD services and the room for competitors to focus operations on.

Telmex offers average long-distance prices according to its concession title and competitors are able to attack the area below the average price, marked with horizontal lines. Competition focuses on this area. Recently (December 2002), Telcel has been granted a concession title to offer long-distance services. Hereby, Telcel is able to attack the market with prices at for example point X, distorting competition. Telcel may be part of América Móvil, both Telcel and Telmex are owned by Carso Global Telecom and the money will only go from one pocket to another.⁶⁰ This abates a level-playing field and thus competition. Telcel was granted this concession title despite opposition of the CFC.

Development

Competition provides companies with incentives to offer services at lower costs, against higher levels of quality and to spur investments in technology (in order to continually improve and expand services offered). The level of competition determines thus the level of development. Development itself provides a future perspective on the basis of which recommendations can be based. With respect to development it was asked what implications specific regulation had on operations. The focus has been on telecom carriers since they are in the end responsible for development in telecommunications.

⁵⁹ Interview 12: 4-5.

⁶⁰ Interview 12: 5.

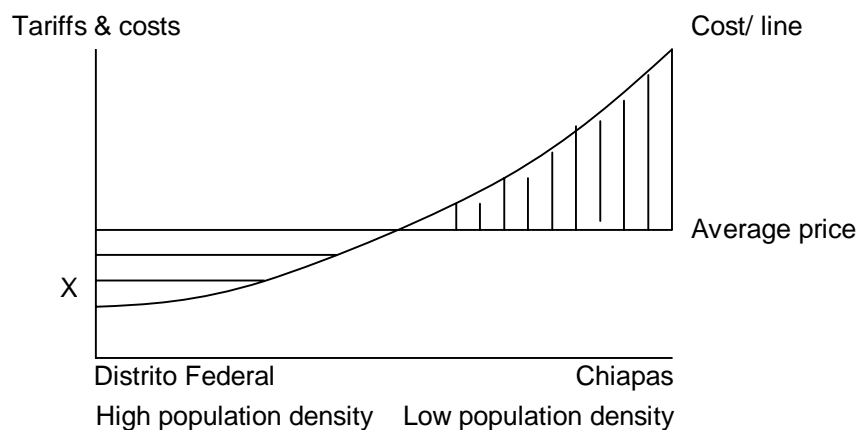


Figure 6.1 Average price rule

Source: Elaborated on by respondent XII.

Universal service directly influences development and is first subject of analysis. Investments will be shortly elaborated on hereafter, as it has been (partly) subject of discussion in addressing the limit on FDI. This analysis concludes with the role of technology in telecommunications development, as it proved to be a variable of particular interest. Telecom carriers were asked for their deployed technologies and their expectations with regard hereto.

Development is constrained and dispersed according to districts' specific demographics as shown in chapter 5. Universal service, *i.e.* connecting everyone against low costs, seems an objective hard to reach. Universal service obligations even obstruct competition. Carriers have to provide at least 3 provinces with telecommunications services, while this may force them to invest more than originally planned. This provides an uncompetitive environment. An E-Mexico initiative resulted from the objective of universal service. Hereby, kiosks are to be entrusted with communication infrastructure. A universal service fund has been established to provide telecom carriers with incentives to invest in specific areas of the country through a system called 'inverse auction'. The telecom carrier that offers to undertake the project against the least amount of subsidy will get it. The government and telecom operators finance these universal service projects. Hereby, incentives will be made available to spur investments in these areas. This has been successfully applied in Chile (Van der Krogt, 1996: 54; Wellenius, 1997). The tension that exists between universal service objectives and free competition with its subsequent negative consequences could hereby be united. The government and telecom carriers alike are in favour of creating competition in this way, but a necessary prerequisite is profitability of telecom carriers to support such a fund.

Investments into telecommunications depend on certainty in the regulatory environment as established before. Regulatory uncertainty is however high on the basis of which respondents VIII and IX argued that their respective companies put investments on hold. The problematic financial basis of the telecom carriers these respondents represent may as well explain

stopped investments. This does not necessarily undermine the detrimental impact of regulatory uncertainty on investments, since one could argue that their weak financial basis is (partly) caused by uncertainty in regulation. The law contained many loopholes subject to litigation, claiming lots of resources. Furthermore, many respondents pointed at the entry strategies chosen by most telecom carriers to build their own network, duplicating existing (Telmex) infrastructure. Nevertheless, this is understandable given the context. Negotiations on interconnection rates have been quite troublesome during the early stages of opening up to competition. Furthermore, in order to provide outstanding quality of services you do not want to depend on services offered by a competitor.

A lack of telecom penetration and the limit on FDI have been mentioned as well as determinants of investment decisions. Finally, Telmex's high market shares influence market opportunities and profitability, which has been referred to as well as an important determinant of investments (for example respondents X and XII).

Technological evolution is projected to both provide a solution to low penetration rates in remote, rural areas and to spur competitiveness. Wireless technology, like mobile telephony, may become an alternative to fixed-line telephone services, especially when nationwide calling party pays (CPP) is implemented. Diffusion will, in no time, make available handsets throughout the country, whereas investments in infrastructure are affordable. In provinces with low population density, GDP per capita is considerably lower than in urban, high dense populated areas. As can be seen in figure 6.2, mobile telephony will make those inhabitants reachable.

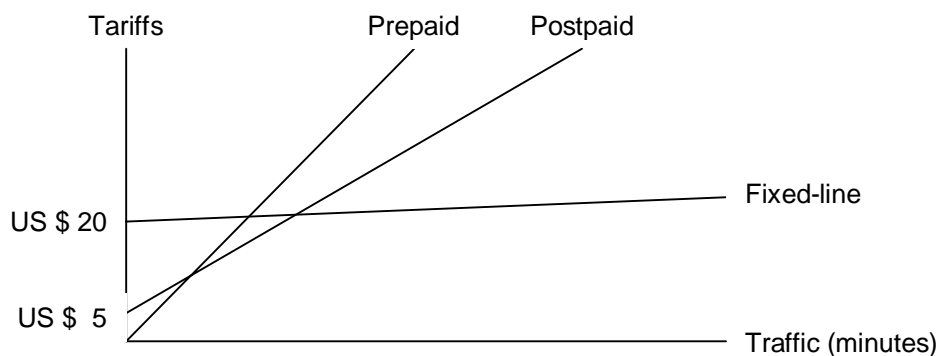


Figure 6.2 Cost comparison: fixed and mobile telephone services

Source: Elaborated on by respondent XII.

The monthly fee for a fixed-line is for example US \$20, compared with US \$5 and US \$0 for postpaid and prepaid mobile telephony respectively. On the other hand, costs per minute differ substantially and after a certain amount of minutes it makes more sense to pay a fixed amount of US \$20 a month. The point is that citizens living in low dense populated areas are not able to pay high monthly fees, whereas for example prepaid telephony is relatively cheap,

when limiting the amount of minutes used. Nationwide CPP is a necessity, however, to make this happen.

Analysis showed the interrelatedness between concepts and the impact on one another. The pattern of reasoning leads back to the regulatory climate. The weak position of Cofetel has been mentioned, which in turn is legally based in the 1995 law. This process is highly influenced by politics, which shows its importance in opening up telecommunications to competition. As figure 2.1 exemplified, the policy context determines the level of competition via liberalisation and thus development. Because of the recent standstill in policymaking as elaborated on in chapter 3, uncertainty results.

Chapter 7 **Conclusions and recommendations**

Based on findings of Saunders, Warford and Wellenius (1994), Castells (2000) and Hilbert and Katz (2003), telecommunication services are considered to be a prerequisite for economic growth. The nature of telecommunications will be used to answer the final part of the main question: ‘What is the influence of liberalising Mexico’s telecom services industry, on Mexico’s telecom services industry and how does this influence socio-economic development?’ Based on analysis throughout this thesis this question will be answered. Recommendations are rendered based on conclusions drawn and causes underlying these conclusions.

Conclusions

From 1990 to 1994, registered improvements on variables such as main-line penetration and quality of services are totally attributable to investments by Telmex and are a direct consequence of privatisation and thus reform. Telmex’s changed concession title, issued with its privatisation, forced Telmex to compel with obligations on network expansion and contained requirements as to the quality of services provided. Growth in main-line density stagnated in 1995 as a result of the fact that Telmex’s concession title contained network expansion requirements until 1994 (not hereafter) and the recession created by the peso crisis in 1994. The fairly pro-competitive nature of the 1995 Federal Telecommunications Law (LFT), together with the projected liberalisation of long-distance (LD) services as of January 1997, succeeded in attracting investments (both Gross Domestic Investment and Foreign Direct Investment). Generally, investments led to increased penetration of telecom services, lower tariffs and improved quality of services.

Differences among sectors studied are however to be accounted for. Within mobile telephony, impressive growth in subscribers was accelerated by prepaid mobile programs, introduced in 1995, and calling party pays (CPP), introduced in 1999. The amount of mobile subscribers even trespassed the amount of operational fixed-lines in 2000. Tariffs on local telephone services rose after liberalisation of this specific segment. For the sake of transparency and for competition to take off, Telmex had to rebalance the rates between LD and local services. The latter were offered below cost price and cross-subsidised by revenues from (highly profitable) LD services. Small- and medium sized enterprises (SMEs) are directly affected hereby as they tend to be mainly users of local telephone services. Rebalanced rates should have provided the industry with incentives to compete for the favour of consumers of local telephony, but the absence of number portability inhibited competition to take off. The competitive climate within LD services has been characterised by disputes on interconnection rates. Nevertheless, prices on international long-distance (ILD) services were lowered significantly (particularly beneficial for multinational corporations as intense users of

these services) and tariffs on domestic long-distance (DLD) services were straightened. Finally, Internet penetration reached 3.6 percent in 2001, which is rather low when compared with other Latin American countries, and especially with OECD countries. A limited installed base of personal computers acts as main inhibitor for Internet uptake. This is but one, though important, reason that business in Mexico has not been a rapid adopter of information technology as the majority of businesses in the country tend to be SMEs focusing on labour-intensive activities. When comparing Mexico's Internet penetration rates with OECD Internet penetration rates, a 'digital divide' seems manifest. A digital divide places emphasis on access to those information and communication technologies needed to access the Internet and engage in electronic commerce. Given the large number of dial-up connections in the country, access to basic telecommunications infrastructure is fundamental with respect to this issue. Access to telecommunications infrastructure has been measured by the extent to which the objective of universal service is reached.

Mexico falls short of delivering telecom services according to the objective of universal service: "making it possible for *everyone* to communicate through *low prices*". Huge differences in telecom penetration (both main-line and mobile) per district throughout Mexico point at an internal digital divide. This internal digital divide is reflected by the income gap (measured in GDP per capita) between the northern states, which generate most of Mexico's economic output, and southern states, which rely primarily on agricultural activity. The rise in mobile penetration rates was for example centred in Mexico's biggest cities as a result of the fact that CPP in its current form means nothing for customers living in remote, rural areas. A very high percentage of calls in these communities are LD calls, meaning that the poorest people in the country are the ones to pay for all incoming calls. Local CPP thus obstructs universal access as mobile telephony is projected to provide remote, rural areas with an alternative to low main-line density. Directly related hereto is the ironical observation that villages with 500 inhabitants or more were provided with telecommunications infrastructure as a direct consequence of Telmex's compliance with its concession title, but high-priced DLD services directly limited accessibility. Inhabitants of these small communities are predominantly users of LD services but are not able to bear the costs involved. This nullifies the initial positive effect of universal service obligations. The latter are furthermore on conflictuous terms with liberalisation. The fact that telecom carriers have to provide at least three provinces with telecommunications services illustrates this. This requirement may force them to invest more than originally planned, hampering competition. The sector right now faces the unfavourable prospect of being stuck in the middle by lacking government intervention when it comes to reaching social services objectives, and continuous interference, obstructing competition.

Nowadays, telecommunications infrastructure is a prerequisite for facilitating economic activity. Uneven development of telecommunications infrastructure in Mexico, as a result of

different socio-economic demographics throughout the country, negatively influences economic development in these areas. As catalyst of economic development, telecommunications is particularly important for these areas. Entering the information society can have a huge impact on these communities for the better. It is hard to quantify this impact, though given the role telecommunications plays in an economy, the fact that remote, rural areas are deprived from properly functioning telecom services, withholds them from connection with the economy at large and economic growth. This in turn is projected to be one of many factors with detrimental repercussions for the ever-widening income gap.

This thesis directed special attention to the consequences of specific policy for investments into telecommunications. Although the political landscape changed considerably with a change in regime after more than 70 years of a so-called dictatorial democracy and macroeconomic fundamentals are projected to remain solid, ‘internal’ or ‘regulatory’ measures have been found to impede transparency in regulation. Analysis pointed at the importance hereof in allocating investments. Regulatory uncertainty is high on the basis of which investments were put on hold. Recommendations are formulated in order to re-establish Mexico’s telecom services industry to the favour of investors, given ample opportunities that remain unexplored.

Recommendations

Because of the necessity of telecommunications in connecting with today’s information based society, strategies have to be directed at the effective and efficient functioning of the telecom services industry. Institutions are needed that can stimulate and diffuse technological innovations and avoid or mitigate any deleterious consequences (World Development Report, 2003: 3-4). These institutions are available within Mexico’s institutional environment, but do not provide the regulatory framework required, to deal with the complex issues that arose in liberalising telecommunications. The analysis revealed the importance of credibility in regulation to ensure the inflow of investments. Efforts should be focussed on regaining trust within the industry, in order to prevent the investment climate further to deteriorate. This would lead to stagnation and backsliding within the industry, negatively influencing development within the economy at large. Recommendations are thus formulated to strengthen the regulatory environment.

In changing the nature of the game, *i.e.* privatising and/or liberalising the public telecommunications operator and/or the market respectively, its guiding principles are to be adjusted accordingly. Then, a proper regulatory framework appears to be of paramount importance. Independence of the regulator of politics is hereby imperative. Mexico’s telecommunications regulator’s mandate should be clearly anchored in a revised telecommunications law and imposition of sanctions should be part of Cofetel’s mandate to

balance responsibilities and authorities. Independence of the Ministry of Transport and Communications (SCT) should be realised to ensure sustainability in operations. It is therefore recommended to institutionalise Cofetel as is Mexico's Federal Competition Commission since its establishment in 1993. That is, appoint the president for a period of 10 years in order to minimise political influence.

In order to establish the above, a new telecommunications law should be passed. Although the 1995 Federal Telecommunications Law (LFT) succeeded in attracting foreign telecom carriers, methodology has not proven to be adequate to regulate the market. In order to secure investments, efforts in the revision of the LFT should be focussed on establishing methodology by which Cofetel may legitimise its decisions and resolutions. That is, clear, transparent procedures or guidelines should be established to abide, together with legal technicalities. This will increase the regulator's decisiveness and decrease the likelihood of litigations, which have proven to be of detrimental influence on the sector. Furthermore, it has to be established what is understood to mean by 'dominance'. Although definitions may threaten flexibility, the need for dominant carrier regulation became obvious. This kind of regulation is however only to be applied if consensus is reached on a definition of dominance. In general, dynamic rules should be absorbed to cope with a flexible and ever changing environment.

Analysis revealed the need of nationwide calling party pays (CPP), since mobile telephone services are projected to provide remote, lower income areas with a fair alternative to low main-line density. Remote, rural areas are characterised by low population density which means that they would have to pay most often for incoming calls for which they simply lack the resources. Via diffusion of handsets and nationwide CPP these communities will be made reachable and telecom penetration will increase. A resolution on nationwide CPP can be passed under current law. Another requisite to allow remote, rural areas to benefit from cellular technology would be the release of the mobile telecom sector from imposed taxes as they have been found to interfere competition. Number portability is a prerequisite for competition on local telephone services. It is however hard to determine whether the costs involved would outweigh the decrease in tariffs to be paid by customers after implementation of number portability. Given debt restructuring of many telecom carriers in Mexico, most of them are not willing to bear the costs involved.

To assure sustainability, the SCT's task should be narrowed down and limited to accomplishment of social services objectives. The granting of concession titles has proven to be an extensive process, obstructing potential competitors' entry. Since a competitive market finally determines who is going to succeed (with whatever technology) and who is not, this process should be limited to the provision of the information minimally needed for Cofetel to

base regulation on. The granting of mere licenses or permits by the SCT, or rather by Cofetel, would speed up adoption of new technologies. In the past, companies providing services with new technologies (*e.g.* wireless-fixed services) were abstained concessions, delaying technological development. Exactly new technologies could provide remote, rural areas with an alternative to fixed-line telephony. Furthermore, providing telecom services in remote areas can be stimulated by providing subsidies according to a system called ‘inverse auction’. Hereby, incentives will be made available to spur investments in these areas. Efforts should be directed towards implementation. The process is however complicated by heavy debt burdens of Telmex’s competitors since a necessary condition is profitability. In order to comply with universal service, the Mexican government should set priorities and make sure that a level-playing field is created. The imposition of dominant carrier regulation is then inevitable. Asymmetric regulation, established in Telmex’s concession title still allows Telmex, as a vertically integrated company, to cross-subsidise and with the granting of a concession title to Telcel on long-distance services, the average price rule is paralysed.

It is of major importance to remove the restriction on foreign direct investment, in order to reap the benefits of competition. The advantages of the government’s objective to grow strong national competitors are not believed to outweigh the benefits for consumers in a liberal telecom services industry, since capital to finance investments in telecommunications is in general hard to acquire, let alone in Mexico. Removing restrictions on FDI and decreasing the burden of requiring licenses could mean a reduction in the price of foreign telecommunications by 14.43% and of domestic telecommunications by 6.24% (McGuire, 2002: 24). Mobile telephony is exempted from this limit on FDI and despite Telcel’s high market share and a trend of consolidation, competition has been found to be rather healthy in this segment.

Finally, an important role is granted to the GATS as analysis revealed the importance of free trade agreements in the investment decision process. Many respondents acknowledged the importance of the GATS as moderator of policy change, but its influence on national policy seems to be only marginal up till now. It is easy to subscribe to the intentions of the GATS without implementing a competitive industry. This is the case in Mexico, which is not to say that Mexico violates the GATS. The framework is necessarily generic by approach and the Agreement on Basic Telecommunications (ABT) should be more specific with regard to certain issues to force countries to make binding long-term commitments. The need for a truly autonomous regulator became apparent and has been shown in other studies as well (*e.g.* Mansell, 1993; Mariscal, 2002). Accordingly, total independence of the regulatory authority should be aimed for, instead of requested separation from service providers.

Efforts in the near future should be directed at efficient enforcement of regulation. This will only be possible if the agreement gets more specific, particularly with regard to

definitions. Combined efforts should be directed hereto, although this means that countries have to compromise. A fair compromise is only then within reach when more attention will be paid to the majority share of WTO countries: developing countries. Country specific situations are to be dealt with. Therefore, it is highly recommended to direct efforts at continuous evaluation and analysis of consequences of policies aimed for. This recommendation in itself may not be that stunning since frequent evaluation on the effects of free trade on developing countries is laid down in the GATS. One has to redeem this promise.

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Appendix I Interviews conducted in Mexico

January 16 – April 18, 2003

1 Regulatory authorities	
Federal Competition Commission	Adriaan ten Kate Director General for Economic Studies
Federal Telecommunications Commission	Abel Hibert Sánchez Commissioner Alexandro Perez Nava Economic counsellor Pedro Terrazas Briones Economic counsellor
2 Government	
2.1 Ministry of Economy	
General Directory of Services Negotiations	Guillermo Malpica Soto Deputy Director for Negotiations of Trade in Services
2.2 Ministry of Transport and Communications	
Sub Secretary of Communications	Oscar Muño Kielman Coordinator of Projects
3 Telecom carriers	
3.1 Fixed telephone services	
Teléfonos de México (Telmex)	Francisco Javier Ramírez Avarado Advisor to Regulatory and Legal Affairs Chief Officer
Maxcom	Rogelio Espinosa Cantellano Regulatory Manager Gonzalo Alarcón I. Lawyer
Avantel, S.A.	Hugo Alvarez Schoener Regulatory Manager
Servicios Alestra, S.A. de C.V.	Cesar Gabriel Lopez Serrano Regulatory manager
3.2 Wireless telephone services	
Telcel	Ana de Saracho Regulatory Manager

Grupo Iusacell, S.A. de C.V.	Carlos Hirsch Ganievich Regulatory Director
Teléfono Móviles	Yamil Habib Ortiz Subdirector of Planning and Interconnection
4 Others	
LVHS (Lopez Velarde, Heftye y Soria)	Gerardo Soria G. Lawyer
Holland & Knight-Gallástegui y Lozano, S.C.	Eduardo Ruiz Vega Lawyer
	Jorge Arreola Cofetel Commissioner from 1996 to 2002
CUDI Corporación Universitaria para el Desarrollo de Internet, A.C.	Carlos Casasús López Hermosa Director General Cofetel President from 1996 to 1998
CIDE Centro de Investigación y Docencia Económicas, A.C.	Ernesto Piedras Visiting professor Telecommunications Research Consortium Judith Mariscal Avilés Director of the Telecommunications Research Consortium

Appendix II Data display: perspectives on reform

	Group 1			Group 2		Group 3		
	Respondent							
	I	II	III	IV	V	VI	VII	VIII
Regulation Politics	Active involvement		'No more room for competition'; Telmex's (Mr. Slim's firms) high value on the stock market		Re-regulation is necessary in liberalising the market; review applications for a concession on the basis of financial health		Local governments obstructing network expansion; permits are necessary and hard to obtain	Local governments requesting different permits, obstructing network expansion
LFT		US should be included	Outdated; leaves ample room for injunctions, obstructing regulation; many loopholes	US should be included; Provide CFT with the means to enforce regulation	Many loopholes; What is meant by dominance carrier?		Competition rules prerequisite to invest	Specific issues need to be changed; security and certainty should be aimed at
CFT	Subject to political pressure; dependent on resources	Not independent; no clear mandate; unsuccessful in enforcing regulation	Institutionally weak; 'stuck in the middle'; subject to political pressure	Inability to maintain the LFT	Dependent on resources of the Ministry (budget); but: not in conflict with RP;	Legal mandate is unclear	Strong authority is needed; properly empowered/ equipped	The regulator is not properly entrusted/ equipped
Competition Limit on FDI				In order to remain flexible internally; to develop strong national competitors; Transfer of technology	Import technologies		Foreign participation is key to compete; can be circumvented through neutral investments;	Ridiculous; discriminatory; limiting operations; Mexican investors are hard to find

ACP	Telmex's knowledge about competitor's strategies; structural FMA					Bypass	discriminatory Interconnection with Telmex has to be requested when servicing new cities; FMA	
Dominant carrier		Telmex; not legally speaking; DC regulation is not to be applied			Telmex is subject to asymmetric regulation via concession title		Telmex; a legal definition/resolution is absent	Regulation is not to be applied (because of Telmex's value on the stock market)
Development US	Via technology diffusion	Important as catalyst of development; 'inverse auction'; E-Mexico		US fund; promote competition by inviting tenders to invest in US; E-Mexico	Social services/ social programmes; E-Mexico; provide subsidies; through schools	Demand is a prerequisite	Government should promote competition to reach remote/rural areas	Social service; only possible when yielding profits; E-Mexico; transparency is needed
I			It is important to have an independent regulator; expand its responsibilities; a new LFT		Markets are not perfect; create a market; Telecommunications is a mess, financially	New entrants over invested in building own network infrastructure	Based on lack of TD outside big cities; restructuring debts	Affected by uncertain regulatory environment and were put on hold; difficult financial situation
T	Mobile telephony; substitution		Spectrum, satellite, wireless platforms, mobile technology and power lines	Mobile telephony; substitution	Digital communications; Satellites		Technology fit with deployment; fixed-lines are needed for basic services	

Appendix II Continued

	Group 3				Group 4			
	Respondent							
	IX	X	XI	XII	XIII	XIV	XV	XVI
Regulation								
Politics	Influenced by Telmex's power	Constrains development by imposing (discriminatory) taxes (Tax Ministry)	Political uncertainty delays development of the industry	Telmex's (Mr. Slim's firms) high value on the stock market and their influence on politics is profound	Telmex's (Mr. Slim's firms) high value on the stock market; impasse; regulate markets, not services	The government does not comply with agreements; high level of bureaucracy	Bureaucratic; opposite to the spirit of free markets; lack of willingness; lack of transparency	Too much state intervention; political climate adds to uncertainty; tax policy opposes development
LFT	Pro-competitive; enforcement has not been what expected	Review is needed to spur competition; guarantee regulator's strength	Some services are not regulated, whereas others are over-regulated	Dynamic rules are needed to cope with a flexible and changing environment;	Does not provide proper regulation		Very good law; Lacks however legal technicalities, needed for enforcement	Good law; flexible; competitive spirit is reversed due to political intervention
CFT	Lacks resources; The will to tackle the issues at hand is not present either	Is limited to render opinions; The Ministry decides; lack of enforcement; lack of resources; double window	Lacks the means to enforce regulation; Its authorities and responsibilities should be embedded in the law	Lacks power to enforce regulation; sanctions are imposed by the SCT; can be more active on current law	Depends heavily on the SCT; Very weak, legally speaking; its attributions are not based in the law		Internal structure is not tuned to the complexity of issues that arise; It lacks a legal foundation; constrained by vague mandate	CFT operates in a regulatory vacuum, damaging the development of the sector; instable structure under the SCT
Competition								
Limit on FDI	Severely hinders operations/ coping with debts; discriminatory			Opposes competition with Telmex; causes inflexibility	Political sensitive issue; for the benefit of Telmex		This limit should be released to create a healthy competitive environment	Maybe unfair, but good for Mexican companies; Limit can be bypassed via neutral I
ACP	Transparency on costs on the part of the	Telmex's opposition to prepaid and CPP			As a vertically integrated company, Telmex			

	incumbent with respect to interconnection				is able to cross-subsidise services			
Dominant carrier	Telmex	Telmex/ Telcel; not legally speaking; DC regulation is not to be applied		By granting Telcel a concession on LD telephony, Carso Global Telecom's grip on the market is enlarged;	Telmex; not legally speaking; DC regulation is not to be applied		The resolution drawn by CFT hereon was declared nil because of legal technicalities	
Development								
US			Specific methodology should be addressed in a new LFT	Via mobile (diffusion) and satellite	Via technological evolution, e.g. Wireless-fixed services	Satellite infrastructure is a primary option to reach remote areas; E-Mexico		Provides an uncompetitive environment; demand is a prerequisite
I	Release limit on FDI; restructuring debts; Affected by uncertain regulatory environment and were put on hold	Market opportunities; potential to grow; GSM-technology	GSM-technology	Depends on potential profitability, market changes, the imposition of taxes and interconnection problems that may evolve		Consolidation will take place as is seen in mobile telecommunications	The law should be strengthened and incorporate CFT's abilities; Government's willingness, enthusiasm is needed to secure future reforms	CFT needs decision making power and responsibilities in order to establish confidence; transparent procedures are to be followed
T				Technological evolution leads to convergence of services	Mobile technology is employed for fixed services	Wireless technology as a means to comply with US		Adopting new T would provide a solution to the industry

ACP: Anti-competitive practices

DC: Dominant carrier

I: Investments

T: Technology

US: Universal service

CPP: Calling party pays

FMA: First mover advantage

LD: Long-distance

TD: Teledensity

Appendix III The GATS

Part I	Scope and Definition
Article I	Scope and Definition
Part II	General Obligations and Disciplines
Article II	Most-favoured nation treatment
Article III	Transparency
Article IV	Increasing the participation of developing countries
Article V	Economic Integration
Article V bis	Labour market integration agreements
Article VI	Domestic Regulation
Article VII	Recognition
Article VIII	Monopolies and exclusive service-suppliers
Article IX	Business Practices
Article X	Emergency Safeguard Measures
Article XI	Payments and Transfers
Article XII	Restrictions to safeguard the balance of payments
Article XIII	Government Procurement
Article XIV	General Exceptions
Article XIV bis	Security Exceptions
Article XV	Subsidies
Part III	Specific Commitments
Article XVI	Market Access
Article XVII	National Treatment
Article XVIII	Additional Commitments
Part IV	Progressive Liberalisation
Article XIX	Negotiations of specific commitments
Article XX	Schedules of specific commitments
Article XXI	Modification to schedules
Part V	Institutional Provisions
Article XXII	Consultation
Article XXIII	Dispute settlement and enforcement
Article XXIV	Council for Trade in Services

Article XXV	Technical Co-operation
Article XXVI	Relationship with other international organisations

Part VI Final Provisions

Article XXVII	Denial of benefits
Article XXVIII	Definitions
Article XXIX	Annexes

Annex on Article II Exemptions

Annex on Movement of Natural Persons Supplying Services under the Agreement

Annex on Air Transport Services

Annex on Financial Services

Annex on Negotiations on Maritime Transport Services

Annex on Telecommunications

Annex on Negotiations on Basic Telecommunications

Source: GATS.

Appendix IV Mexico's schedule of specific commitments

Modes of supply: (1) Cross-border supply (2) Consumption abroad (3) Commercial presence (4) Presence of natural persons

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
<p>2.C. TELECOMMUNICATIONS SERVICES</p> <p>Telecommunications services supplied by a facilities based public telecommunications network (wire-based and radioelectric) through any existing technological medium, included in subparagraphs (a), (b), (c), (f), (g) and (o).</p> <p>Radio broadcasting, cable television, satellite transmissions of DTH and DBS services and of audio digital services are excluded.</p>	<p>(1) None, except the following:</p> <p>International traffic must be routed through the facilities of an enterprise that has a concession granted by the Ministry of Communications and Transport (SCT).</p> <p>(2) None</p> <p>(3) A concession^a from the SCT is required. Only enterprises established in conformity with Mexican law may obtain such a concession.</p> <p>Concessions for spectrum frequency bands for specific uses will be granted by public invitation to tender.</p> <p>Foreign governments may not participate in an enterprise set up in accordance with Mexican law</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p>	<p>Mexico undertakes the obligations contained in the reference paper attached hereto.</p>

^a Concession: The granting of title to install, operate or use a facilities-based public telecommunications network.

	<p>nor obtain any authorization to provide telecommunications services.</p> <p>Direct foreign investment up to 49 per cent is permitted in an enterprise set up in accordance with Mexican law.</p> <p>Telecomunicaciones de Mexico (Telecomm) has exclusive rights to links with Intelsat and Inmarsat.</p> <p>Services other than international long-distance services which require use of satellites must use Mexican satellite infrastructure until the year 2002.</p>		
(a) Voice-telephony (CPC 75211, 75212)	(4) Unbound, except as indicated in the horizontal section. (1) None, except as indicated in 2.C.1.	(4) Unbound, except as indicated in the horizontal section. (1) None	
(b) Packet-switched data transmission services (CPC 7523**)	(2) None (3) As indicated in 2.C.3.	(2) None (3) None	
(c) Circuit-switched data transmission services (CPC 7523**)	(4) Unbound, except as indicated in the horizontal section.	(4) Unbound, except as indicated in the horizontal section.	
(f) Facsimile services (CPC 7521** + 7529**)	(1) None, except as indicated in 2.C.1. (2) None	(1) None (2) None	

	(3) As indicated in 2.C.3. A permit issued by the SCT is required in order to provide a public facsimile service. Only enterprises set up in accordance with Mexican law may obtain such a permit.	(3) None
	(4) Unbound, except as indicated in the horizontal section.	(4) Unbound, except as indicated in the horizontal section.
(g) Private leased circuit services (CPC 7522** + 7523**)	(1) None, except as indicated in 2.C.1.	(1) None
	(2) None	(2) None
	(3) As indicated in 2.C.3. Operators of private networks wishing to exploit services commercially must obtain a concession from the SCT, whereupon such networks assume the character of public networks.	(3) None
	(4) Unbound, except as indicated in the horizontal section.	(4) Unbound, except as indicated in the horizontal section.
(o) Other	(1) None, except as indicated in 2.C.1.	(1) None
- Paging services (CPC 75291)	(2) None	(2) None
	(3) As indicated in 2.C.3.	(3) None

<p>- Cellular telephone services (CPC 75213**) on the "A" and "B" bands^b</p>	<p>(4) Unbound, except as indicated in the horizontal section.</p> <p>(1) None, except as indicated in the horizontal section.</p> <p>(2) None</p> <p>(3) As indicated in 2.C.3.</p> <p>Foreign investment in excess of 49 per cent of an enterprise's capital will be permitted following a favourable decision by the Foreign Investment Commission.</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	<p>(4) Unbound, except as indicated in the horizontal section.</p> <p>(1) None</p> <p>(2) None</p> <p>(3) None</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	
<p>- Commercial agencies^c</p>	<p>(1) None, except as indicated in 2.C.1.</p> <p>(2) None</p> <p>(3) None, except:</p> <p>A permit issued by the SCT is required. Only enterprises set up in accordance with Mexican law may</p>	<p>(1) None</p> <p>(2) None</p> <p>(3) None</p>	

^b Frequencies 825-835/870-880 and 835-845/880-890 Mhz.

^c Agencies which, without owning transmission means, provide third parties with telecommunications services by using capacity leased from a public network concessionaire.

	<p>obtain such a permit.</p> <p>Foreign governments may not participate in an enterprise set up in accordance with Mexican law nor obtain any authorization to provide telecommunications services.</p> <p>Except where specifically approved by the SCT, public telecommunications network concessionaires may not participate, directly or indirectly, in the capital of a commercial agency.</p> <p>The establishment and operation of commercial agencies is invariably subject to the relevant regulations. The SCT will not issue permits for the establishment of a commercial agency until the corresponding regulations are issued.</p> <p>(4) Unbound, except as indicated in the horizontal section.</p>	<p>(4) Unbound, except as indicated in the horizontal section.</p>	
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Source: WTO.