

# **Banking the poor through mobile telephony**

Understanding the challenges for  
expansion of mobile-based financial  
services in Guatemala

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## ***Summary***

Guatemala's telecommunications legislation is fairly open and liberal, which helps competition drive the development of services. By 2011, this had resulted in a density of 141 mobile lines in service for every 100,000 people, while mobile telephony penetration amounted to 20.7 million lines, representing growth of 554 percent between 2004 and 2011.

Three mobile operators provide service nationwide, with combined coverage of 97 percent of the country, with broad concentration in the metropolitan area of the capital. The market structure has undergone transformation in recent years, with the leading operator accounting for 49 percent and the other two for 32 percent and 19 percent, respectively. Because of the nature of national legislation – which grants 20-year renewable usufruct licenses by public auction for the right to operate frequencies – it will be difficult for new operators to enter the market.

Mobile telephony users in Guatemala mainly use prepaid services (93 percent), and the main value added is text messaging (79 percent). This offers an opportunity for *text banking*, which has been little used so far.

Expansion, penetration, modernization and innovation of mobile telephony services have been led by the providers themselves, not only because of the lack of public policies, but also because the regulatory framework in effect since 1996 has proven effective for promoting competition to drive development.

The country's ecosystem is fairly conducive to implementation of mobile financial services (MFS), because since November 2011 there have been specific regulations for providing these services, issued by the Office of the Superintendent of Banks (*Superintendencia de Bancos*, SIB). These rules were drafted without the participation of mobile telephony operators. One legal barrier to providing MFS is the requirement that a bank account be opened for possible users. Nevertheless, this condition is defended on the grounds that it will allow the savings protection network to cover those users.

The implementation of banking agents since 2010 (4,050 by the end of 2011) and a national network of 3,125 bank branches, along with simplified paperwork for opening a bank account, are facilitating the process of inclusion in the banking system.

Guatemala's first conditional cash transfer (CCT) program operated between 2008 and 2011, but was terminated. A new program began in mid-2012 and now reaches 20 percent of the population. The contribution for education (150 quetzales) and health (150 quetzales) is deposited in passbook savings accounts in a bank in the system. This has begun to create an incipient process of banking the beneficiaries, although it is simple and basic.

The Guatemalan government still lacks a public policy for banking the poor. It even lacks internationally accepted indices and indicators of financial inclusion. Although there are no specific regulations on jurisdiction, the general perception is that both the mobile telephony market and the financial market develop and innovate because of the high degree of competition among service providers. Nevertheless, low levels of education, in general, and financial education, in particular, are seen as the greatest obstacle to expanding MFS.

The government should not intervene, but with modern and flexible regulations, it should stabilize and balance the rules of participation for providing MFS, to make them more accessible to people at the bottom of the pyramid.

## ***Introduction***

The purpose of this document is to evaluate the effectiveness of the mobile financial services (MFS) ecosystem in Guatemala as a platform for the deployment of such services, identifying bottlenecks for its penetration among the poorest populations. The study is based on the perceptions of key stakeholders in the sector, as proposed by the methodology developed by [LIRNEasia \(2008\)](#) for evaluating the telecommunications regulatory environment.

The methodology proposes the analysis of three areas for the MFS ecosystem: (1) the institutional environment, (2) the market environment, and (3) the end-user environment. Within these, various key dimensions for explaining profitability and levels of investment are analyzed.

This is the first study in Guatemala to apply this methodology for evaluating the MFS ecosystem, a methodology that has been used for various case studies in other Latin American countries.

## ***1 Assessment of the mobile telephony sector***

Until the early 1960s, international telecommunications in Guatemala were in the hands of the US monopoly Tropical Radio Telephone Co., while domestic telephony service was provided by the National Telephone Office (*Dirección de Teléfonos Nacionales*), which also acted as the regulatory agency for telephony services. In 1966, the government merged the two and created the Guatemala International Telecommunications Company (*Empresa Guatemalteca de Telecomunicaciones Internacionales*, GUATEL), which became an autonomous, decentralized entity in 1971.

In 1986, the government granted a 15-year concession for the 800 MHz cellular telephony band to the company Comunicaciones Celulares, S. A. (COMCEL). The Guatemalan company held the concession until the 1990s, without providing any service.

Between 1986 and 2000, under four different administrations, Guatemala began a process of economic reform and privatization of state-run companies, with the goal of increasing efficiency and de-monopolizing markets, as well as attracting foreign investment.

Between 1996 and 1998, under the government of President Alvaro Arzú, the government's role in the economy shifted from benefactor to subsidiary ([Urizar 2007: 10-11](#)), a new General Telecommunications Law was approved, a new private corporation was created with the state-run GUATEL as majority shareholder, shares in the new company were sold in a public bidding process and the frequencies defined in the general law were put up for international public auction.

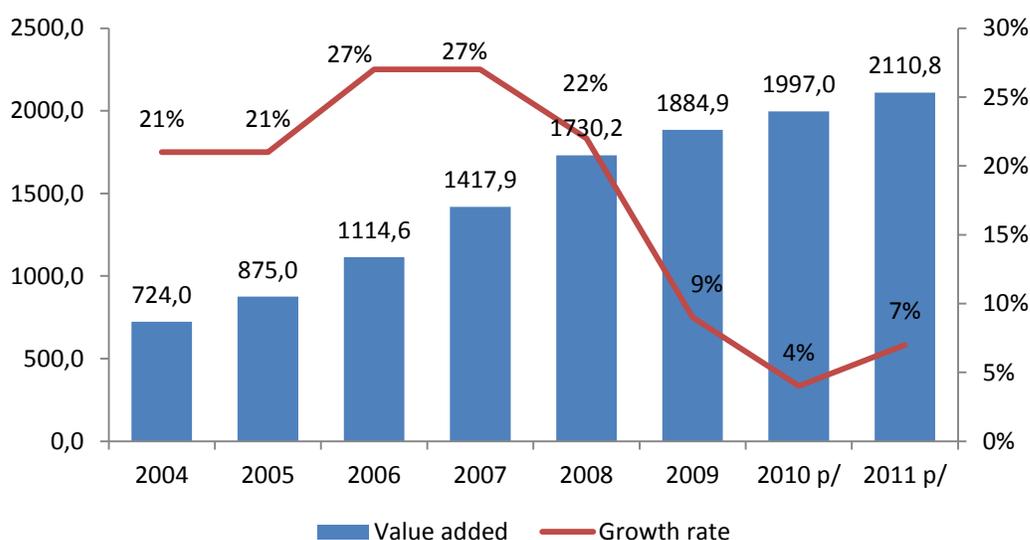
This created the opportunity for national or international telephony companies to provide mobile telephony services. In addition, through competition among them, greater coverage, quality of service and competitive, accessible prices were achieved ([Urizar 2007: 12](#)). By 2001, COMCEL, TELGUA, Telefónica and Bellsouth were offering mobile telephony services, and by 2012, the first three were competing in the market (the fourth had been acquired by Telefónica).

## 1.1 General and investment indicators

### 1.1.1 Investment and telephone density

This subsection addresses measurement of the relationship and incidence between investment and telephone density. In Guatemala, there is no record of investment by mobile telephony operators in expanding coverage or updating technology and digital infrastructure, as there is no legal requirement for telephone companies to report the amount of their annual investments to either the regulatory body or the public. None of the three operators trades on the national stock exchange, so data are not available there, either. Tax returns could be another possible source, but they are protected under the Constitution. In an effort to estimate the amount invested by the sector, Figure 1 shows data of value added in the telecommunications sector, as indicated in the country's national accounts.<sup>1</sup>

**Figure 1: Value added in the telecommunications sector (millions of US\$)**



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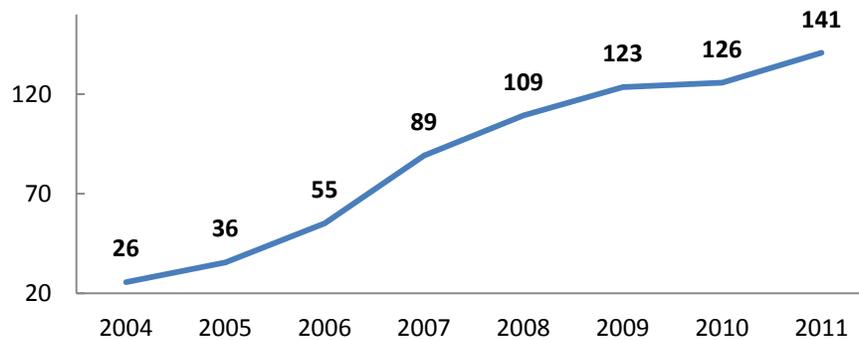
<sup>1</sup> Value added refers to the difference between the value of goods and services and the cost of the materials and inputs used to produce them.

Note: p/= preliminary figures

Source: Banco de Guatemala/ Compiled by author

Mobile density shows growth; in 2004, there were 26 mobile phones for every 100 inhabitants, while in 2011, the proportion was 141 mobile lines in service for every 100 people (Figure 2).

Figure 2: Mobile telephony: teledensity



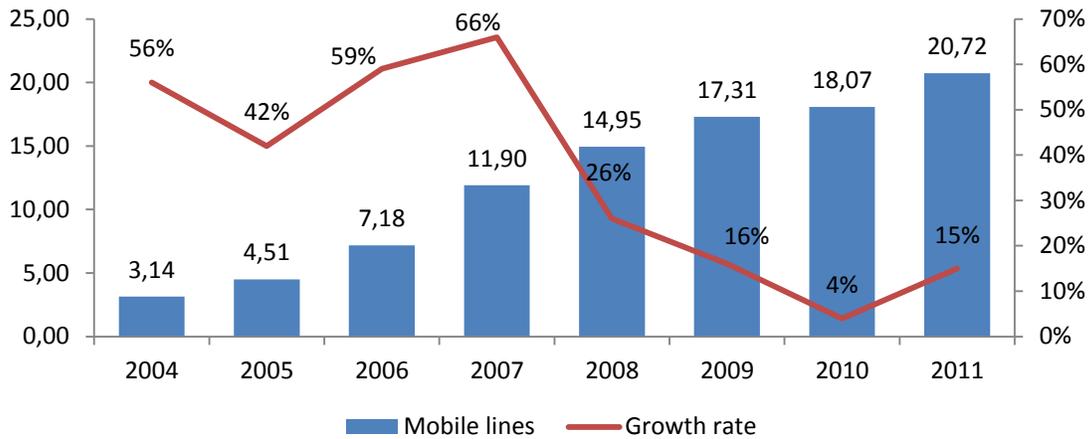
Source: SIT/ Compiled by author

### 1.1.2 Mobile telephony penetration

Mobile telephony penetration refers to the total number of mobile lines in service. In 1997, when the restructuring of the telecommunications market began, there were 492,712 fixed and 64,194 mobile lines. By the beginning of this century, those figures had increased to 676,631 and 856,831, respectively.

Guatemala has seen dynamic growth in the past eight years, from 3,168,256 lines in 2004 to 20,715,677 in 2011, an increase of 553.85 percent during that period (Figure 3).

**Figure 3: Mobile telephony penetration (millions of lines in service)**



Source: SIT/ Compiled by author

In 2005, growth of mobile telephone lines compared to previous year was 42.4 percent. The expansion was led by Telecomunicaciones de Guatemala (TELGUA), with 2,093,693 lines. In 2006 and 2007, the telecommunications market experienced strong growth of 59.17 percent and 65 percent, respectively. Comunicaciones Celulares (COMCEL) showed the greatest growth. The third mobile telephony operator in Guatemala is Telefónica, which had approximately 4 million lines in service in 2011. By the end of 2011, the total number of active mobile lines reported to SIT was 20.7 million.

**Table 1: Mobile lines in service by operator, 2004-2007**

Company	Year / Indicator							
	2004		2005		2006		2007	
	Mobile lines	Δ%	Mobile lines	Δ%	Mobile lines	Δ%	Mobile lines	Δ%
<b>COMCEL</b>	1,021,746	23.6%	1,262,815	81.9%	2,297,336	87.6%	4,310,838	20,0%
<b>TELGUA</b>	1,403,163	49.2%	2,093,693	40.7%	2,945,053	55.3%	4,574,196	29,1%
<b>Telefónica</b>	743,347	55.2%	1,153,559	67.9%	1,936,356	55.6%	3,012,529	28,5%
<b>Total</b>	3,168,256	42.4%	4,510,067	59.2%	7,178,745	65.7%	11,897,563	25.6%

Source: SIT/ Compiled by author

The rapid development of the mobile telephony market between 2004 and 2007 was followed by deceleration. The total growth rate for 2007 was 25.6 percent, nearly 40 percentage points less than the previous year. In 2010, the rate was 4.4 percent, reaching 18,067,970 mobile lines. By 2011, the mobile telephony market had recovered, with an increase of 14.7 percent, to 20,715,667 lines.

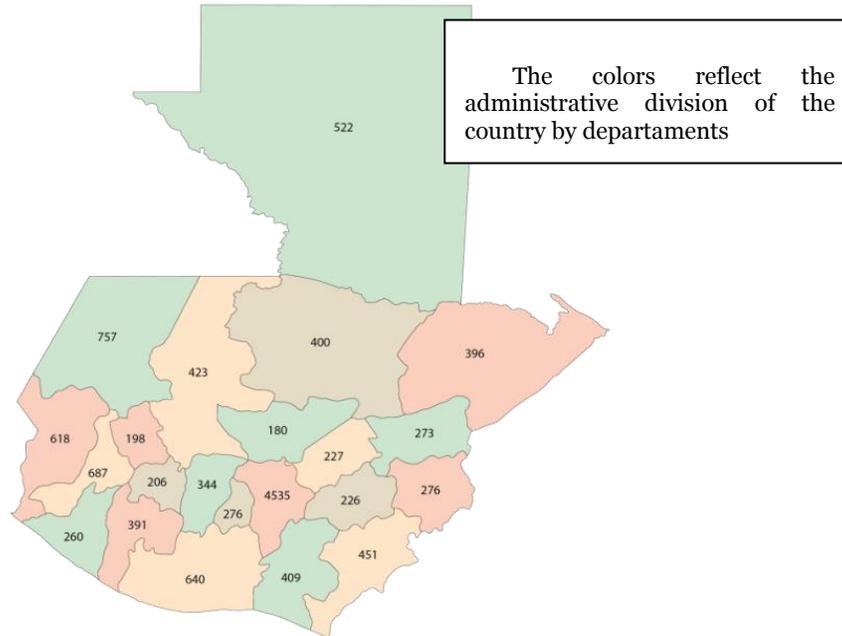
Table 2: Mobile lines in service by operator, 2008-2011

Company	Year / Indicator						
	2008		2009		2010		2011
	Mobile lines	Δ%	Mobile lines	Δ%	Mobile lines	Δ%	Mobile lines
<b>COMCEL</b>	5,172,580	28.4%	6,643,565	16.3%	7,728,054	31.0%	10,122,122
<b>TELGUA</b>	5,904,153	9.4%	6,458,108	-4.5%	6,165,622	6.5%	6,564,324
<b>Telefónica</b>	3,871,907	8.6%	4,205,786	-0.7%	4,174,294	-3.5%	4,029,231
Total	14,948,640	4.4%	17,307,459	4.4%	18,067,970	4.7%	20,715,677

Source: SIT/ Compiled by author

Domestic coverage can be measured by the total number of regions with mobile geographic coverage. In Guatemala, mobile telephony coverage has extended throughout the country. The regions with the largest number of radiobases in service are the metropolitan and southwestern regions, with 4,535 and 2,360 radiobases, respectively. Map 1 shows the number of radiobases in each department of the country.

**Map 1: Distribution of radiobases by department, 2011**



**Source: SIT/ Compiled by author**

According to the 2006 National Survey of Living Conditions (*Encuesta Nacional de Condiciones de Vida*, ENCOVI) carried out by the National Statistics Institute (*Instituto Nacional de Estadística*, INE), of a total of 2,653,000 households surveyed, 1,453,600 Guatemalan have cellular service. In urban areas, 66.7 percent of households have cellular service, while the figure is 40.8 percent in rural areas.

**Table 3: Number of households with cellular service**

Households		Geographic area	
People with service	%	Urban	Rural
<b>1,453,600</b>	54.7%	66.7%	40.8%

**Source: INE, ENCOVI 2006/ Compiled by author**

The INE carried out another ENCOVI in 2011, but did not obtain the same information as in 2006 because of a change in the question about the telecommunications sector: instead of asking about mobile telephone ownership, the survey asked about mobile service in the household.

Table 4 shows the results of a survey about ways in which Guatemalans use mobile telephony, which include sending SMS messages within the country (58 percent) receiving SMS messages within the country (13 percent) and making international calls (9 percent).

**Table 4: Principal uses of mobile telephone**

<b>Use of cellular phone</b>	<b>Percentage of respondents</b>
<b>Sending SMS within country</b>	58%
<b>Receiving SMS within country</b>	13%
<b>Making international calls</b>	9%
<b>Reviewing voice mail</b>	4%
<b>Sending SMS outside country</b>	3%
<b>Receiving international calls</b>	3%
<b>Navigating social networks</b>	3%
<b>Chatting</b>	3%
<b>Downloading music, images, games</b>	2%
<b>Visiting Internet pages</b>	2%
<b>Receiving promotional SMS</b>	2%
<b>Listening to music</b>	2%
<b>Other</b>	7%

**Source: Gallup Poll, 2011**

In another survey carried out one year earlier (2010), text messaging or SMS also appears as the main use of cellular telephony (Table 5).

**Table 5: Evaluation of use of value-added services**

<b>Use of cellular phone</b>	<b>Percentage of respondents</b>
<b>Text messages</b>	79%
<b>Voice mail</b>	42%
<b>Ringtones</b>	15%

<b>Collect calls</b>	12%
<b>Downloading images</b>	8%
<b>Voice calls</b>	4%
<b>Downloading games</b>	4%
<b>Multimedia messages</b>	4%
<b>Other</b>	5%

**Source: *Usos y actitudes de Telecomunicaciones 2010***

According to the *Observatorio móvil de América Latina 2011* report ([GSMA 2012](#)), in 2008 and 2010, of 20 countries studied, Guatemala ranked thirteenth in mobile penetration.

## **1.2 Principal stakeholders**

The main stakeholder in Guatemala's mobile telephony market is the SIT, an agency of the Ministry of Communications, Infrastructure and Housing (MICIVI). Under the Telecommunications Law, the SIT's functions include:

- a) Creating, issuing, reforming and repealing internal regulations.
- b) Managing and supervising use of the electromagnetic spectrum.
- c) Managing the Telecommunications Registry.
- d) Settling disputes between operators over access to essential resources.
- e) Implementing sanctions under the law, as appropriate.

## **1.3 Regulatory environment**

The regulatory environment for telecommunications in Guatemala is defined by the Constitution, Congressional Decree 94-96 (the General Telecommunications Law) and Decree Law 433 (the Radiocommunications Law). The Constitution establishes that electromagnetic frequencies are public goods and that to transfer them, the law will define the constraints and formalities governing their operation and fiscal objectives.

### 1.3.1 Entry into the market

COMCEL was the first company to offer mobile telephony services in the country. With a 15-year concession of the 800 MHz cellular telephony band granted by the government in 1986, COMCEL began providing limited service in the early 1990s in the department of Guatemala ([Fuentes 2008: 27](#)). In 1993, COMCEL began expanding coverage, installing an antenna in Escuintla. In 1994, it expanded its networks to the districts of Quetzaltenango, Retalhuleu, Tecún Umán, Mazatenango and Coatepeque. Cellular service was limited and exclusive, because of the high cost of acquiring mobile telephone and the price charged for calls ([Fuentes 2008: 27](#)).

In 1998, 95 percent of the TELGUA shares were acquired by the company Luca S. A., made up of a group of investors from Guatemala and other Central American countries. The sale amounted to US\$1.3 billion. Luca S. A. subsequently sold 79 percent of the shares to Telmex. In 2001, Telmex acquired all of TELGUA.

The Spanish company Telefónica entered the cellular telephony market in 1999, and with TELGUA, with the PCS digital brand, obtained licenses in the 1900MHz frequency. BellSouth Internacional entered the market in 1999 and in 2000 began operating in the 1900MHz band in 2000. In 2002, it expanded its coverage in Guatemala City, Sacatepéquez, Chimaltenango and Escuintla (Central Region), as well as along some highways in the main departments.

On 15 October 2004, Telefónica announced a merger by absorption with BellSouth, which gave rise to its new Movistar brand ([Prensa Libre 2004](#)). In January 2007, COMCEL stimulated competition in the mobile telephony market with its Tigo brand and introduced per-second calculation of charges. All mobile telephony providers had eliminated charges for incoming calls some years earlier.

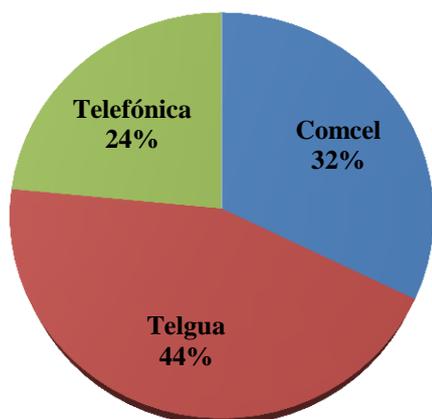
**Table 6: Company share, by number of lines in service**

Company	2004	2005	2006	2007	2008	2009	2010	2011
COMCEL	32%	28%	32%	36%	35%	39%	43%	49%
TELGUA	44%	46%	41%	39%	39%	37%	34%	32%
Telefónica	24%	26%	27%	25%	26%	24%	23%	19%
<b>Total</b>	<b>100%</b>							

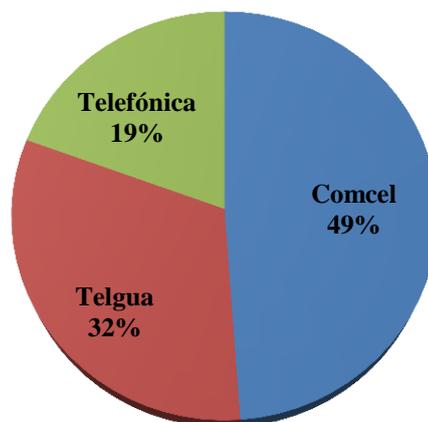
**Source: SIT/ Compiled by author**

During the period covered by the study, there was a change in the structure of mobile telephony service providers. Although TELGUA held the largest share in 2004, with 44 percent, COMCEL had attained 49 percent by 2011. Movistar has held steady in third place, and its share had decreased from 24 percent to 19 percent by the end of the period (Figures 4 and 5).

**Figure 4: Company share (number of lines in service, 2004)**



**Figure 5: Company share (number of lines in service, 2011)**



Source: SIT/ Compiled by author

In Guatemala, there are no barriers to entry into the mobile telephony market. On the contrary, the General Telecommunications Law guarantees free entry into the various markets. Nevertheless, current market structure, the number of mobile lines in service, people’s ability to pay and the recent renewal of licenses to use frequencies (*títulos de usufructo de frecuencias*, TUF) for 15 more years make it very difficult for new operators to consider entering the Guatemalan market.

Nevertheless, the Guatemalan government, through the Office of the Superintendent of Telecommunications, has not yet put up for public international auction, as required by law, some frequencies still reserved for providing 4G or LTE services. That could offer an opportunity for a new operator to enter the market.

### **1.3.2 Access to scarce resources**

In Guatemala, the law initially mentions essential resources, defining them as follows:

**Essential resources.** For the purpose of this law, only the following will be considered essential resources:

- a) Termination, in the network of one of the parties, of telecommunications originating in any other commercial network.

- b) Transfer of telecommunications originating in the network of one of the parties to any other commercial telecommunications network chosen by the end user, implicitly or explicitly.
- c) Signaling.
- d) Data necessary for billing of the services provided.
- e) Rights to publish user data and register in the white pages of all telephone directories.
- f) Access rights to databases of public directories of clients of other telecommunications service companies, for the sole purpose of their publication in the white pages of its telephone directory.
- g) Transfer of automatic identification of the ID number of the user originating the communication.

Access to essential resources is governed by the General Telecommunications Law. In 2006, when the Free Trade Agreement with the United States (DR-CAFTA) took effect, several reforms were made to the General Telecommunications Law, including the addition of article 27 bis, related to additional resources, which states:

Article 27 bis. Additional resources. For the purpose of this law, only the following will be considered additional resources:

- a) Resale;
- b) Dialing parity;
- c) Access to right-of-way.
- d) Access to use of submarine cable systems, including platform installations in Guatemalan territory.

Except for the operators indicated in Article 22 bis, operators of commercial telecommunications networks must provide access to additional resources to any operator requesting it with the appropriate payment. Access must be granted for the provision of telecommunications services, with the quality and at the nodes requested, and on terms and conditions that are reasonable, non-discriminatory and transparent. In case of conflict over access to additional resources, the Office of the Superintendent will implement the procedure for resolving conflicts over essential resources, and the investigator will rule, in this case, on the reasonableness and non-discriminatory nature of the terms and conditions offered.

The electromagnetic spectrum and number codes are considered scarce resources for providing mobile telephony services and therefore go hand in hand with entry into the market ([Barrantes and Pérez 2007: 10](#)).

### **1.3.3 Interconnection**

In the General Telecommunications Law (Art. 26), interconnection is understood as «the function by which operability is ensured between networks, so that telecommunications traffic can be transmitted between them.» The law explicitly states that interconnection is determined by free agreement between the parties, except with regard to essential services.

The rules for providing telephony service are more specific about international interconnection. International interconnection agreements between an international gateway operator and foreign network operators must be registered in the Telecommunications Register.

### **1.3.4 Tariff regulation**

In Guatemala, prices for commercial telecommunications services are established by free agreement between the contractual parties. Prices are not subject to regulation or state intervention, except in the case of access to essential services. The Office of the Superintendent of Telecommunications therefore does not have the power to intervene in or regulate tariffs for mobile telephony service.

### **1.3.5 Regulation of anti-competitive practices**

Guatemala does not have specific regulations on anticompetitive practices in general or in the telecommunications sector. Several articles of the General Telecommunications Law indicate that the goal is to encourage free competition and freedom to compete. More specifically, it states that operators of commercial telecommunications networks must not engage in anticompetitive practices.

The SIT's function is to act as arbiter; it does not have express powers to sanction anticompetitive practices in the telecommunications market.

Because there is no specific regulation, the constitutional provision prohibiting monopolies and privileges can be used as a supplement. In addition, Article 362 of the Code of Commerce contains the following provision on unfair competition:

Any act contrary to commercial good faith or to normal and honest commercial activities will be considered unfair competition and, therefore, unjust and prohibited.

In its language on crimes against the national economy and the environment, the Criminal Code refers to the crime of monopoly formation and specifies that anyone guilty of that crime will be punished with six months to five years in prison and a fine of 500 to 1,000 quetzales, equivalent to US\$1,277.

### **1.3.6 Universal Service Obligation (USO)**

The USO is a package of services guaranteed to the entire population, with a minimum quality and at accessible prices. Both the price and the quality of the service must be geographically uniform ([Cremer et al. 2001: 5-7](#)). Non-discrimination is a basic principle of USO. Each country defines the services and the conditions under which they are provided, as well as the operators responsible for providing them.

In Guatemala, there is no regulation in effect to guarantee or promote USO. Nevertheless, the General Telecommunications Law created the Telephony Development Fund (*Fondo de Desarrollo de la Telefonía*, FONDETEL), which promotes the expansion of fixed-line telephone service.

Since beginning operations in 1998, FONDETEL has developed and implemented 51 projects related to basic telephony, benefiting rural communities, with an emphasis on providing service through community and institutional telephones. Because of the country's geographic and topographic conditions, infrastructure for the 51 projects was implemented using satellite network, wireless and fixed-network systems.

### **1.4 Cash transfer services**

Through its Tigo brand, COMCEL is operating a new, low-cost, mobile-based cash transfer service called Tigo Money within the country. The company's goal is to expand its handling of remittances from the United States ([El Periódico 2012](#)).

The service allows users to transfer between 5 and 5000 quetzales at a cost of 1.50 quetzales for every 25 quetzales sent. To send or withdraw cash, the person must have a Tigo mobile line, fill out a form with personal information and the cell phone number of the recipient of the money, and show his or her personal identification document.

On 14 June 2012, Tigo signed an agreement with the Inter-American Development Bank (IDB) to promote a mobile-based system for making loan payments. This partnership seeks practical solutions for banking the poor, to benefit the 65 percent of Guatemalans who lack formal means for making payments ([Siglo 21 2012](#)).

### ***1.5 Significant events***

Because of the nature of Guatemala's legal framework, which is internationally recognized as an example of modernity and stability for the free development of telecommunications, the significant events discussed here involve decisions about that development.

It is free competition between mobile telephony operators, rather than political or regulatory decisions, that has been transforming services and their quality. For example, in the late 1990s, charges were imposed for both incoming and outgoing calls, but one operator offered to charge only for outgoing calls, and the others followed suit. Until 2005, calls were charged by the minute or fraction of a minute. One operator's decision to charge by the second, by the call or by the minute transformed the market; the same was true of promotions for prepaid services. Users now expect promotions for purchasing airtime, because operators offer double, triple, quadruple and even sextuple time per quetzal invested.

The mechanism for public auction of frequencies, the granting of licenses to use frequencies (TUF) and the almost automatic renewal mechanism remove management of the electromagnetic spectrum from political influence or administrative decisions. As supervisor of the spectrum, SIT is only responsible for verifying technical aspects related to frequency use and organizing new auctions.

## ***2 Assessment of the financial sector***

The Guatemalan banking system is organized with the central banking system. The Bank of Guatemala is directed by the Monetary Board and is supplemented by commercial banks, private financial societies, bonded warehouses, brokerage houses, insurance companies, offshore entities, surety bond companies and exchange houses, which have specific regulations for their operations. Financial intermediation operates through these institutions, especially commercial banks ([González Arévalo 2008](#)).

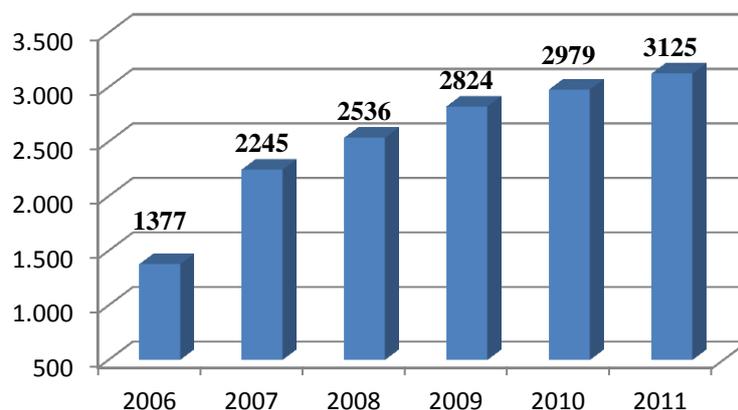
### ***2.1 General and investment indicators***

Overall indicators of the Guatemalan financial system include the evolution of assets by institution and indicators for banking the poor. The banking system's assets amounted to US\$22,336,970,000 in 2011, an increase of US\$2,757,430,000 (14.1 percent) from 2010. As of September 2012, the banking system had US\$23,790,830,000 in assets. In September 2012, financial societies had assets totaling US\$844,901,000.

Offshore entities have recovered since the international financial crisis, with assets valued at US\$3,053,390,000 as of September 2012. Financial groups – groups of two or more juridical persons that engage in financial activities, one of which is banking – have seen steady asset growth in recent years. In 2009, they had assets worth US\$20,052,000,000, and by September 2012, that figure had risen to US\$26,635,000,000, an increase of more than 27 percent.

The following figure shows the development and growth of bank branches nationwide. In 2007, the number of bank branches increased by 868, or 63 percent, from the previous year; that was the year with the greatest reported growth in the number of branches. In 2008, there was an increase of 291 branches; in 2009, the increase was 11 percent, 288 branches more than the year before. Subsequent years saw growth of 5 percent; in 2011, there were 3,125 bank branches.

**Figure 6: Number of bank branches in Guatemala, 2006-2011**



**Source: SIB/ Compiled by author**

Table 7 shows the growth in the number of bank branches, as well as their distribution among the country's 22 departments. As of September 2012, the number of branches had increased to 3,197, with coverage in all departments and districts (Map 2).

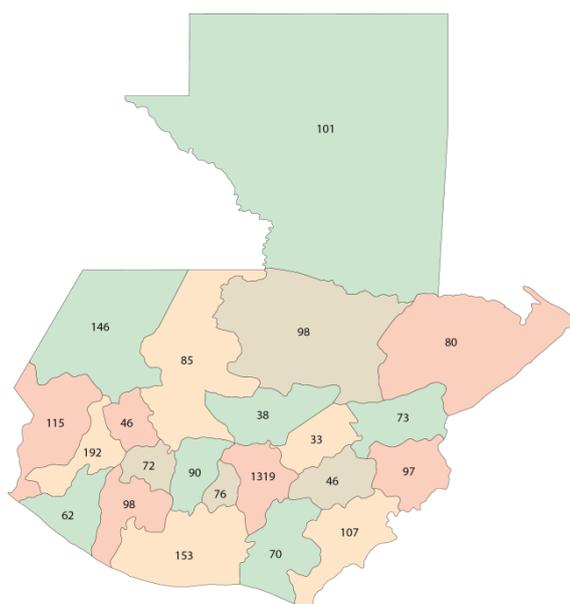
**Table 7: Distribution of bank branches by department, 2006, 2009, 2011**

Department	Number of branches		
	2006	2009	2011
<b>Guatemala</b>	644	1220	1289
<b>El Progreso</b>	13	31	34
<b>Sacatepéquez</b>	27	68	73
<b>Chimaltenango</b>	32	77	85
<b>Escuintla</b>	69	137	151
<b>Santa Rosa</b>	20	54	66
<b>Sololá</b>	22	63	69
<b>Totonicapán</b>	10	29	44
<b>Quetzaltenango</b>	80	161	185
<b>Suchitepéquez</b>	38	87	94
<b>Retalhuleu</b>	29	51	58
<b>San Marcos</b>	41	101	116
<b>Huehuetenango</b>	50	117	144

<b>El Quiché</b>	32	69	83
<b>Baja Verapaz</b>	13	34	36
<b>Alta Verapaz</b>	47	83	98
<b>El Petén</b>	28	77	101
<b>Izabal</b>	42	73	80
<b>Zacapa</b>	37	66	72
<b>Chiquimula</b>	40	96	99
<b>Jalapa</b>	22	37	45
<b>Jutiapa</b>	33	93	103
<b>Total</b>	1377	2824	3125

**Source: SIB/ Compiled by author**

**Map 2: Distribution of bank branches by department, 2012**



*Note: Data as of September*

**Source: SIB/ Compiled by author**

Table 8 shows the distribution of bank branches per 100,000 inhabitants and per 1,000 square kilometers.

**Table 8: Bank branches per department, 1,000 km<sup>2</sup> and 100,000 inhabitants, 2006, 2009, 2011**

Department	Year / Indicator					
	2006		2009		2011	
	1000 km <sup>2</sup>	100,000 inhab.	1000 km <sup>2</sup>	100,000 inhab.	1000 km <sup>2</sup>	100,000 inhab.
<b>Guatemala</b>	289	23	542	40	572	41
<b>El Progreso</b>	7	9	20	34	18	22
<b>Sacatepéquez</b>	58	10	146	22	157	23
<b>Chimaltenango</b>	16	6	39	13	43	14
<b>Escuintla</b>	16	11	31	20	34	22
<b>Santa Rosa</b>	7	6	18	16	22	19
<b>Sololá</b>	21	6	59	15	65	16
<b>Totonicapán</b>	9	2	27	7	42	9
<b>Quetzaltenango</b>	41	11	83	21	95	23
<b>Suchitepéquez</b>	15	8	39	18	38	18
<b>Retalhuleu</b>	16	11	28	18	31	19
<b>San Marcos</b>	11	5	27	10	31	11
<b>Huehuetenango</b>	7	5	16	11	20	13
<b>El Quiché</b>	4	4	8	8	10	9
<b>Baja Verapaz</b>	4	5	11	13	12	13
<b>Alta Verapaz</b>	5	5	10	8	11	9
<b>El Petén</b>	1	6	2	13	3	16
<b>Izabal</b>	5	12	8	19	9	19
<b>Zacapa</b>	14	18	25	31	27	33
<b>Chiquimula</b>	17	12	40	27	42	27
<b>Jalapa</b>	11	8	18	12	22	14
<b>Jutiapa</b>	10	8	29	22	32	24
<b>Total</b>	13	11	26	20	29	21

**Source: SIB – National Institute of Statistics/ Compiled by author**

A survey carried out in August 2011 with assistance from the World Bank (World Bank 2012) found that 22.3 percent of adults had an account in a formal financial institution (29.9 percent of men, 15.6 percent of women). Among the uses indicated for the formal accounts were receiving wages (10 percent), receiving remittances (4.3 percent), receiving government payments (3.5 percent), business purposes (2.5 percent) and sending remittances (2.4 percent).

The main means of depositing cash are bank branches, with 83.7 percent; ATMs, with 4.3 percent; and banking agents, with 0.7 percent. Among the main means of withdrawing cash are bank branches, with 59.2 percent; ATMs, with 26.2 percent; debit cards, with 13 percent; and banking agents, with 0.6 percent. This shows that people continue to use bank branches most for deposits and withdrawals.

The following table shows the main payments made by mobile telephony by people surveyed in 2011: 3.7 percent used mobile telephony to receive money and 2.5 percent to send money. It is important to note that people did not use mobile telephony to pay bills.

**Table 9: Mobile-based payments, users over age 15 (2011)**

<b>Use of mobile telephony</b>	<b>(%.)</b>
<b>Pay bills</b>	0.0
<b>Send money</b>	2.5
<b>Receive money</b>	3.7

**Source: [World Bank 2012: 68](#) / Compiled by author**

## ***2.2 Key stakeholders***

The key stakeholders in Guatemala's financial system are:

- *The Monetary Board (Junta Monetaria)*, which has the constitutional mandate to determine «the country's monetary, exchange and lending policy, and for the liquidity and solvency of the national banking system, ensuring the stability and strengthening of national savings.»

- *The Bank of Guatemala (Banco de Guatemala)*, the country's central bank.
- *The SIB* is, according to the Constitution, «the body that oversees and inspects banks, lending institutions, financial enterprises, surety bond companies, insurance companies and others as indicated by law.»

### **2.3 MFS ecosystem**

The banking system is the main stakeholder in the implementation of mobile financial services in Guatemala, because the service is being implemented at the initiative of commercial banks, as part of their business strategy and to provide people with an alternative way of carrying out financial operations. These mobile financial services began to be offered in 2010, although there were no regulations governing them.

In response to that situation, the SIB prepared – in coordination with the banking system, but not with mobile telephony operators – Regulations for Providing Mobile Financial Services, which took effect on 1 November 2011.

The regulations establish who can provide MFS and how: «Mobile financial services must be tied to individual bank accounts for monetary deposits, deposits of savings and/or lines of credit corresponding to the affiliated customer.»

Of the 18 banking institutions, six banks provide mobile financial services:

a) Banco Industrial

Name of service: Bimóvil

Services offered:

Operations

- Consulting balance and account summary statements
- Transfers
- Credit card and loan payments
- Blocking accounts

Alerts

- Charges on credit and debit cards
- Account activity
- ATM withdrawals

## Notices

- Reminders about credit card and loan payments
- Notices of new functions

## New service

- Payment of electricity bill

Cost of the service: 10 quetzales a month, deducted directly from the bank account.

### b) Banco G&T Continental

Name of the service: Bancacel

Services offered:

Bancacel for Smartphones:

People receive information about the following operations:

- Transfers of funds between their accounts
- Consumer POS charges
- ATM withdrawals
- Check payments
- Deposits
- Credit card operations

Bancacel SMS (text messages)

Account balances, transfers and payments.

## General services

- Account balances
- Account statement
- Transfers between accounts
- Utility payments

Cost of service: free.

### c) Banco de América Central

Name of the service: BAC MÓVIL

Services offered:

- Consulting exchange rate

- Account balances
- Email bank statements
- Consulting bank statements
- Local transfers to third parties
- Credit card payments

Cost of the service: no charge.

d) Banco Agro Mercantil

Name of the service: Bamcel

Services offered:

- Consulting information about bank accounts and loans
- Balances of monetary and savings accounts, pension funds, loans and credit cards, as well as utilities, such as water, electricity and telephone.
- Transfers between accounts
- Payment of loans, credit cards, insurance, bills to third parties and utilities

Cost of service: free.

e) Banco Internacional

Name of service: InterMóvil

Services offered:

- Consulting balances, blocking accounts, re-sending PIN numbers

Cost of service: free.

f) Banco de Desarrollo Rural

Name of service: Bancamigo

Services offered:

- Cell phone-to-cell phone transfers
- Consulting balances
- Deposits and withdrawals
- Payments in affiliated businesses
- Receiving international remittances
- Recharging air time

Cost of service: free.

### **2.3.1 Institutional environment**

- Financial system regulation of MFS

The purpose of the Regulations for Providing MFS is to «regulate minimum aspects to be observed by banks, as well as by companies specializing in issuing and/or managing credit cards, which are part of a financial group, in providing mobile financial services.»

For purposes of implementing the regulations, MFS are understood as «operations and transactions of a deposit account or line of credit that institutions can, by law, carry out by means of a mobile device that uses telephony services.»

To understand how MFS have been regulated and the logic behind the approval of the rules by the supervisory agency and the Monetary Board, their criteria were studied. Based on this, it was concluded that the oversight body classified mobile financial services within ordinary banking services, with two clear consequences:

- a. All prudent banking regulations apply to MFS users.
- b. A limitation can be set on expansion of MFS, by requiring that people have accounts, especially poor people who have mobile lines.

The regulations, which include rules aimed at preventing money laundering and financing of terrorism, are considered «basic, with little regulation and with little definition of the mobile financial services model, leaving banks free to define it.»<sup>2</sup> The mobile telephony sector also considers it «a norm made to order for the banking sector, which excludes mobile telephony companies from providing mobile financial services.»<sup>3</sup>

- Financial system regulation for financial inclusion

The only rules that contribute to banking the poor in Guatemala are the Regulations for Operations and Provision of Services by Banking Agents and the Regulations for Providing Mobile Financial Services, both issued by the Monetary Board.

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<sup>2</sup> Interviews with stakeholders in Category 1 (19/09/2012).

<sup>3</sup> Interviews with stakeholders in Category 1 (20/09/2012, 25/09/2012).

Some banks and all mobile telephony operators perceive as «a limitation on banking the poor Article 5 of the MFS regulations, which requires that the service be tied to a deposit account and a line of credit.»<sup>4</sup> The limitation lies in the banks' lack of trust in people, especially those in rural areas. The SIB has recently begun working for banking of the poor in that regard

- Telecommunications sector regulation of MFS

The country has no MFS regulations for the mobile telephony sector, and only has regulations for the financial system, although some banks «believe it is necessary to involve telephony companies in the MFS regulatory framework so they do not provide MFS without the supervision of a government agency.»<sup>5</sup>

Mobile telephony operators, meanwhile, demand greater flexibility of the specific rules issued by the SIB, although they say the Office of the Superintendent of Telecommunications should not make rules in that area.

- Telecommunications sector regulation for financial inclusion

Guatemala has no financial inclusion norms or regulations for the mobile telephony sector, because only the regulations mentioned above exist and because of «the lack of coordination between the offices of the superintendents of Telecommunications and Banking in implementing a joint regulatory framework that defines the supervisory responsibilities of both».<sup>6</sup>

- Coordination and joint policies for providing MFS

MFS involve two economic sectors: banking institutions and mobile telephony companies. There is currently «no coordination between the two sectors, nor are there government policies that encourage joint efforts to provide MFS».<sup>7</sup> Some interviewees therefore believe it is necessary for the two offices of Superintendents to develop a regulatory framework that involves both sectors.<sup>8</sup>

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<sup>4</sup> Interviews with stakeholders in Category 1 (20/09/2012, 25/09/2012).

<sup>5</sup> Interviews with stakeholders in Category 1 (20/09/2012, 25/09/2012).

<sup>6</sup> Interviews with stakeholders in Category 1 (20/09/2012 y 4/10/2012).

<sup>7</sup> Interviews with stakeholders in Category 1 (28/09/2012).

<sup>8</sup> Interviews mentioned in Footnote 17.

- Consumer protection for MFS

With regard to protection of consumers of MFS, the regulations do not precisely define the type of protection provided to users who acquire this service. Article 14 states: «The institution will be responsible for operations and transactions carried out by means of mobile financial services. The contract or contracts signed must establish the responsibility corresponding to affiliated customers and to third parties who use or participate in mobile financial services.»

A quick review of Guatemalan legislation shows that there are no legal instruments for the protection and defense of users of the services provided and operations carried out by the various entities that make up Guatemala's financial system (banks, lending institutions, financial companies, surety bond companies, insurance companies, etc.) (Mendoza 2009).

### **2.3.2 Market environment**

- Competition in the financial sector

As one interviewee commented, «competition in the banking sector is strong in the expansion of financial products and investment in nationwide coverage, both with bank branches and with banking agents, to provide access to people to carry out financial operations.»<sup>9</sup>

In Guatemala, the Banks and Financial Groups Law establishes a minimum capital adequacy ratio of 10 percent, weighting assets according to their risk. The history of the capital adequacy ratio in lending institutions between 2007 and 2011 shows that it has remained above the required 10 percent, and therefore, above the international standard of 8 percent, and reached 15.4 percent in December 2011.

The ratio of *past-due portfolio loan loss provisions / assets* aims to approximate the percentage of capital at risk if the portfolio ever shows a high loss rate. In 2010 and 2011, provisions increased by 10.1 percent and 4.0 percent, respectively, over December of the previous year. In addition, the past-due portfolio decreased by 18.5 percent in 2010 and by 13.3 percent in 2011. This means that the portfolio loan loss provisions

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<sup>9</sup> Interviews with stakeholders in Category 1 (19/09/2012).

have decreased substantially. In that sense, the ratio of past-due portfolio loan loss provisions / assets reached 2.5 percent in 2011.

Also, the indicator *past-due portfolio / total portfolio* shows a downward trend, which indicates a lower level of portfolio impairment. As of December 2011, the indicator stood at 1.6 percent, a decrease of 0.5 percentage points since December of 2010 (2.1 percent).

There was significant growth in past-due portfolio coverage between December 2008 and December 2011: it increased from 39.6 percent to 72.1 percent as a result of a 43.3 percent increase in specific reserves during that time. That increase was due mainly to the implementation of prudent measures.

As a result of the global economic crisis, return on equity (ROE) was lower in 2009 (19.1 percent) and 2010 (19.9 percent) than in previous years. In 2011, however, it rose to 22.9 percent, showing a higher rate of return than before the crisis. There has been a growth trend in return on assets (ROA), from 2 percent in 2009 to 2.2 percent in 2011.

Between 2009 and 2010, the banking system showed that more than 91.5 percent of its gross operating margin came from traditional financial intermediation activities. That ratio decreased slightly in 2011, to 88.8 percent, similar to the level before the global economic crisis (more than 85 percent from 2005 to 2008).

The indicator of administrative expenses shows greater efficiency in the management of banking institutions. After recovering in 2009, the indicator has remained around 67 percent.

Immediate liquidity represents the ratio of immediately available resources plus easily made investments to sources of funding plus other short-term requirements (accounts payable). This indicator measures the degree to which lenders could handle withdrawals of short-term funds without suffering liquidity problems.

After 2008, immediate liquidity rose to 44.9 percent in domestic currency and 44.5 percent in foreign currency by December 2010. In 2011, that trend continued in domestic currency, to 47 percent, while decreasing in foreign currency, to 43.6 percent. The latter is consistent with the increase in the loan portfolio volume in foreign currency and slower growth in new deposits in that currency.

The liquid assets ratio is the ratio of immediately available funds plus easily made investments to total net assets, to handle the potential withdrawal of sources of funding

and meet other short-term requirements. The behavior of the liquid assets ratio is similar to that of the indicator of immediate liquidity, for the same reasons. After 2008, there was an increase to 39.3 percent in domestic currency and 31.4 percent in foreign currency by December 2010. In 2011, the indicator stood at 40.9 percent in domestic currency and 27.8 percent in foreign currency.

The indicator of sensitivity to exchange risk showed a slight downward trend after June 2009, and stood at 3.1 percent in February 2010. This drop coincided with an appreciation in the exchange rate. Since then, the indicator has remained below 9 percent.

Six banks provide mobile financial services. According to one interviewee, «they compete in both quality and security in the use of the service and in price, since some banks charge a monthly fee for using this service and others provide it for free.»<sup>10</sup>

- Competition in the telecommunications sector

According to the interviews, «there is greater competition in the mobile telephony sector than in the banking sector, because of investment in innovation in communications systems, spending on advertising, and air time deals, especially for prepaid plans, and promotions. In contrast, in banking institutions, the products are often similar and there is less advertising and fewer promotions to attract new clients.»<sup>11</sup>

- Innovation in the telecommunications market

Free competition in the telecommunications market in Guatemala has allowed the adoption of new technologies in a relatively short time, as well as the provision of innovative services. Nevertheless, this has not been sufficient for mobile financial services to expand significantly.

For example, in 2011 Guatemala had an active broadband user rate of 4.1 per 100 inhabitants, only 7 percent of households had Internet (the global average is 20.5 percent) and 11.7 percent of the country's inhabitants used Internet (the average for developing countries is 24.4 percent) (Broadband Commission 2012).

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<sup>10</sup> Interviews with stakeholders in Category 1 (19-20/09/2012).

<sup>11</sup> Interviews with stakeholders in Category 1 (20/09/2012, 24/09/2012, 4/10/2012).

In Guatemala, the least expensive fixed broadband plan costs about US\$20. Mobile operators have begun to offer low-cost smartphones, which could allow the expansion of MFS in the future, with more than *text-banking*.

- Government leadership in MFS

The government has participated little in the development of MFS. It has ceded the initiative and leadership to the private sector. According to one interviewee, «there is no plan for the development of this service or for involving it in social programs that involve conditional cash transfers and payment of workers' wages.»<sup>12</sup>

### **2.3.3 End user environment**

- Support infrastructure for non-bank correspondents (agents)

The activity of banking agents has been regulated since 2010.<sup>13</sup> These are individual or juridical persons involved in commercial activities, who sign a contract with the bank to serve as intermediaries, engaging in authorized financial services and operations. These functions include: (1) receiving deposits and handling withdrawals from savings accounts and cash deposit accounts previously established in the contracting bank; (2) handling payments on behalf of others provided for in the contract; (3) receiving and sending funds transfers; and (4) receiving payments on loans made by the contracting bank.

Infrastructure is crucial for these functions, and POS play a decisive role. Table 10 shows POS penetration at the departmental level for Visanet, one of the two companies providing debit and credit card services to businesses.

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<sup>12</sup> Interviews with stakeholders in Category 1 (24/09/2012 y 4/10/2012).

<sup>13</sup> In regulations approved by the Monetary Board.

**Table 10: Point of sale (POS) distribution by department, 2012**

<b>Department</b>	<b>Indicator</b>		
	Number of POS	POS per 1000 km <sup>2</sup>	POS per 100,000 inhab.
<b>Guatemala</b>	20,531	9,657	640
<b>Quetzaltenango</b>	1,997	1,023	247
<b>Sacatepéquez</b>	1,189	2,557	368
<b>Escuintla</b>	975	222	136
<b>Izabal</b>	648	72	153
<b>Suchitepéquez</b>	643	256	122
<b>Chimaltenango</b>	611	309	97
<b>Chiquimula</b>	552	220	138
<b>Retalhuleu</b>	538	290	173
<b>Huehuetenango</b>	510	69	44
<b>Alta Verapaz</b>	441	51	38
<b>El Petén</b>	317	9	48
<b>Zacapa</b>	285	106	127
<b>San Marcos</b>	250	66	24
<b>Jutiapa</b>	199	62	45
<b>Sololá</b>	190	179	42
<b>Santa Rosa</b>	162	54	46
<b>El Quiche</b>	158	19	16
<b>El Progreso</b>	86	45	54
<b>Baja Verapaz</b>	84	27	30
<b>Jalapa</b>	79	38	24
<b>Totonicapán</b>	64	60	13
<b>Total</b>	30,479	280	202

**Source: VISANET/ Compiled by author**

The inequitable distribution is obvious: two-thirds of all POS are concentrated in the department of Guatemala, while poorer departments have much lower indicators.

Despite the concentration in the metropolitan area, however, considerable progress has been made.

- Development (agent network penetration)

One of the interviewees in Category 1 said:

ATM and banking agency coverage has increased in recent years, but there is concentration in the capital and less in the country's other departments, especially in poor and rural areas; POS terminals are also found in large companies and businesses where poor people don't make purchases.<sup>14</sup>

Banking agencies represent a less onerous solution for promoting access to financial services, because establishing and maintaining branches in remote towns implies high administrative costs. The banking system has had to adapt to an environment in which there are many low-value operations and create more flexible networks that can expand rapidly in the retail establishments.

By the end of 2011, banks reported having 4,050 points of service. Adding the number of bank branches opened that year, and comparing the total with the points of service reported in 2010, there was an increase of 141 percent, which is an important step in banking the poor in Guatemala.

The use of banking agents has been positive and has enabled people who normally have no access to financial system to approach the regulated financial system.

## ***2.4 Important events***

In 2012, Congress approved Decree 26-2012, which moved banking regulations toward the precepts of Basel II and Basel III.

The main goal of reforms to the Banks and Financial Groups Law and the Organic Law of the Bank of Guatemala was to make the regulatory framework approved in 2002 more efficient, fulfilling the state's role of protecting the formation of capital, national savings and investment, as established in the Constitution.

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<sup>14</sup> 19 and 20 September 2012.

## **2.5 Possibilities for developing financial services through conditional cash transfers**

From 2008 to 2011, Guatemala had a program called “My Family Progresses” (*Mi Familia Progresa*, MIFAPRO). The goal was to improve the living conditions of poor families with children under age 15 through economic support of 300 quetzales a month (US\$38.46) for health, education and nutrition. By the end of 2011, before the program was canceled, it included 872,521 families in 307 of the country’s 334 districts and operated in all departments of Guatemala.

In 2012, with the start of the new administration, the Ministry of Social Development (MIDES) was established and the CCT programme “Mi Bono Seguro” was created, also targeting families living in poverty and extreme poverty. The program provides two vouchers or transfers, one for health, for 150 quetzales, and the other for education, also for 150 quetzales. The first voucher is an incentive for families to keep medical appointments and follow the schedule of height and weight checkups; the second is an incentive for children to go to school and finish their studies, and for parents to accept their shared responsibility by sending them to school every day.

This program has made three voucher transfers since it began in May 2012, for a total of 476,402,700 quetzales (US\$60.8 million). Mifapro paid out a total of US\$372.3 million in the three and a half years that it operated. The money initially was paid in cash, and later in checks, most of which were changed into cash. The financial agent was the Banco de Desarrollo Rural (BANRURAL), a private bank with the most extensive network of branches in the country. Beginning in 2010, payments were made into savings accounts. BANRURAL then began a financial education program, because beneficiaries were withdrawing 100 percent of the transfer amount. During the time that it operated, MIFAPRO did not include a component for banking the poor, as programs in Brazil, Colombia, Chile and Ecuador have.

Payment of Mi Bono Seguro is also made by cash transfer to accounts in BANRURAL. Mi Bono Seguro does consider banking the poor a complementary aspect.

### 3 Methodology

The study methodology adapts the proposal developed by LIRNEasia for the telecommunications sector ([Samarajiva et al., 2005](#)). Unlike that methodology, this study analyzes the entire MFS ecosystem, not just the institutional or regulatory environment. The evaluation is based on three areas of the MFS ecosystem: (1) institutional environment, (2) market environment, and (3) end-user environment ([World Economic Forum 2011](#)). Table 11 shows the 14 dimensions on which the discussion will focus.

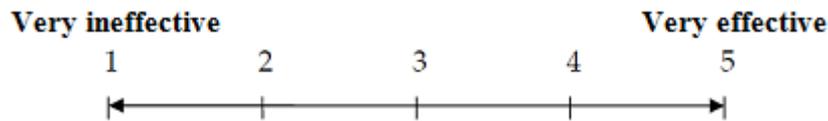
**Table 11: Dimensions of MFS ecosystem to be evaluated**

Environ-ment	Dimension	Aspects covered
Institutional environment	Financial system regulation of MFS	Licensing: complexity of process and specifics for issuing electronic money
	Financial system regulations for financial inclusion	Incorporation of mandates for financial inclusion
	Telecommunications sector regulation of MFS	Universal service and coverage requirements, regulation of quality, know-your-customer rules
	Telecommunications system regulations for financial inclusion	Incorporation of mandates for financial inclusion
	Coordination and joint policies for offering MFS	Joint policies of financial and telecommunications regulators
	Consumer protection for MFS	Measures for protection of MFS customers
Market environment	Competition in financial sector	Market concentration, profitability indicators and quality-of-service indicators
	Competition in telecommunications sector	Market concentration, profitability indicators and quality-of-service indicators
	Innovation in telecommunications market	Degree of innovation
	Government leadership on MFS	Government's degree of interest and openness
	Management of data and information management about users/beneficiaries of social programs	Databases to understand behavior and needs
End-user environment	Support infrastructure for non-bank correspondents	Infrastructure deployment (ATM, POS)
	Agent network development (penetration)	Agent distribution networks (retail outlets, sellers of prepaid cards, etc.)
	Bank efforts to include/capture new users	Policies for capturing new users

Source: [World Economic Forum \(2011\)](#)/ compiled by IEP

The following figure shows the range for assessing the dimensions of MFS. The evaluation scale ranges from 1, which indicates that the interviewee considers the dimension very ineffective, to 5, which indicates that the dimension is very effective.

Figure 7: Evaluation scale



Source: [LIRNEasia \(2008\)](#)

The methodology proposes surveys to gather the perceptions of key stakeholders in the sector. Experts in the sector were classified according to the following three categories. Table 12 shows the description of interested stakeholders for each of the three categories

Table 12: Definition of categories

Category	Description
Category 1	Stakeholders directly affected by regulation of the telecommunications sector. Operators, equipment providers and business associations.
Category 2	Stakeholders who analyze the sector from a broader perspective. Consultants and law firms, consultants of financial institutions.
Category 3	Stakeholders interested in improving the sector to help the public. Academics, research organizations, user associations, journalists, members of civil society, government agencies and donors.

Source: [LIRNEasia \(2008\)](#)

The following tables shows the number of experts consulted in this study in each category (Table 13), as well as the number of responses per category (Table 14) and the weight assigned to each (Table 15).

**Table 13: Number of experts per category**

<b>Category</b>	<b>Experts (N)</b>
<b>Category 1</b>	17
<b>Category 2</b>	17
<b>Category 3</b>	24
<b>Total</b>	58

**Compiled by author**

**Table 14: Number of responses per category**

<b>Category</b>	<b>Responses (N)</b>
<b>Category 1</b>	5
<b>Category 2</b>	5
<b>Category 3</b>	7
<b>Total</b>	17

**Compiled by author**

**Table 15: Weighting, by category**

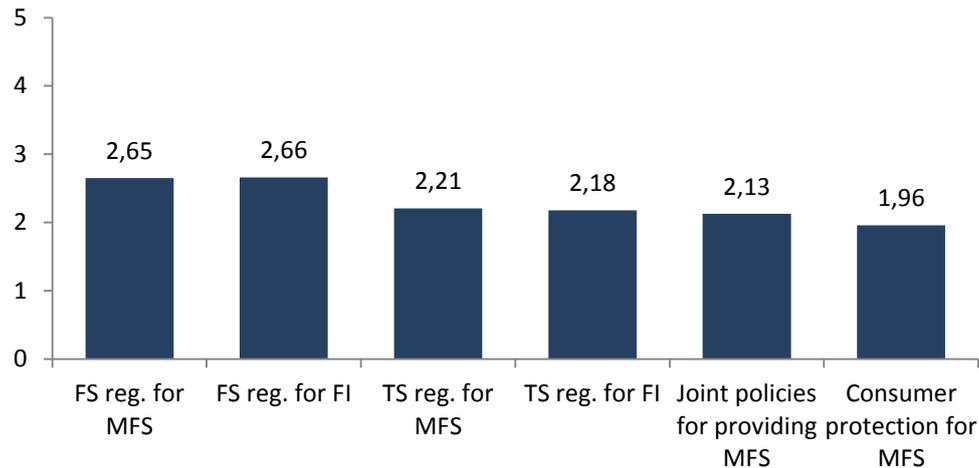
<b>Category</b>	<b>Weight of response</b>
<b>Category 1</b>	1.13
<b>Category 2</b>	1.13
<b>Category 3</b>	0.809

**Compiled by author**

## 4 Results

Each person interviewed was asked to rank the regulatory environment for mobile telephony service and the dimension to be evaluated on a scale of 1 to 5. Once the values were weighted, a simple average was taken for each response. The following results were obtained:

**Figure 8: Results of evaluation of institutional environment**



*Note:* FS = Financial sector, TS = Telecommunications sector

**Compiled by author**

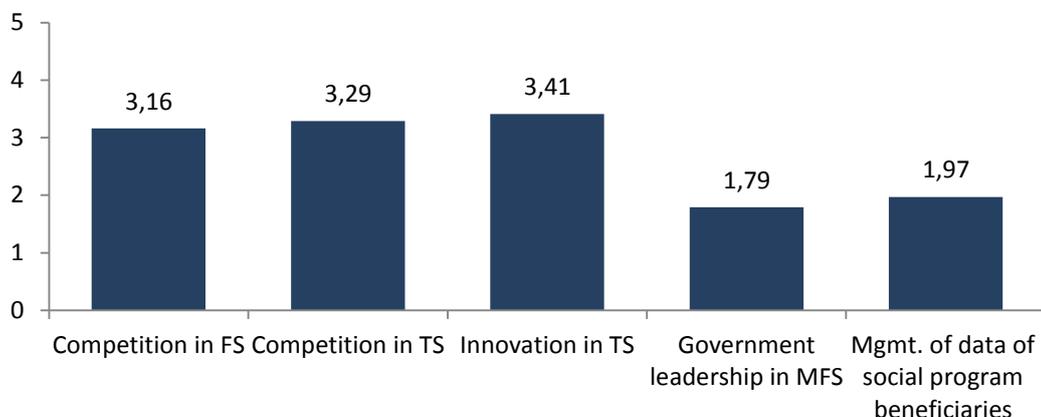
In the institutional environment, regulations governing mobile financial services and financial inclusion that exist in both the financial and telecommunications sectors were evaluated. Consumer protection and the policies that both sectors promote for providing MFS were also considered.

The perception of financial sector regulation of MFS and for banking the poor is below the efficacy boundary, with 2.65 and 2.66, respectively. The telecommunications sector was also rated below the efficacy boundary, with 2.21 in regulation of MFS and 2.18 in regulation of financial inclusion. That is because the country has no regulatory framework that provides guidelines for financial inclusion. The regulation of mobile financial services applies only to the financial sector, leaving out the telecommunications sector.

Joint policies for the regulation of MFS and for consumer protection in MFS were rated 2.13 and 1.96, respectively. The lowest scores were in the institutional environment; they are below the efficacy line. This perception is due to the lack of

policies and regulations involving the financial sector and the telecommunications sector in the provision of MFS, and to the lack of consumer-protection regulations.

**Figure 9: Results of evaluation of market environment**

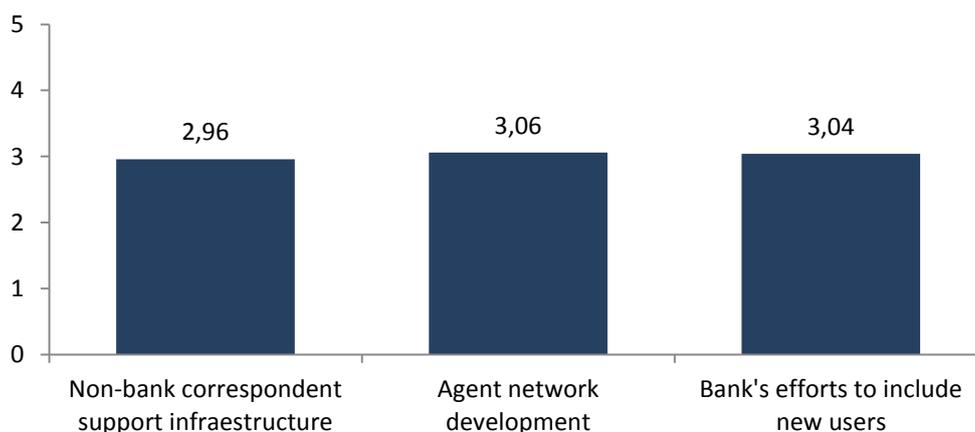


*Note:* FS = Financial sector, TS = Telecommunications sector

**Compiled by author**

In the evaluation of the market environment, three dimensions stand out for having scored close to the efficacy boundary: competition in the financial sector, with a score of 3.16; competition in the telecommunications sector, with 3.29; and innovation in the telecommunications sector, with 3.41. The opposite was true of the last two dimensions, which scored below the efficacy boundary; those dimensions were government leadership in mobile financial services, which scored 1.79, and management of data of beneficiaries of government social programs, which scored 1.97.

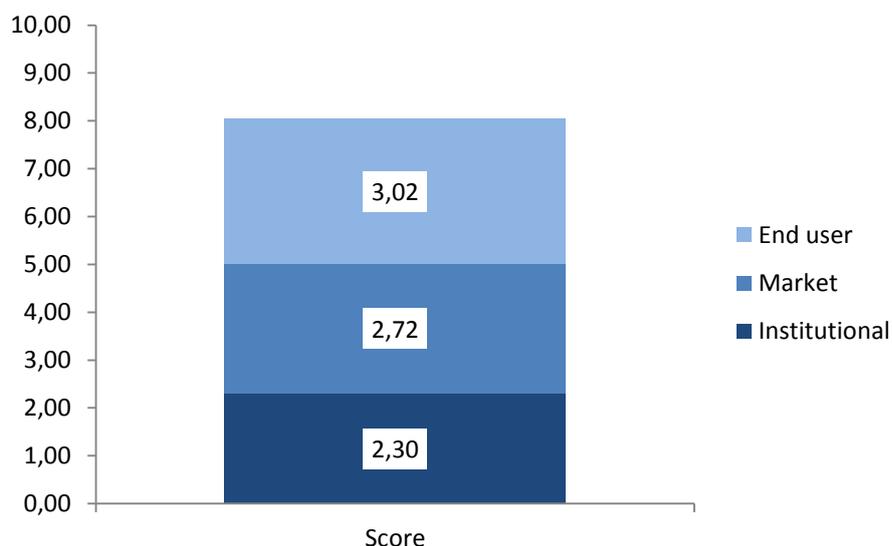
**Figure 10: Results of evaluation of end-user environment**



**Compiled by author**

The evaluation of the end-user environment resulted in scores close to the efficacy boundary in the three dimensions analyzed. Support infrastructure for non-bank correspondents scored 2.96, agent network development scored 3.06, and bank efforts to include new clients scored 3.04.

**Figure 11: Results of evaluation, by environment**



**Compiled by author**

Overall, the environments evaluated did not pass the efficacy boundary, as Figure 11 shows. Of the three environments, the end-user environment is closest to the boundary. The interviewees’ perception is that there is greater development in the deployment of banking agent distribution networks, deployment of support infrastructure for non-bank correspondents and policies for capturing new users of financial-sector products.

The institutional environment received the lowest score of the three, with 2.30. The interviewees perceive little regulation in areas related to banking the poor and MFS, as well as a lack of joint policies between the supervisory agencies of the financial and telecommunications sectors for providing MFS and appropriate consumer-protection measures.

The market environment received an overall score of 2.72. The interviewees’ perception in this area highlighted the existence of competition in both the financial and the telecommunications sectors and innovation of services, as well as a lack of government leadership in promoting MFS and inadequate management of data of beneficiaries of social programs.

## ***Conclusions***

1. The ecosystem for providing MFS in Guatemala is defined and is in a consolidation phase. Mobile telephony operators must better resolve their business model, and the banking system must determine how to make MFS attractive to more users, not just those at the top levels of the pyramid.
2. Lower levels of education in general and financial education in particular are major obstacles to the massive deployment of MFS.
3. The government is completely absent from the study, analysis and promotion of MFS-related issues. Provision of these services is a result of business decisions.
4. Banking the poor and financial inclusion do not appear to be part of public policies. Once again, businesses are driving both issues in Guatemala.
5. There is no coordination between the regulatory agencies for the financial market and the telecommunications market. Both the Office of the Superintendent of Banks and the Office of the Superintendent of Telecommunications lack specific plans and programs for massive expansion of MFS or for coordinating rules for them.
6. The legal framework in effect for the financial market and the telecommunications market is considered timely and relevant, although greater competition is desirable.
7. Guatemala has been successful in making access to mobile telephony service more democratic, as reflected in the teledensity and penetration rates for mobile telephony. Overall, prices are competitive compared to the other countries in the region.
8. Including people at the bottom of the pyramid in the banking system and making them a priority are new issues on the national agenda, and actions and activities to promote them are incipient and disconnected. Implementation of banking agents was an appropriate decision, but merits greater support.
9. The current conditional cash transfer program, Mi Bono Seguro, has understood the importance of banking the poor and has begun taking steps, but they must be expanded massively; MFS are a timely option.

10. The study revealed that the country lags behind with regard to reliable indices and indicators of financial inclusion and mobile telephony services, and that few studies are available on this topic.

## ***Recommendations***

1. Support for activities aimed at financial education, not only from the regulatory agency, but also in the formal and non-formal school systems.
2. Define public policies that tend to promote banking of the poor and financial inclusion.
3. Create venues for discussion and debate among stakeholders in the financial and telecommunications markets, to share experiences and promote actions to facilitate the use of MFS.
4. Avoid promoting actions that change the current rules for participation in the markets, except for adjustments that stabilize and provide certainty to providers of financial and mobile telephony services.
5. Proposals related to competition and consumer protection must take into account the particular nature of the services and the maturity of the Guatemalan markets.
6. Promote the international public auction of frequency bands that allow the provision of mobile broadband services, such as 4G and LTE.
7. Support the SIB and SIT in the development of reliable databases, indices and indicators of banking the poor and financial inclusion.
8. Support the Ministry of Social Development to keep financial inclusion a priority in the Conditional Cash Transfer Program. The ministry should be accompanied in the incorporation of technological innovations for serving beneficiaries, so they can take greater advantage of the technology, especially mobile telephony.
9. Expand studies in Guatemala about banking the poor and financial inclusion, incorporating the use of ICTs as a vehicle for this.
10. Drawing on international experience, but taking into account the particular nature of Guatemala's regulatory framework, consider the seven pillars of development of mobile financial services proposed by the World Economic Forum (2011): (1) regulatory proportionality, (2) consumer protection; (3) market competitiveness; (4) market catalyst; (5) end-user empowerment and access; (6) distribution and agent network; (7) adoption and availability.

## **Bibliography**

**Barrantes, Roxana and Pérez, Patricia. 2007.** *Regulación e inversión en telecomunicaciones: estudio de caso para el Perú, setiembre 2006-agosto 2007*. Lima: DIRSI.

**Cremer, H., F. Gasmi, A. Grimaud and J. J. Laffont. 2001.** «Universal Service: An Economic Perspective». *Annals of Public and Comparative Economics* 72, 1, marzo, pp. 5-43.

**El Periódico. 2012.** «Las remesas ya se envían por el teléfono móvil». 18/01/12. URL: <<http://www.elperiodico.com.gt/es/20110118/economia/188857>>.

**Fuentes, E. 2008.** *Propuesta de reforma a la Ley General de Telecomunicaciones, Decreto 94-96, para regular el tiempo de vencimiento de las tarjetas en el uso de la telefonía celular*. Thesis. Universidad de San Carlos de Guatemala.

**González Arévalo, Carlos. 2008.** *Sistema bancario guatemalteco. Evolución reciente y estado actual*. Guatemala: ASIES.

**GSMA. 2012.** *Observatorio Móvil de América Latina 2011. Impulsando el desarrollo económico y social a través de la banda ancha móvil*. London: A. T. Kearney.

**LIRNEasia. 2008.** *Manual of instructions for conducting the Telecom Regulatory Environment (TRE) assessment*. Colombo: LIRNEasia.

**Mendoza, Carlos. 2009.** *Estudio sobre protección para los usuarios del sistema financiero*. Component of Phase II of the Transparency of the Guatemalan Financial System Project. Guatemala: Fundación Soros.

**Prensa Libre. 2004.** «Telefónica completa adquisición de BellSouth». 15/10/2004. URL: <[http://www.prensalibre.com/economia/Telefonica-completa-adquisicion-BellSouth\\_o\\_95390511.html](http://www.prensalibre.com/economia/Telefonica-completa-adquisicion-BellSouth_o_95390511.html)>.

**Samarajiva, Rohan, Dokeniya, Anupama, Sabina, Fernando, Manikkalingam Shan y Sanderatne, Amal. 2005.** *Regulation and investment: Sri Lanka case study*. En A. K. Mahan y W. H. Melody (eds.). *Stimulating investment*

*in network development: Roles for regulators*. World Dialogue on Regulation, pp. 141-176.

**Siglo 21. 2012.** «Apoyará microcréditos». 14/06/12. URL: <<http://www.s21.com.gt/node/238774>>.

**The Broadband Commission. 2012.** *The State of Broadband 2012: Achieving Digital Inclusion For All*. ITU-Unesco.

**Urizar, Carmen. 2007.** *Competencia y regulación en las telecomunicaciones: el caso de Guatemala*. México: ECLAC.

**World Economic Forum. 2011.** *The Mobile Financial Services Development Report 2011*. Ginebra-Nueva York.

**World Bank. 2012.** *The Little Data Book on Financial Inclusion 2012*. Washington D.C.

## **Appendix 1 – Questionnaire: Mobile financial services**

This questionnaire is part of the project, “Banking the poor through mobile telephony: understanding the challenges for expansion of mobile-based financial services in Latin America.”

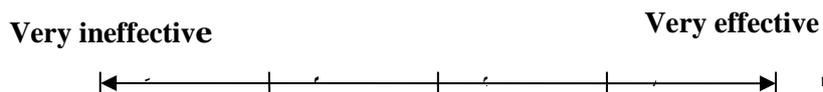
The overall objective of the project is to identify the constraints on growth of financial services with mobile technology for the poor and contribute to the design of mechanisms for promoting investment in and implementation of services, as well as their adoption by beneficiaries of social programs (such as Mi Familia Progresiva in Guatemala, Comunidades Solidarias in El Salvador and Tekopora in Paraguay).

Please complete the table according to your perception of each aspect related to the provision of Mobile Financial Services (MFS, *m-banking*). Mobile financial services include:

- Consulting account balances,
- Making transfers between accounts,
- Payments for services,
- Receiving/sending remittances, etc.

In general, we are referring to any service that financial institutions can provide to their customers and to non-customers, including all types of operations (transfers, deposits, loans), as well as operations between individuals and between people and businesses, through financial institutions and/or agents (correspondents).

**1 means very ineffective and 5 means very effective.**



	<b>Dimensions of mobile financial services (MFS)</b>	<b>Rating (1 to 5)</b>
<b>Institutional environment</b>		
	Financial system regulation of MFS	
	Financial system regulation for financial inclusion	
	Telecommunications sector regulation of MFS	
	Telecommunications system regulation for financial inclusion	
	Coordination and joint policies (financial and telecommunications sectors) for providing MFS	
	Consumer protection for MFS	
<b>Market environment</b>		
	Competition in financial sector	
	Competition in telecommunications sector	
	Innovation in telecommunications market	
0	Government leadership on MFS <sup>a</sup>	
1	Management of data/information about users/beneficiaries of social programs <sup>b</sup>	
<b>End-user environment</b>		
2	Support infrastructure for non-bank correspondents (agents)	
3	Agent network development (penetration)	
4	Bank efforts to include/capture new users	

<sup>a</sup>Interest and level of openness in the public sector (ministries).

<sup>b</sup>Refers to whether you perceive that there is adequate, integrated information about users/beneficiaries that facilitates implementation of mobile financial services.

<sup>c</sup>Refers to the deployment of infrastructure, such as ATMs, POS terminals, etc.

**Comments:**

## ***Appendix 2 – Interview guide***

### **Institutional environment**

- What is your opinion of the financial sector's regulation of mobile financial services?
- Is their regulation in the financial sector aimed at including the poor in the financial system? If so, please indicate what it is.
- Are you aware of MFS-related initiatives in telecommunications sector regulation? If so, please identify them and indicate your opinion of them.
- In your country, do coordination and/or joint policies between the financial and telecommunications exist for the provision of mobile financial services? If so, please describe and comment.
- Are you aware of the existence of regulations aimed at protecting MFS consumers? Please describe and comment.
- What are the main advances in the institutional environment for MFS?
- What are the main gaps and challenges that you find in the institutional environment for MFS for low-income populations?
- What are the main gaps and challenges that you find in the institutional environment for MFS, particularly for their integration with conditional cash transfer programs?

### **Market environment**

- How developed are the financial sector and telecommunications sector in terms of competition in the marketplace in your country?
- With regard to technology and innovation, what is the level of progress of telecommunications companies? (e.g., investment in infrastructure)
- Do you believe the public sector (ministries/secretariats) is interested in/open to the issue of MFS? Does the government lead development on these issues?

- If an effort were made to link MFS with conditional cash transfer programs, do you believe there is enough information about mobile telephony users and beneficiaries of social programs? If not, what is lacking?
- What do you consider the main market factors that limit the implementation and provision of MFS for low-income populations?
- What do you consider the main market factors that limit the implementation of MFS and their integration with conditional cash transfer programs?

### **End-user environment**

- How developed is support infrastructure for non-bank correspondents (agents) for MFS (ATMs, POS terminals, etc.)?
- How do you see the penetration (density) of non-bank correspondents?
- Do banks and financial institutions (savings & loans, mutual savings banks, cooperatives) take concrete action to include/capture low-income users?
- Considering the end-user environment (whether it is part of the system or is potential, such as recipients of conditional transfers), what do you believe are the main factors that limit implementation and provision of MFS for low-income populations?
- Considering the end-user environment (whether already included or with the potential for inclusion), what do you believe are the main factors that limit the implementation of MFS and their integration into conditional transfer programs?