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Banking the poor through mobile telephony: understanding the challenges for expanding mobile-based financial services in Guatemala*

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Introduction

This paper summarizes the findings of a study analyzing the ecosystem for deployment of Mobile Financial Services (MFS) in Guatemala. The study was part of a comparative analysis of that ecosystem in four countries in the region. The countries chosen are in an early phase of MFS development and show great potential for MFS deployment, so there is an understanding of both the conditions for and the bottlenecks affecting MFS expansion. Besides Guatemala, the study covered Peru, Paraguay and El Salvador, resulting in four case studies (one per country)

and a comparative analysis based on those case studies.

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* The complete document is available at the Capital Project: <www.proyectocapital.org>.

1. This study and the others will be available on the Web sites of DIRSI (<www.dirsi.net>) and the Proyecto Capital (<www.proyectocapital.org>).

This study adapted the Telecommunications Regulatory Environment (TRE) methodology (LIRNEasia, 2008), which involves surveying key stakeholders about their perceptions. Questionnaires were sent (and responses received) between September and November 2012, which was the time frame for this and the other case studies. Each study was carried out by a local team, coordinated by the DIRSI project and implemented by the IEP.

Potential of MFS

In economics, the importance of providing financial services to the lowest-income population is a given. There are many barriers, however, including high infrastructure costs, requirements for opening accounts, the limited number of financial institutions and services, etc. MFS are emerging as an alternative for overcoming these obstacles. MFS are financial services, such as transfers, withdrawals, etc., provided by mobile telephony. The key is that these services take advantage of the existing penetration of mobile telephony, which, because it reaches the bottom of the income pyramid, solves the infrastructure problems inherent in serving this population. This significantly lowers costs, as well as some of the other barriers mentioned above. Optimism about this potential is reinforced by prior experience in several developing countries.

In recent years, Guatemala has seen a significant increase in mobile telephony penetration in households at various socio-economic levels, including those in poverty and inhabitants of rural areas.[2] In fact, its indicators have improved more than those of many countries in the region. The financial sector shows some progress, although less than in the telecommunications sector. Since 2012, Guatemala has had a con-

ditional cash transfer (CCT) program called Mi Bono Seguro,[3] which offers the possibility of using MFS for transfers.

In this scenario, MFS have great potential for increasing financial inclusion in Guatemala. The purpose of this study is to analyze the MFS ecosystem, which is key for MFS deployment. This summary will begin by describing some indicators of investment in the financial sector.

Investment indicators

Guatemala's financial sector is headed by the Central Bank of Guatemala (*Banco Central de Guatemala*), the top structure of which is the Monetary Board (*Junta Monetaria*, JM), and the Office of the Superintendent of Banks (*Superintendencia de Bancos*, SIB). In general, this sector has shown positive indicators in recent years. Between 2010 and 2012, financial entities' assets increased by 21.5 percent, according to the SIB; the increase was similar among non-bank financial entities. Our main interest, however, is financial deepening, as well as access to the financial system and the way in which the system is used.

Financial deepening has improved, although the rate has been among the most moderate in the region. Bank loans (as a percentage of GDP) increased from 25.1 percent to 28.4 percent between 2006 and 2011, while deposits increased from 29.6 percent to 35.4 percent during the same period (IMF, 2012). There has been significant improvement in access to the financial system, with the number of commercial bank

2. For example, according to the Office of the Superintendent of Telecommunications (*Superintendencia de Telecomunicaciones*, SIT), mobile density increased from 55 lines to 141 between 2006 and 2011. Mobile coverage reached 97 percent of the country.

3. A similar program, called Mi Familia Progresa, existed between 2008 and 2011; it was subsequently replaced by *Mi Bono Seguro*.

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branches per 100,000 adults increasing from 18.5 in 2005 to 37.1 in 2010 (Ibid). Similar progress is seen in branches per 1,000 square kilometers, which increased from 12.5 to 29.2 during the same period (Ibid). These levels are good, in comparison with the region, but many of the branches are concentrated in the largest cities. Unfortunately, we have no data about the number of ATMs in the country. Figure 1 shows indicators of financial use.

Figure 1: Financial use in Guatemala (% of population with account), 2011

* Refers to percentage of adult population

** Refers to two lowest-income quintiles of population
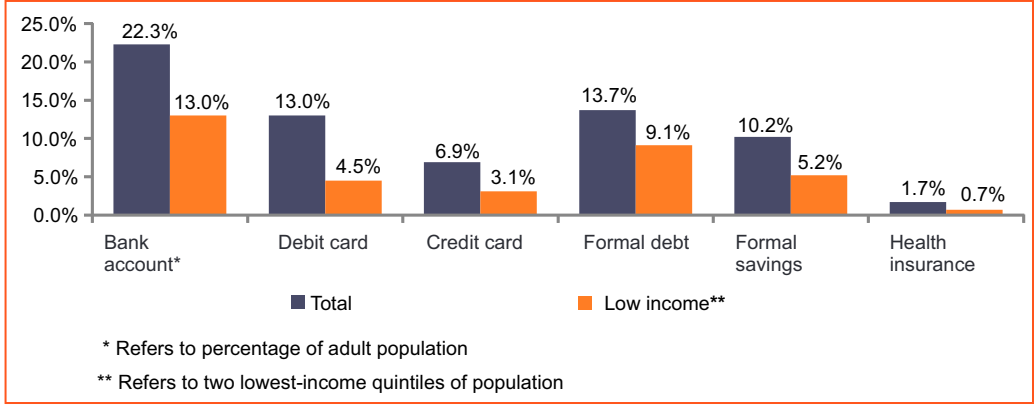
Source: World Bank Group (2012), "Global Findex"

Compiled by authors

METHODOLOGY

The methodology used is an adaptation of the TRE methodology (LIRNEasia, 2008), which involves surveying key stakeholders in the sectors about their perceptions of important dimensions for MFS deployment. These dimensions are divided into three environments established a priori, based on a literature review: (i) institutional environment, (ii) market environment, and (iii) end-user environment. The first consists of six dimensions, the second of five, and the third of three; the 14 dimensions are explained in Appendix 1. A questionnaire was sent to the identified experts,[4] who were asked to score each dimension of the MFS ecosystem using a Likert (1932) scale ranging from 1 (very ineffective) to 5 (very effective). A dimension is considered effective if scores higher than the threshold of 3.

Key stakeholders were divided into three categories: (i) those directly affected by the regulation of the sectors involved, (ii) those who analyze the sector from a broader perspective (e.g., consultants from financial institutions), and (iii) those interested in improving the public sector (e.g., academics and research organizations). Questionnaires were sent to members of the three categories, and the number of responses differed by category. Because it is desirable for the categories to have equal weight when calculating the final result, the responses were weighted, with greater weight given to each response in categories with fewer responses. Appendix 2 shows the number of experts identified, the number of responses received and the weight given to each.

To understand the results, which are based on perceptions, a prior assessment was done of both the telecommunications and financial sectors. The latter included an assessment of the ecosystem for MFS, which is especially impor-

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4. Experts were identified by the local team in each country, following implementation of the methodology.

tant for understanding the results. The following section explains the latter assessment and key results.

Ecosystem for MFS and key results

In Guatemala, MFS have been offered since 2010, although there is still no regulation for them. Six of the 18 banks currently offer these services, with differing characteristics. This paper, however, is interested in analyzing the ecosystem for MFS — the conditions that promote the investment and deployment of these services. Based on a literature review, three areas were identified for analysis: (i) institutional environment, (ii) market environment, and (iii) end-user environment. Each was divided into several dimensions.

Institutional environment

The institutional environment analyzes characteristics associated with regulatory aspects and the role of the main public agencies involved. It is evaluated based on six dimensions:

First, in *financial sector regulation for MFS*, Guatemala has Regulations for Provision of Mobile Financial Services. This is part of the country's prudent banking legislation and establishes linkage with a previously existing bank account as a requirement for MFS. It also requires that operations be registered in real time, that there be infrastructure for customer assistance, that third parties participate in oversight of financial institutions' obligations to their customers, and that financial institutions take responsibility for MFS transactions.

Financial sector regulation for financial inclusion is less favorable, with only two sets of regulations, one allowing banking agents and the other the MFS rules mentioned above. In the latter case, the required linkage to a bank account appears to be a constraint on inclusion.

There has been very little progress in *telecommunications sector regulation for MFS and financial inclusion.* Agencies in that sector have not been involved in any aspect.

Related to that, *coordination and joint policies for the supply of MFS* are lacking, as there is no coordination between sectors. Regulations are being developed by agencies in the financial sector.

Finally, *MFS-related consumer protection* is not included in MFS regulations, although the financial institution is said to be responsible for the transaction. Nevertheless, there are no specific norms governing these services.

These data show that regulation is still in an initial phase. Guatemala clearly lags behind in all dimensions, especially those related to the telecommunications sector, where regulation is non-existent. This can be seen in Figure 2, which shows the score for each dimension of this environment, according to TRE methodology, with none surpassing the efficacy boundary.

Market environment

Evaluation of the market environment examined aspects associated with competition among private operators, the degree of innovation and catalysts for development of the MFS ecosystem. This environment was divided into five dimensions:

First, *competition in the financial sector* shows an industry with relatively high concentration and a slight upward trend. The three largest banks' market share for loans grew from 65.9 percent in 2008 to 67.6 percent in 2011, while their share of deposits increased from

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Figure 2: Results of evaluation of institutional environment
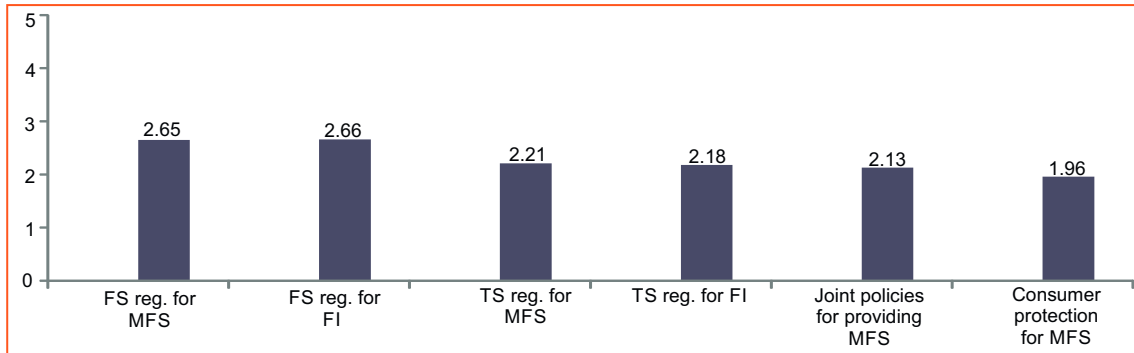
66.3 percent to 69.8 percent during the same period, according to the SIB.

Competition in the telecommunications sector shows characteristics similar to those for the financial sector. According to data from SIT, the market share of the two largest operators grew from 74.4 percent in 2005 to 80.6 percent in 2011. It is clear, however, that this sector is marked by the greatest competition, with more special offers, a wider range of products, more advertising, etc.

Innovation in the telecommunications sector is also dynamic, with high levels of technology, which lowers equipment costs. In the coming years, there will be a shift to «Long Term Evolution» (LTE) technology.[5]

In the area of ***government leadership in MFS***, it is obvious that the government has left the leading role to the private sector and agencies in the financial sector. The country has had CCT programs since 2008, but has not arranged for payments to be made via MFS.

Finally, ***management of data about beneficiaries of social program***s lags significantly, because of the lack of available information.

Based on these results, it appears clear that the first three dimensions are dynamic and positive, while the dimensions associated with the government's role lag behind, with almost no progress. This assessment coincides closely with the findings of the TRE evaluation, where only the first three surpass the efficacy boundary, as shown in Figure 3.

Figure 3: Results of evaluation of market environment
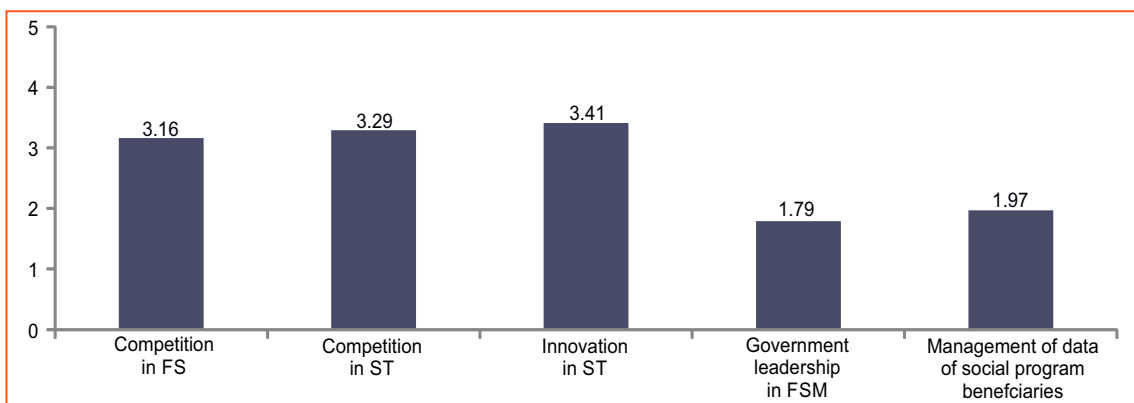
5. For information about LTE, see: http://www.3gpp. org/LTE.

End-user environment

The end-user environment stresses the role of agents and infrastructure for MFS. It is divided into three dimensions:

Support infrastructure for non-bank correspondents (agents) has evolved considerably since regulations on agents were issued in 2010. In 2012, there were 202 POS for every 100,000 inhabitants, equivalent to 280 POS per 1,000 km^2.[6] More than two-thirds of all POS were in the capital, however, leaving less-developed and poorer regions of the country with must lower indicators.

Similarly, ***agent network development (penetration)*** shows significant improvement, although it is concentrated in the capital. In 2011, agents increased by 140 percent over 2010 figures, but the increase was concentrated in the largest cities.

Finally, there have been no significant ***efforts by banks to include/attract new users***. There are no strategies other than those related to banking agents and the offering of MFS.

The results show that while there has been improvement in all dimensions, it has not been homogeneous throughout the country, which is a serious problem for financial inclusion. Figure 4 shows the partial effectiveness of these dimensions, three of which hover around the efficacy boundary.

Figure 4: Results of evaluation of end-user environment
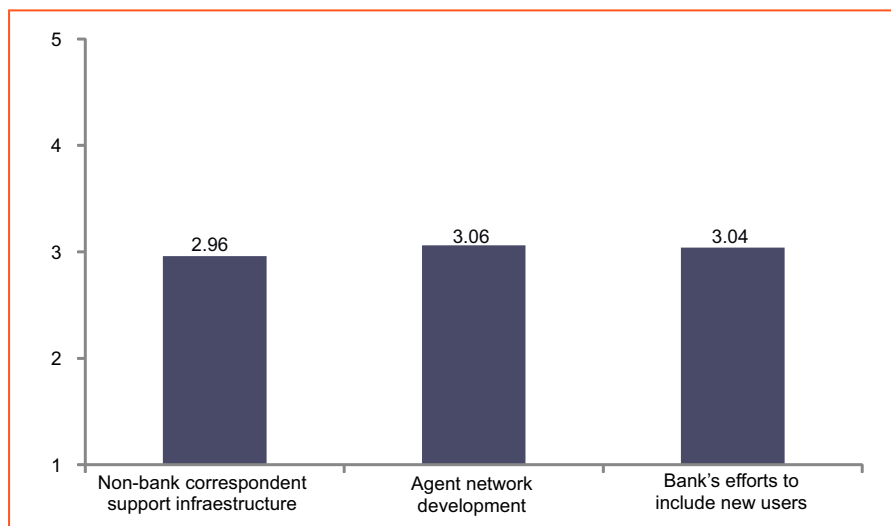

Overall results

Finally, Figure 5 shows the overall results, with the average for each environment. Because of the incipient development of the institutional environment, none of its dimensions surpasses the efficacy boundary. Regulations exist or are being developed, but progress is still limited and there are constraints (such as the requirement of linkage to a bank account). In the market environment, the first dimensions exceed the efficacy boundary, while those associated with the government are far from efficient. The end-user environment has advanced most, although it barely surpasses the efficacy boundary; that is due to the deployment of agents and infrastructure, but this expansion has been geographically heterogeneous.

6. Information provided by VISANET.

Figure 5: Evaluation results, by environment
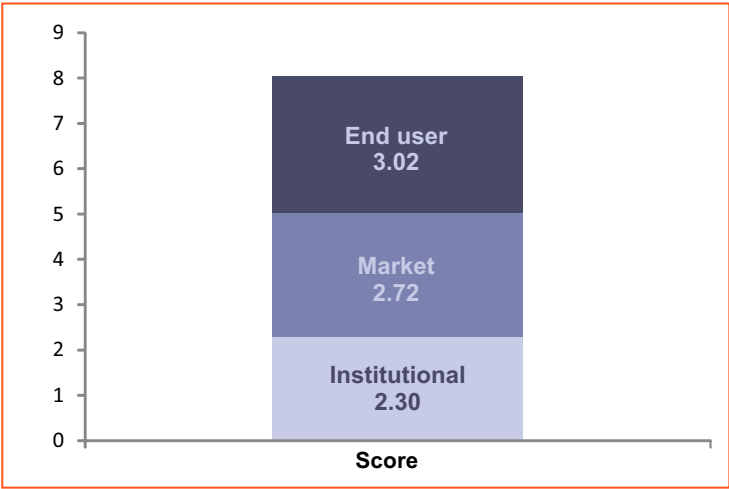
CONCLUSIONS

This paper examines the conditions that exist for deployment of MFS. It highlights the financial sector's positive development in areas related to financial access, although advances are much more moderate in financial deepening.

In the MFS ecosystem, there is a fairly close correspondence between the prior assessment and results from the adaptation of the TRE methodology. The institutional environment is the weakest, because regulation of MFS is just beginning and there are constraints due to the requirement of linkage to an existing bank account. The telecommunications sector has not been involved in the process, so coordination between the sectors is practically non-existent. Results for the market environment are favorable in the dimensions associated with competition and innovation, but the government's role in leading and overseeing the process is still seen as inefficient, and received a much lower score. Finally, the end-user environment shows positive deployment of agents and infrastructure, but that expansion is concentrated in the capital and large cities.

Based on this information, it is possible to make some recommendations. First, there is a need to strike a balance between regulating MFS safely and not creating limitations for financial inclusion. Entities in the telecommunications sector must become involved in regulation for MFS and financial inclusion, because that sector is a key stakeholder. Coordination between sectors must also improve considerably. The government's role should be emphasized, as it should be a key catalyst for development of MFS; linking these services with CCT programs is crucial. Emphasis should also be placed on expanding the agent network in rural and low-income areas, because those places are especially important for financial inclusion. Finally, in the academic sphere, this study should be followed up in the coming years to analyze the evolution of the dimensions over time. This will provide valuable information for policy makers, which would be difficult to obtain in any other way.

APPENDICES

Appendix 1: Dimensions for evaluating the MFS ecosystem

Environment	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: The Mobile Financial Services Development Report 2011 / Compiled by: IEP

Appendix 2: Experts identified, responses received and weighting by category

Category	Experts (N)	Responses (N)	Wheiting of responses
Category 1	60	15	1.40
Category 2	25	17	1.24
Category 3	60	31	0.68
Total	**145**	**63**	**--**

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