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BANKING THE POOR THROUGH MOBILE TELEPHONY: UNDERSTANDING THE CHALLENGES FOR EXPANSION OF MOBILE-BASED FINANCIAL SERVICES IN EL SALVADOR*

FRANCISCO MOLINA

INTRODUCTION

This paper summarizes the findings of a study analyzing the ecosystem for deployment of Mobile Financial Services (MFS) in El Salvador. The study was part of a study of that ecosystem in four countries in the region, which analyzed them in a comparative light. The countries chosen are in an early phase of MFS development and show great potential for MFS deployment, and the goal was to gain 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.

The studies were made possible by support from the Institute for Money, Technology and

Financial Inclusion at the University of California, Irvine, as well as the Regional Dialogue on the Information Society (*Diálogo Regional para la Sociedad de la Información*, DIRSI) and the Proyecto Capital.¹ These latter initiatives are supported by the Ford Foundation and the IDRC and are among the activities of the economics area of the Institute of Peruvian Studies (*Instituto de Estudios Peruanos*, IEP).

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

* 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).



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, El Salvador has experienced a significant increase in mobile telephony penetration in households in the various socio-economic strata, including those in poverty and residents of rural areas.² In fact, its indicators have increased more than those of many countries in the region. Indicators in the financial sector, meanwhile, lag behind, with a much less favorable dynamic than in the telecommunications sector. Since 2008, El Salvador has had a conditional cash transfer (CCT) program called Red Solidaria ("Solidarity Network"), which offers the possibility of using MFS for those transfers.

2. For example, according to the Office of the General Superintendent of Electricity and Telecommunications (*Superintendencia General de Electricidad y Telecomunicaciones*, SIGET), mobile density increased from 33.4 lines in 2005 to 125.4 lines in 2011. The percentage of households with mobile telephony also increased from 34.7 percent to 86.7 percent during the same period.

In that context, MFS show great potential for increasing financial inclusion in El Salvador. The goal 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.

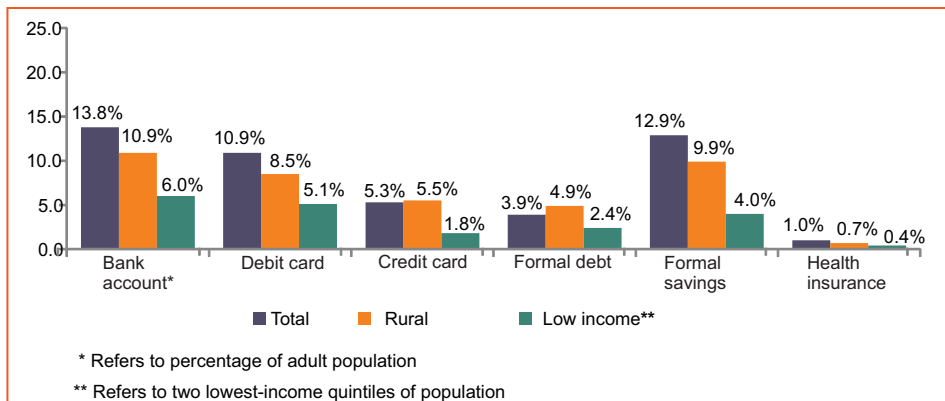
Investment indicators

The Salvadoran financial sector is led by the Central Reserve Bank (Banco Central de Reserva, BCR) and the Office of the Superintendent of the Financial System (Superintendencia del Sistema Financiero, SSF). In general, the financial sector shows a slight improvement in indicators in recent years, with total assets increasing by 5.5 percent between 2011 and 2009 and totaling 91.7 percent of the country's GDP in June 2012 (Rivera, 2012). Our main interest, however, is in financial depth, as well as access to and use of the financial system.

Indicators for financial deepening are good, although there has been some stagnation in recent years. Bank loans (as a percentage of GDP) decreased slightly, from 41.0 percent to 39.5 percent between 2005 and 2011, while deposits increased from 40.8 percent to 44.4 percent during the same period (IMF, 2012). Financial access improved considerably, with the number of ATMs per 100,000 adults increasing from 23.0 to 31.3 between 2005 and 2011, while the number of ATMs per 1,000 square kilometers increased from 43.3 to 63.6 (Ibid.). Unfortunately, the SSF only provides information about bank branches for 2011, when there were 11.4 per 100,000 adults and 21.0 per 1,000 square kilometers. Figure 1 shows indicators of financial use.



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



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,³ 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 pub-

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

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

MFS ECOSYSTEM AND KEY RESULTS

In El Salvador, the only entity that provides MFS is Tigo Money, although it is limited to transferring funds via SMS, omitting other relevant financial services. This paper, however, is interested in analyzing the MFS ecosystem — the conditions that promote investment in 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, there is not yet any specific **financial sector regulation of MFS**, although the BCR is working on technical norms for regulating MFS (to speed up the process, they will not be in the form of legislation). Most advances are related to the MFS administrator, establishing requirements (organization, infrastructure, etc.) and dividing them into three categories, depending on whether they handle payments from (i) accounts in a financial entity, (ii) a guarantee fund, or (iii) pre-paid cards, in association with a financial entity.

Financial sector regulation for financial inclusion has made less progress; there currently is no initiative for regulation.

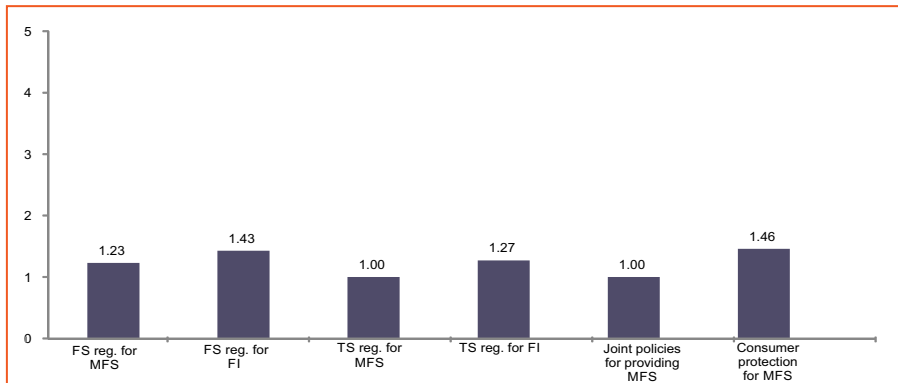
There has been slight progress in **telecommunications sector regulation for MFS and financial inclusion**. Operators in the telecommunications sector can only provide MFS if they are set up as subsidiary companies. There has been no advance in financial inclusion.

In addition, **coordination and joint policies for providing MFS** are inadequate, as there is no coordination between sectors. The telecommunications sector regulatory body has been left out, and financial sector entities are developing regulations.

Finally, **consumer protection in MFS** is being included in MFS regulations. Administrators must always have the funds necessary to fully back these transactions. That is the extent of regulation in this area, however.

The study shows that regulation lags significantly in all dimensions, especially in the telecommunications sector and in inter-sector coordination. This is the reason for the extremely low scores resulting from the TRE methodology, which are shown in Figure 2.

Figure 2: Results of evaluation of institutional environment



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 a relatively concentrated industry. According to the SSF, in 2011, the three largest banks accounted for 59.2 percent of the sector's assets. Competition is dynamic in areas such as credit cards, but less dynamic for other indicators.



Competition in the telecommunications sector reflects a concentration similar to that of the financial sector, with an upward trend. The market share of the two largest companies increased from 62.0 percent in 2005 to 69.2 percent in 2011, according to SIGET. Nevertheless, this concentration is lower in El Salvador than in most of the region.

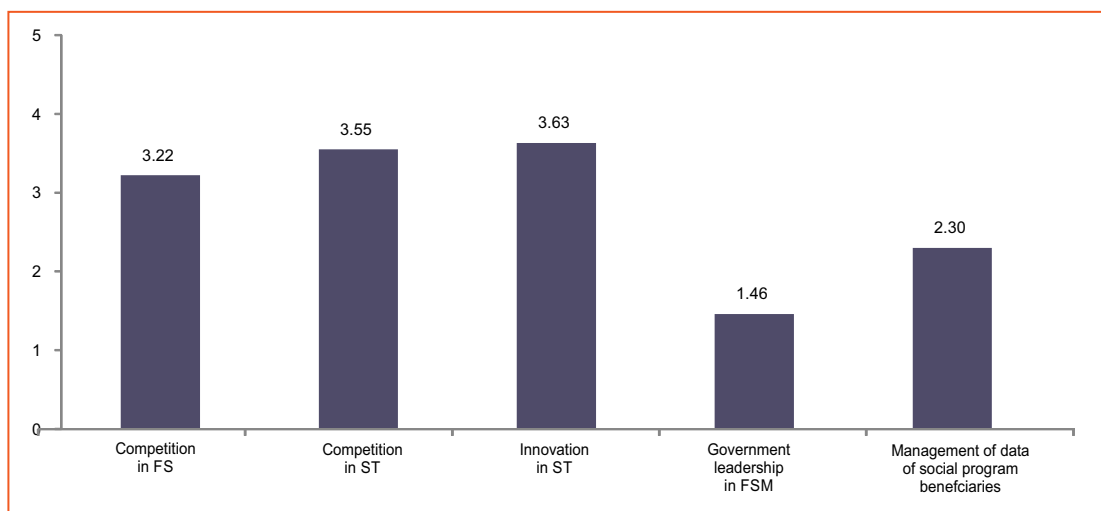
Innovation in the telecommunications sector is dynamic, with high levels of technology and technical change. This aspect appears positive for MFS deployment.

Progress is minimal in **government leadership in MFS**, and experts are aware of no initiatives in this area. Despite having CCT programs since 2008, there has been no attempt to link the delivery of money with MFS.

Finally, there has been some progress in **management of data about beneficiaries of social programs**, as the necessary information about the beneficiaries does exist. According to one group of experts, however, this information is partial or insufficient.

Based on this information, it seems clear that the first three dimensions are relatively dynamic and positive, especially those associated with the telecommunications sector. Dimensions related to the government's role lag behind, however, with almost no progress, especially in government leadership. The results obtained from the perceptions of key stakeholders correspond with this assessment. Figure 3 shows these scores.

Figure 3: Results of evaluation of market environment



End-user environment

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

First, **support infrastructure for non-bank correspondents (agents)** shows partial progress, with 205 PoS per 100,000 inhabitants (IMF, 2012). This moderate advance could be due to

the fact that there is no regulation of non-bank correspondents, although the SSF has issued a norm, which gives them an extremely limited role.

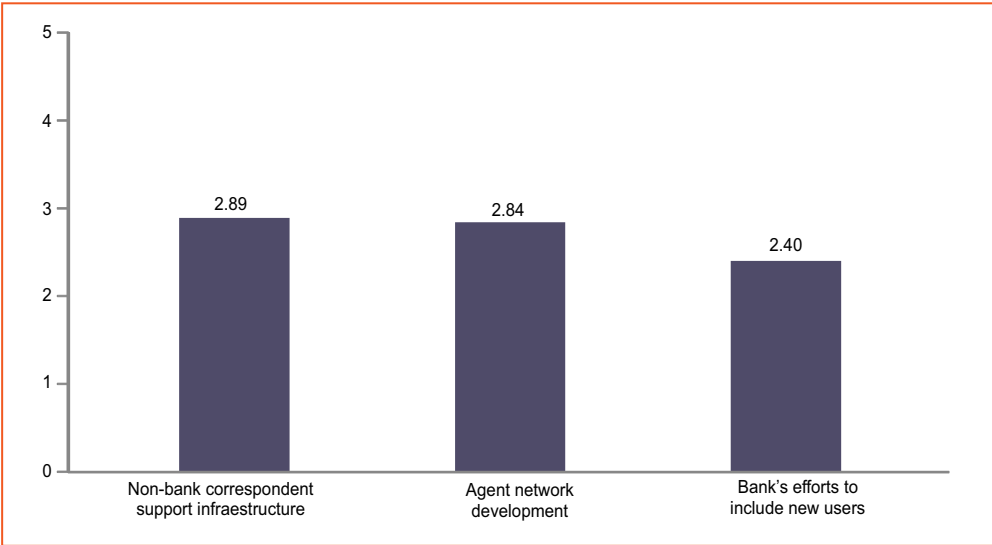
In addition, **agent network development (penetration)** is weak, because agent penetration (and infrastructure) has concentrated on large cities, ignoring rural areas and lower-income zones.

Finally, *efforts by banks to include/attract new users* have been deficient, as they have no strategies for including excluded users. In contrast, microfinance institutions do offer some initiatives.

This shows that the dimensions are weak, although there has been partial progress in

some areas. Agent infrastructure has improved somewhat, although geographic penetration has been heterogeneous. Figure 4 shows the ineffectiveness of these dimensions, although some are very close to the boundary.

Figure 4: Results of evaluation of end-user environment



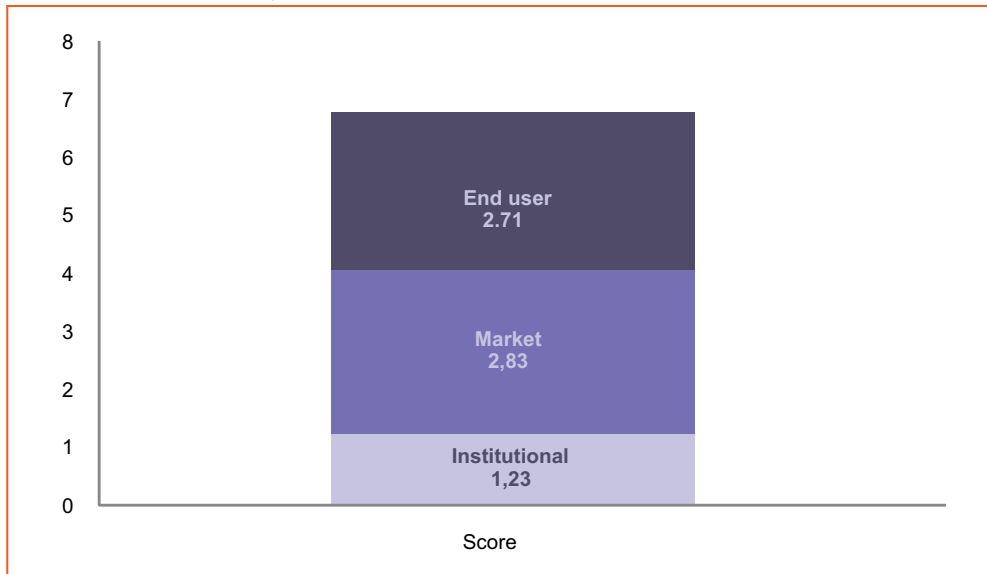
Overall results

Finally, Figure 5 shows the overall results, with the average for each environment. El Salvador clearly lags in most dimensions, with no environment surpassing the efficacy boundary. Regulation for MFS and financial inclusion is in an initial phase in the financial sector and is non-existent in telecommunications. This explains the weak performance in El Salvador, despite the improvement in mobile telephony indicators. In that regard, the low score in this environment is alarming. The market environment is better because of the high level of innovation and competition, especially in the telecommunications sector (although it barely passes the efficacy boundary). Dimensions related to the government, however, show much

more deficient performance. Finally, the end-user environment shows timid progress, with the lack of agents, infrastructure and initiatives to attract customers representing a barrier to financial inclusion. No dimension surpasses the efficacy boundary, although they are not far from it.



Figure 5: Evaluation results, by environment



CONCLUSIONS

This paper aims to provide an overview of existing conditions for MFS deployment. First, the financial sector shows a generally unfavorable dynamic, although key indicators, such as financial depth, remain relatively adequate. Indicators for financial use, however, lag behind.

The evaluation of the MFS ecosystem coincides with the results of the TRE methodology, although they are far from auspicious. The institutional environment is the weakest, with alarmingly low scores in key dimensions. That is probably due to incipient regulation for MFS and financial inclusion, in which the telecommunications sector has not been included. The telecommunications sector's regulatory agency has not participated, and there has been no coordination between sectors. In the market environment, results are relatively positive in the dimensions related to competition and innovation. The government's role in leading and overseeing the process, however, received a much lower score and was perceived as ineffective (or even non-existent). Finally, the end-user environment shows weak progress and penetration of agents and infrastructure,

concentrating in large cities. Nevertheless, expansion, although partial, is occurring at a moderate rate. It should also be noted that El Salvador obtained the worst aggregate results of the four countries studied, having failed to surpass the efficacy boundary in any dimension.

This leads to some recommendations. First, development of the institutional environment, through appropriate regulation, should be emphasized. This is especially important, because it is key for the deployment of the other dimensions. Involvement of the telecommunications sector, as well as coordination between sectors, is crucial. Government leadership should also be developed, using MFS as a delivery tool for CCT programs. Efforts should also be made to include more people, especially those with low incomes, through the agent network and bank strategies. 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)	Weighting of responses
Category 1	17	5	1.13
Category 2	17	5	1.13
Category 3	24	7	0.809
Total	58	17	--



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