

# Microfinance Institutions (MFIs) on the Remittances Market: Money Transfer Activity and Savings Mobilisation

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## **Abstract**

This paper is a first attempt to empirically measure the impact of a money transfer activity on MFIs' savings mobilisation. After analysing the opportunities for MFIs to succeed in transforming remittances receivers into clients, the paper empirically tests whether MFIs operating on the remittances market have a significantly higher level of savings than others, thanks to their money transfer activity. After building our variable of interest (a dummy for the money transfer activity) based on the Mixmarket website (for the regions of Latin America and the Caribbean, East Asia and the Pacific, South Asia and Africa), we run a cross-section regression for the year 2006 between the “savings over assets” ratio as explained variable and a set of explaining variables, including our variable of interest. We find a positive and significant coefficient for the money transfer activity dummy.

Key words: savings, migrants' savings, remittances, microfinance institutions (MFIs), money transfer activity

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## **I. Introduction**

The mobilisation of savings from low-income people is an important issue for various reasons. For instance, in developing countries, a savings potential among the poor lacking a productive outlet can have an impact on the whole economy. The process of saving on a regular basis can also contribute to improve the quality of life for the poor (Otero, 2003). From the MFIs' perspective, savings mobilisation enables to eliminate dependence on external resources by increasing resources for lending. It also contributes to an improved repayment rate and a reduced level of risk assumed by MFIs when savings serve as a kind of guarantee. Finally, the saving component can help establish a closer relationship with clients and increase their trust in the institution (Otero, 2003; Robinson, 2001). However, the savings mobilised by MFIs are mainly short-term, with the consequence that they can increase the MFIs' term mismatch risk. Actually, as argued by Portocarrero et al. (2006), if the predominance of short-term loans means that the mismatch risk is not significant for most MFIs, two trends in microfinance industry are however increasing this risk. Firstly, MFIs are increasing loan terms, due to greater competition. Secondly, they are increasingly lending to small and medium enterprises, and these loans are normally of longer term. For this reason, it is important to analyse the opportunity that remittances, as well as savings from remittances receivers, could represent a mean for MFIs to finance their loan portfolios and new products.

The World Bank estimated the flows of remittances around the world in 2008 to US\$ 375 billion, with US\$ 283 billion received by developing countries. Remittances are essentially dedicated to poor people, mainly unbanked and with the same socio-economic profile as microfinance clients (Shaw, 2006). However, it is recognized that a share of the remittances sent is saved (Orozco, 2004) and that remittances receivers save for longer terms than the rest of the population. They are willing to save in a financial institution as long as the institution offers adapted financial products (Acción Insight, 2004; Orozco and Fedewa, 2005). Entering the remittances market could then allow MFIs, in the best scenario, to mobilise savings from migrants and remittances receivers while increasing financial inclusion of the poor. And thanks to the savings of senders or receivers', MFIs could have access to financial resources that could be used to innovate in their offer of financial services (for instance by implementing medium or long-term credits).

The objective of this paper is to contribute to existing literature on remittances and microfinance by testing empirically the occurrence of our underlying argument, which is that MFIs operating on the remittances market have a higher level of savings than the other ones. We will be interested in the relative importance of savings in the liabilities of the 114 MFIs of our sample (ratio savings over assets)<sup>3</sup>, for the year 2006. Our sample (detailed in appendices 1 and 2) is constituted by MFIs reporting their financial information on the Mixmarket website (by the end of November 2008) and collecting savings from their clients in the regions of Latin America and the Caribbean (LAC), South Asia (SA), East Asia and the Pacific (EAP) and Africa (excluding North Africa).

According to Orozco (2008), the majority of MFIs have started their remittances activity during the year 2005. Most of the MFIs in our sample have reported financial information only from 2003 to 2006. In order to maximize the size of our sample, we have only kept the year 2006, for which the number of observations is maximum. And, due to unavailability of data, we could not run a panel data analysis. We make the assumption that after one year of operations on the remittances market, MFIs have already adapted or started to adapt their offer of financial services in order to transform remittances receivers into clients. In that sense, if the remittances activity has an impact on the level of savings, we should be able to identify it in the data of the year 2006.

Our main result is that a money transfer activity has a positive impact on the amount of savings collected from the public, and thus, MFIs involved on the remittances market have a significantly higher level of savings than the other ones.

The limitation of our analysis mainly comes from the fact that, due to the unavailability of information, we cannot make any distinction between all the MFIs operating on the remittances market, based on the type of business model they have implemented (for instance, do they work as agents for money transfer operators or are they included in a network of MFIs?). However, this could have an influence on their ability to transform remittances receivers into clients and attract their savings.

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<sup>3</sup> Based on Hartarska and Nadolnyak (2008) who consider that loans to assets ratio is a measure of focus on lending, we considered that ratio savings over assets gives indication on MFIs' focus on savings mobilisation.

Taking into account these remarks, the next part of our paper will be dedicated to savings in microfinance (types of savings and consequences for MFIs). In section III, we will identify the available opportunities for the microfinance industry to enter the remittances market and mobilise savings from migrants. This will allow us to formulate the main question of the paper. We will then describe the methodology used in order to answer our question, and we will present and comment the results of our empirical study (section IV). Finally we will conclude in section V.

## **II. Savings in microfinance**

The mobilisation of savings from the poor has been neglected for long by financial institutions because policymakers and bankers have been taught to believe that “(...) the poor do not save, cannot save, do not trust in financial institutions and prefer non-financial forms of savings (...) ”(Robinson, 2001, p228). This view was supported by the fact that financial institutions in the rural areas of developing countries had generally been unsuccessful in mobilising savings. It has been since recognized that low-income people can and do save, and that the problem of low financial savings mobilisation in rural areas was on the supply side (Robinson, 1994; Robinson, 2001; Ledgerwood, 1999). Actually, there has been increasing awareness among policymakers and practitioners that there is a vast number of informal savings schemes which have been successful in mobilising savings from low-income people (Ledgerwood, 1999; Lelart, 1995). It is also observed that, in many countries, MFIs offering both savings and credit products have more savers than borrowers, and have a higher volume of savings than their volume of loans. This highlights the fact that the savings activity is more essential for poor people than credit (Servet, 2006; Helms, 2006).

For the most part, MFIs need to be licensed to collect savings, which usually means that they become subject to some form of regulation and supervision by a government entity or department, and that they will face additional costs (such as reserve requirement). MFIs must also have the financial strength and institutional capacity necessary to be licensed to collect savings (Ledgerwood, 1999).

## II. 1. Types of savings in microfinance

The poor save for three main reasons, namely life-cycle needs (child birth, education, etc) for which they need to amass large amounts of money, emergency needs, which create a sudden and unanticipated need for a large amount of money, and investment opportunities that may concern existing or new businesses (Rutherford, 2009; Servet, 2006).

In order to have the targeted population using their savings financial products, MFIs must respond to their expectations in terms of convenience (an easy access to savings services), liquidity (an access to savings whenever needed) and security (safety of the savings and stability of the institution that collects them). These three expectations are considered to be more essential than the remuneration of the deposits by the majority of poor people who are willing to save in a financial institution (Ledgerwood, 1999; Wright, 2003; Deshpande and Glisovic-Mezieres, 2007).

Two important types of savings can be distinguished in microfinance, namely compulsory savings and voluntary savings.

### *II. 1.1. Compulsory savings*

Compulsory savings (or compensating balances) are the funds that must be deposited by borrowers as a condition to receive a loan. They can be considered as a loan product rather than savings since they are tied to receiving and repaying loans (Ledgerwood, 1999).

Compulsory savings are useful to demonstrate the value of savings practices to borrowers. They also serve as an additional guarantee mechanism (generally compulsory savings cannot be withdrawn by members while they have a loan outstanding). Finally, they are useful to demonstrate the ability of clients to manage cash flow and make periodic contributions (Wisniwski, 1999; Ledgerwood, 1999; Armendariz and Morduch, 2005).

The mechanism of locking a part of funds in a forced savings account to give a loan ignores the fact that deposit facilities are an independent financial service, and that

these facilities are appreciated among low-income people who rarely have reliable places to store their money (Wisniwski, 1999; Ledgerwood, 1999). Furthermore, from the MFIs' perspective, compulsory savings reduce the possibility to increase outreach because the number of potential borrowers limits the number of savers, and also because compulsory savings represent only a fraction of outstanding loans (Wisniwski, 1999). However, most non-governmental organisations (NGOs) and some other non-bank financial institutions (NBFIs) are not permitted to collect voluntary savings from the public. They are then only allowed to mobilise compulsory savings (Robinson, 2001).

### *II. 1. 2. Voluntary savings*

Voluntary savings are not linked to loan access. They are provided to both borrowers and non-borrowers who can deposit and withdraw according to their needs. Some conditions must be fulfilled for a MFI to consider mobilising voluntary savings: an enabling environment (including appropriate legal and regulatory frameworks), adequate and effective supervisory capabilities to protect depositors, and a consistently good management of the MFIs funds (Ledgerwood, 1999).

There are three types of deposit accounts, based on the degree of liquidity, namely liquid accounts, semi-liquid accounts and fixed-term deposits (Ledgerwood, 1999).

Liquid accounts provide the greatest flexibility and liquidity, and generally do not pay interest. In the case of current accounts for instance, money can be withdrawn at any time. These accounts are difficult to manage because they require substantial bookkeeping, as MFIs must be able to respond to withdrawal requests at all times. Semi-liquid accounts provide some liquidity and some returns. Clients can usually withdraw funds only a limited number of times per month and can deposit funds at anytime. These accounts usually pay a nominal rate of interest in the minimal balance over a period. This facilitates the management for MFIs because clients are encouraged to limit their withdrawals. Finally, fixed-term deposits are savings accounts that are locked in for a specified amount of time. They provide the lowest liquidity and the highest returns, based on the length of the deposit term. Deposit terms range from one month to several years and facilitate liquidity management for MFIs.

Empirical evidence has demonstrated that voluntary savings facilities are most successful in incorporating clients that have been reached by microcredit institutions. They also allow the mobilisation of significant amounts of money from the public (Wisniwski, 1999).

## II. 2. Consequences of savings mobilisation for MFIs

The provision of savings services by an MFI can contribute to an improved financial intermediation by providing a source of funds for the MFI. These funds can contribute to an improved loan outreach, an increased autonomy from government and donors, and a reduced dependence on subsidies (Ledgerwood, 1999; Robinson, 2001).

Savings as a funding source have advantages and disadvantages for MFIs. Firstly, savings mobilisation implies operational costs. These costs depend on internal factors such as operational efficiency and financial costs, and on external factors such as minimum capital requirements (Ledgerwood, 1999). Secondly, while semi-liquid and fixed-term accounts enable to mobilise significant volume of funds at relatively low operating costs and provide MFIs with funds available for a set period of time, mobilising highly liquid and small voluntary savings requires more sophisticated management skills, as requirements are higher in the field of market risks management (Wisniwski, 1999). Actually, mobilising savings has impacts on the four market risks faced by MFIs, namely liquidity, term mismatch, interest rate and exchange rate risks. Savings mobilisation also increases operational risks (Portocarrero et al, 2006).

Liquidity risk arises from the necessity to have enough funds in order to meet the depositors' withdrawals, which cannot always be anticipated. This is especially true for highly liquid savings accounts. Term mismatch risk arises when MFIs finance long-term loans with short term liabilities. Interest rate risk refers to the risk that changes in market interest rate will affect the MFI's profitability, which depends on the interest rate paid on deposits. Finally, foreign currency risk concerns MFIs that mobilise savings or borrow in foreign currency to fund loans in local currency. They run the risk that devaluation will increase the size of institutions debt, expressed in local currency. Mobilising deposits can also lead to operational risks for MFIs due to the large number of transactions and clients involved.

It would appear advisable for MFIs to give priority to mobilising semi-liquid or fixed terms savings, because of their lower total costs. In addition, these savings offer other advantages in terms of stability, predictability (until their maturity) and better matching between assets and liabilities, as the maturity is set (Portocarrero et al, 2006). As the migrants' savings tend to be of longer term than those from the rest of the population (Ponsot, 2007), they are particularly interesting for MFIs and justify the interest for the issue of linking microfinance and the remittances market.

### **III. Mobilising migrants' savings: MFIs on the remittances market**

Worldwide flows of remittances are estimated to US\$ 375 billion in 2008. Remittances sent home by migrants from developing countries are estimated to US\$ 283 billion. Remittances flows, after having more than doubled from the level of 2002, are now suffering downward shifts in some countries, partly due to current global trends. The World Bank estimates that remittances growth will be negative (-0,9) in 2009, and positive in 2010 at levels depending on the countries' ability to recover from the economic downturns and the employment situations in the host countries, among other factors (Ratha et al., 2008; Orozco and Ferro, 2008). These statistics from the World Bank database only reflect officially recorded transfers (remittances transferred through formal channels and recorded in the items of Balance of Payment). The amount including unrecorded flows through formal and informal channels is believed to be significantly higher. The World Bank states that remittances sent through informal channels could double official statistics (World Bank, 2006). In the same idea, Hagen-Zanker and Siegel (2007) consider that unrecorded remittances flows can be as high as 50% of total remittance flows. More important for building inclusive financial systems, domestic transfers in many countries are likely to be larger than international transfers or remittances (Helms, 2006).

The important amounts of remittances (larger than capital market flows and official development aid for many countries<sup>4</sup>), and their tremendous growth have increased the attention of policymakers and researchers. Remittances receivers are often poor people living in remote rural areas, although other segments of society also receive remittances (Helms, 2006; Shaw, 2006). Unfortunately, a relatively small proportion

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<sup>4</sup> See for instance Helms, 2006 and McKenzie and Sasin, 2007

of these funds remain in the financial system, and the challenge for MFIs is to transform remittances receivers into clients. This would help receivers improve their money management, and contribute to have remittances as a reliable source of funds and revenues (through perceived commissions) for MFIs (Helms, 2006).

### III. 1. Overview of the remittances market

The money transfer industry is changing rapidly. The most important changes over the last years include: increased competition among formally licensed money transfer operators (MTOs) as new actors have entered the market, a better use of existing payment instruments (such as card-, phone- and Internet-based payments), lower fees for money transfers (as a result of increased competition, particularly in Latin America) and tighter regulations from national and international authorities on anti-money laundering and combating the financing of terrorism<sup>5</sup>.

An array of institutions exists to respond to the vast demand for remittances-sending services.

The formal remittances market is dominated by MTOs<sup>6</sup>. They do not offer financial services attached to remittances, they only act as money transmitters. Although they are more expensive than other formal actors, MTOs dominate the market for different reasons: the speed at which they can transfer money, the ease and safety of transactions and the possibility to use of this system without holding a bank account (very few remittances senders and receivers hold bank accounts)<sup>7</sup>.

In addition to MTOs, other formal financial institutions offer similar services, namely commercial banks, post offices and credit unions. Commercial banks are increasingly interested in targeting this new market segment because, beside capturing money flows, the remittances channel can be used to sell financial services to low-income individuals. Credit unions worldwide have also focused on remittances and have created a remittances service (IRnet) for sending money

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<sup>5</sup> Isern, Donges and Smith (2006)

<sup>6</sup> The main MTO at the world level is the company Western Union (WU). According to their website, 17% of remittances in 2006 were transferred through WU network.

<sup>7</sup> See Isern, Deshpande and van Doorn, 2005; WOCCU, 2004; Sander, 2003 and Sukadi Mata, 2006 for the criteria considered by migrants when they evaluate which channel they will use.

electronically<sup>8</sup>. Concerning post offices, an international electronic remittances service (Giro) dedicated to clients holding postal bank accounts has been developed in more than forty countries (Isern, Deshpande, van Doorn, 2004).

New systems, like transfers through mobile phones (m-banking) are also growing. Recent strides in cell phone encryption technology have facilitated fast and low-cost money transfers for domestic (like Wizzit in South Africa) and international transfers (Celpay in Zambia and the Democratic Republic of Congo (DRC), M-Pesa for transfers between the United Kingdom and Kenya, or G-cash for transfers between the Philippines and diverse destinations), allowing customers to avoid the higher fees and longer waiting periods associated with MTOs and banks<sup>9</sup>. These new transfer mechanisms enable the reduction of significant infrastructures (such as physical agencies) by working with non banking commercial partners, and to reduce cash transfers and ensure a better traceability of operations. All these elements enable lower transaction costs per operation and offer more affordable and easily accessible services for clients.

Despite the quality of the services offered by formal systems, informal remittances systems still exist. Informal remittances systems are all remittances operators working outside the regulated financial sector, such as transfers between individuals, transfers through import-export companies or transportation companies (Freund and Spatafora, 2005). According to Buencamino and Gorbunov (2002), political instability and the desire to bypass market controls are factors that can help to explain why informal systems still exist today. But other elements such as the high cost of sending remittances due to market structures<sup>10</sup>, a high degree of flexibility and their presence in remote areas not served by formal operators can also explain why informal systems still exist.

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<sup>8</sup> International Remittance Network (IRnet) consists of about 200 credit unions that offer low-cost services in 40 countries in Asia, Africa, Europe and Latin America. The network does not require that the receiving family have an account with a credit union. (Gupta, Patillo and Wagh, 2007)

<sup>9</sup> The m-banking system developed in Zambia and DRC is called Celpay. The mobile phone and Internet allow giving payment instructions. The funds are debited on a Celpay deposit account which is similar to a prepaid account. The client can then pay transaction by using his Celpay account via his mobile phone. <http://www.capaf.org/Telech/IT/Presentation%20Celpay.pdf>

<sup>10</sup> According to Orozco (2007), the cost of sending US\$ 200 to Africa represents 8 to 12% of the remitted amount, while it is only 6 to 8% when remitting to Latin America. The high cost can be explained by the structure of the market which is often oligopolistic (monopolistic in some regions like Western Africa where 70% of official payments are handled by one MTO, which demands exclusivity in the money transfers of the banks) and segmented. See also Alberola and Salvado (2006)

### III. 2. Challenges and opportunities for MFIs

The formal remittances market currently faces three challenges, namely high costs (especially where competition is low), poor access for people living in remote areas and the lack of appropriate complementary savings products. These challenges relate to the larger challenge of how to better include remittances and their beneficiaries into the financial system. Microfinance seems to be an interesting option to face this challenge.

Actually, MFIs can provide a money transfer service in underserved areas and at a lower cost than mainstream providers due to their social mission of serving poor and unbanked people, and by increasing competition on markets where monopolies exist<sup>11</sup>. They are able to do so because they often possess extended networks (especially compared to banks) and they are not driven only by profit maximization, they also have social consideration that MTOs and other formal operators do not have. They are also able to provide adapted (remittances-linked) financial products because they are used to working with low-income people.

From the perspective of the microfinance industry, money transfers as a fee-based activity can generate revenues for MFIs. Moreover, through a money transfer activity, MFIs can have access to migrants' and remittances receivers' savings that could be of longer term than other clients' savings (Ponsot, 2007). We can easily imagine that migrants need to save for the long-term purposes that initially motivated their decision to migrate (such as building a house or buying land). By cross-selling money transfer services with adapted financial products, MFIs will be able to transform remittances receivers into clients and have access to this medium and long-term resource at a relatively low cost (Ponsot, 2007). The question is then to measure if there really is a significant increase in savings for MFIs involved on the remittances market, thanks to their remittances activity.

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<sup>11</sup> This argument depends on the business model adopted by MFIs when they enter the market. They are not always able to influence the prices imposed by their partners.

#### **IV. Money transfer activity and savings mobilisation in MFIs: an empirical analysis**

This section is dedicated to the empirical measure of the role of a money transfer activity on the level of public savings collected by MFIs.

##### IV.1. Methodology and data

Our methodology firstly consisted in building a dummy variable for a money transfer activity. Based on the Mixmarket website, we identified among MFIs of the LAC, EAP, SA and Africa regions that collect savings from their clients, those providing a money transfer service. Around 30% of the MFIs constituting our final sample provided a money transfer service to their clients (34 over 114 MFIs) by October 2008. The sample is detailed in appendices 1 and 2.

Secondly, we determined our explained variable, the importance of savings in the liabilities of MFIs (the “savings over assets” ratio). As financial institutions in general have a minimum capital requirement (legal or decided by the managers), the level of savings in liabilities could reflect the evolution of this minimum capital requirement. However, using the “savings over assets” ratio also gives an indication of the evolution of savings as it depends on each institution’s policy and situation in terms of foreign funds (which could be constituted of savings or loans from banks and donors). In that sense, the “savings over assets” ratio should be positively correlated with the amount of savings.

Thirdly, we identified explanatory variables (other than the dummy one for the money transfer activity) that could explain the level of savings in institutions. According to Bosworth and Collins (1999) who study the impact of financial capital inflows on the investment and savings components of the GDP (using a panel data methodology), the percentage of gross domestic product (GDP) dedicated to savings depends on the capital inflows towards this country expressed as a percent of GDP, as well as the GDP growth with one and two-year lags, and the evolution of the terms of trade index. We will then include these variables in our model.

As far as we know, no paper has ever designed and tested a model explaining the level of savings mobilised by MFIs. Determinants of savings in MFIs were then identified, based on literature related to that subject. The determinants we have

kept are the trust of the public towards the institution and the average revenue of clients, which is related to the MFI (the richer the clients, the more they are able to contribute to the savings of their institution). Trust in the institution is approximated by dummies of the legal status (bank, cooperative, non-bank financial institution, rural bank and non-profit). We take as components of MFIs clients revenue (relative to each MFI) the average loan size, the interest on deposits (approximated by the financial expense ratio<sup>12</sup> of the MFI), and the interest paid on loans (approximated by the financial revenue ratio<sup>13</sup> of the MFI). We also integrate in our model the “remittances over GDP” variable in order to capture the relative importance of remittances in the economy and their weight in receivers’ revenues.

The estimated model is then:

$$\frac{Savings}{Assets}_i = \alpha_i + \beta_1 FINI_{i \text{ over } GDP} + \beta_2 \Delta GDP(-1)_i + \beta_3 \Delta GDP(-2)_i + \beta_4 LSD_i + \beta_5 FTI_i + \beta_6 rem \text{ over } GDP_i + \beta_7 FRR_i + \beta_8 FER_i + \beta_9 ALS_i + \varepsilon_i$$

*FINI<sub>i</sub> over GDP* (capital inflows within MFI *i*'s country in 2006 over the GDP): capital inflows here are the sum of foreign direct investment inflows (FDI) and portfolio investment. The data comes from the International Financial Statistics (IFS) of the International Monetary Fund (IMF) and the United Nations Conference on Trade and Development (UNCTAD).

$\Delta GDP(-1)_i$  and  $\Delta GDP(-2)_i$  represent the GDP growth rates of MFI *i*'s country with respectively one and two-year lags. The data used comes from the World Economic Outlook Database (WEO) of the IMF.

Our interest focuses on variables directly related to MFIs and their activities (all the following data comes from the MixMarket website):

*FTI* (Fund transfer industry dummy<sub>*i*</sub>) reveals whether or not the MFI<sub>*i*</sub> offers a money transfer service to its clients. This is the variable that interests us in order to highlight the potential contribution of remittances in the microfinance industry's

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<sup>12</sup> Financial expense ratio = financial expense (or expenses on funding liabilities) / average total assets ([www.mixmarket.org](http://www.mixmarket.org) and Microrate and IADB (2003))

<sup>13</sup> Financial revenue ratio = financial revenue (or income generated by loan portfolio) / average total assets ([www.mixmarket.org](http://www.mixmarket.org) and Microrate and IADB (2003))

innovation and expansion, through increased medium and long-term savings mobilisation. According to the literature, we expect to have a positive coefficient as remittances increase the money available for savings.

We also have five dummies for the legal status ( $LS_i$  for legal status dummy<sub>i</sub>). The more the institution is perceived by the public as a secure place to put their money, the more it will mobilise local savings. We can then expect to have a positive coefficient for MFIs that operate as banks or cooperatives, and a negative one for non-profit institutions.

The expected sign for the coefficient of the “ $rem\ over\ GDP_i$ ” variable is negative, as remittances are mainly used for consumption purposes<sup>14</sup> (remittances flows decrease the part of GDP dedicated to savings). The data on remittances comes from the World Bank.

The expected sign for the coefficient of the “ $FRR_i$ ” (financial revenue ratio<sub>i</sub>) variable is negative, as the higher the interest to be paid by clients on loans, the less money will be available for savings.

The expected sign for the coefficient of the “ $FER_i$ ” (financial expense ratio<sub>i</sub>) variable is positive, as the higher the remuneration on deposits, the more clients will be motivated to save. However, according to the literature on savings and the poor, this coefficient may be insignificant, as the poor value more the opportunity to have their money kept in a safe place than the remuneration offered by the institution (Deshpande and Glisovic-Mezieres, 2007; Wright, 2003).

Finally, the expected sign for the coefficient of the “ $ALS_i$ ” (average loan size<sub>i</sub>) variable is positive, as loans directly and indirectly contribute to the clients’ revenues and, thus, to the amount of money available for savings.

As we only include MFIs collecting savings in our sample, it is not necessary to add, as an explaining variable, an indicator of the regulation in which those MFIs operate (the regulation has an impact on the opportunity to mobilise savings or not, and not on the amount of savings that can be mobilised by institutions).

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<sup>14</sup> See Giuliano and Ruiz-Arranz (2006)

The direction of the causality can be criticized as the majority of MFIs operating on the remittances market must be those having already strong management skills, including better capacities than other local MFIs to mobilize public savings. One way to identify the causality issue in our study is to verify whether MFIs operating on the remittances market already had a significantly higher capacity to mobilize savings than those not operating on this market before they started their money transfer activity. We will then make the same regression as the one described previously, but for the year 2004, that is one year before the majority of MFIs started to operate on the remittances market.

#### IV. 2. Results

As expected, the correlation between savings and the “savings over assets” ratio is positive and the coefficient of correlation is 21%. The table of descriptive statistics is presented in appendix 3. Table 1 hereunder presents the results of ordinary least square (OLS) linear regression. For all the regressions, the Jarque-Bera normality test does not reject the null hypothesis of normality of error terms.

Our variable of interest is positive and significant. In 2006, MFIs in the LAC, EAP, SA and Africa regions that were operating on the remittances market had a significantly higher level of their “savings over assets” ratio than the other ones. In other words, a money transfer activity significantly contributes to mobilise more savings from the public.

In order to verify whether MFIs operating on the remittances market already had a significantly higher capacity to mobilise savings than others, we have made the same regression for the year 2004, the year before the majority of MFIs entered the remittances market. Descriptive statistics are presented in appendix 4 and the results of this second OLS regression are presented in the second part of Table 1. We find that the coefficient of a money transfer activity is not significant, meaning that, all other things being equal, MFIs that entered the remittances market did not mobilise a higher level of savings than the other ones. This result reinforces the 2006 result, which is that operating on the remittances market significantly contributes to increase the savings mobilised by MFIs.

**Table 1:** OLS regression results (with STATA), 2006 and 2004

Variables	2006			2004		
	1	2	3	4	5	6
<b>FTI</b>	<b>11,29*</b> <b>(2,60)</b>	<b>12,431*</b> <b>(2,52)</b>	<b>10,676**</b> <b>(2,65)</b>	<b>0,769</b> <b>(0,11)</b>	<b>1,54</b> <b>(0,19)</b>	<b>-1,199</b> <b>(-0,17)</b>
<i>FINI<sub>i</sub> over GDP</i>	0,811** (4,25)		0,897** (4,64)	1,616** (3,81)		1,999** (4,78)
$\Delta GDP(-1)$	0,082 (0,15)	0,689 (1,37)	0,246 (0,47)	-0,865 (-1,17)	1,306* (2,34)	-1,81* (-2,55)
$\Delta GDP(-2)$	-0,079 (-0,17)	-0,583 (-1,39)	-0,469 (-0,11)	0,115 (0,25)	-0,778 (-1,56)	0,433 (0,332)
<i>LSD</i>						
Bank	19,488** (2,67)	19,858* (2,52)		23,556 (1,34)	9,471 (0,49)	
Rural bank	25,336** (3,25)	33,633** (4,69)		43,56+ (1,93)	49,847* (2)	
NBFI	6,298 (0,86)	11,671+ (1,87)		13,245 (0,7)	-0,062 (0)	
Cooperative	15,103* (2)	15,810* (2,52)		24,034 (1,13)	23,097 (0,99)	
Non-profit				-1,488 (-0,07)	-10,16 (-0,44)	
<i>rem over GDP</i>	-1,632** (-4,8)	-1,673** (-4,91)	-1,469** (-5,23)	-0,828 (-1,05)	-1,224 (-1,59)	-0,227 (-0,32)
<i>FRR</i>	-0,872** (-4,01)	-0,401* (-2,4)	-1,131** (-4,53)	-0,873+ (-1,87)	-0,038 (-0,75)	-1,168* (-2,56)
<i>FER</i>	0,673 (1,05)	0,757 (1,09)	1,05 (1,47)	-1,207 (-0,75)	-0,201 (-0,11)	-0,1 (-0,06)
<i>ALS</i>	0,001+ (1,69)	0,001+ (1,86)	0,001* (2,27)	0,008** (2,66)	0,012** (3,02)	0,008* (2,32)
Constant	42,562** (4,22)	43,681** (4,98)	55,914** (6,88)	41,407 (1,63)	43,756 (1,57)	63,991* (2,47)
Observations	114	114	114	114	114	114
R-squared	0,5057	0,4038	0,427	0,389	0,2766	0,3128
Robust t-statistics in brackets						
+ significant at 10%; * significant at 5%; ** significant at 1%						
NBFI: non-bank financial institution						

Regarding the trust in institutions approximated by legal status dummies, it seems that being a bank, a rural bank or a cooperative significantly increases the “savings over assets” ratio as expected, while the coefficient of non-bank financial institutions is positive but insignificant. Banks, rural banks and cooperatives may be perceived by potential savers as strong and sufficiently secured institutions to put their money there.

Regarding the clients' revenues, we find the expected signs. The measure of savings remuneration has a positive coefficient as expected (the higher the remuneration approximated by financial expenses, the higher the amount of savings collected and the "savings over assets" ratio), but not a significant one. This is in line with the literature arguing that the interest rate paid on savings by financial institutions is not, for the majority of poor people, the main determinant of their decision to put the money on an account in a financial institution. The "*financial revenue*" ratio variable is negative, as expected (the higher the interest paid on credits, the less clients will have money available for savings), and strongly significant. The "remittances over assets" ratio has a significant negative coefficient, confirming the idea that remittances are mainly used for consumption purposes (they then decrease the share of GDP dedicated to savings), even though they increase the amount of money saved by receivers, who are richer than before. Finally, the coefficient of the "*average loan size*" variable is highly significant and positive, as expected. This confirms that the richer the clients, the more they contribute to the institution's savings.

It is however important to remember that the remittances activity's impact on savings mobilisation depends on the business model implemented by MFIs. While the majority of MFIs that operate as agents or sub-agents of large MTOs like Western Union do not formally link their money transfer service with financial products, those operating for instance through a network of MFIs or through a partnership with a bank usually offer remittances linked financial products<sup>15</sup>. For these MFIs, the impact of the remittances activity on their savings is probably higher than for the first ones.

## **V. Conclusion**

The role of savings as a source of funds for MFIs is well recognised by the whole microfinance industry. It is also recognised that medium and long-term savings are more advantageous than highly liquid savings as source of funds, as they are more stable, less costly to collect and they limit liquidity and term mismatch risks for MFIs. Entering the remittances market then represents a particular interest for

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<sup>15</sup> See some examples in Orozco (2008) for MFIs of LAC region

MFIs, because the migrants' savings are of longer term than those from usual MFIs clients.

The objective of this paper was to contribute to existing literature on remittances and microfinance by empirically measuring the effect of a money transfer activity on MFIs' savings. So far, the literature on this topic has argued that MFIs should enter the market because they can increase their revenues through commissions and they can increase their clientele and the savings they collect by transforming remittances receivers into clients. In this paper we focused on this latter point and tried to measure its occurrence in reality. Even if a money transfer activity can increase the level of savings mobilised by MFIs, those MFIs should offer adapted financial products to remittances receivers to have them become clients. However, only a few of them have implemented remittances-linked products<sup>16</sup>. The impact of a money transfer activity on savings could then be limited or insignificant and, as far as we know, no paper ever has empirically tested the significance of this impact for MFIs operating on the remittances market.

According to our results, a money transfer activity has an impact on the amount of savings collected from the public and MFIs involved on the remittances market have a significantly higher level of savings than the other ones. This is in line with what is argued in literature. The result partly gives an insight on the opportunity for microfinance industry to enter the remittances market. Actually, the result confirms that operating on the remittances market increases the amount of savings mobilized, which is interesting in the idea of finding funds to finance microfinance innovation. However, here we do not have information on the term of savings. According to literature we know that migrants and remittances receivers save on a longer term than others but we do not know much about the average term (months or years), and this is determinant for MFIs that would like to use this money to innovate by offering medium and long-term credits.

We do not have information on financial inclusion. Actually, we do not know whether a money transfer activity contributes to increasing savings because it attracts new clients that save small amounts, or because the already existing clients save thanks to the availability of remittances-linked products. In the first

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<sup>16</sup> According to Orozco and Hamilton (2006), only 14% of the MFIs of their sample had elaborated packages for remittances receivers.

case, the remittances activity increases financial inclusion and in the latter one it does not. However, databases with the needed information on money transfer activity are not available to run an analysis in that sense.

It is important to further study the question discussed in this paper, because the answer can have an important implication for the microfinance industry. Given the opportunities that the remittances market represents for MFIs, and given the characteristics of remittances flows, it is important to have a deeper reflexion on what should be done in order to increase the capacity of remittances in helping the microfinance industry face its challenges. This goes beyond the question that currently interests researchers, that is how to increase remittances impact on economic development of receiving countries. Actually, as it has already been proven that remittances should be included in the formal financial system (through formal financial institutions and thus MFIs) in order to have a maximal impact on the receiving countries' economic development<sup>17</sup>, we can now start to think about how microfinance could take the opportunity of operating on the remittances market in order to face its own challenges and increase the financial inclusion of the poor.

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<sup>17</sup> See for instance Aggarwal, Demirgüç-Kunt and Martinez Peria (2006), Giuliano and Ruiz-Arranz (2006), Toxopeus and Lensink (2007) and Gheeraerts and Sukadi (2008) for literature on remittances and growth

**Appendix 1:** List of MFIs providing a money transfer service, by country <sup>18</sup>

<b>MFI ID (MIX Market)</b>	<b>Country</b>	<b>MFI ID (MIX Market)</b>	<b>Country</b>
Banco Los Andes ProCredit	Bolivia	Banco Santiago de Libon	Philippines
BancoSol	Bolivia	Bangko Kabayan	Philippines
Eco Futuro	Bolivia	RB Digos	Philippines
FIE	Bolivia	CMEDFI	Philippines
PRODEM	Bolivia	Valiant RB	Philippines
Finamerica	Colombia	RB Solano	Philippines
ProCredit - ECU	Ecuador	New RB of Victorias	Philippines
Banco Solidario	Ecuador	Bangko Mabuhay	Philippines
COAC Mushuc Runa	Ecuador	RB Sto. Tomas	Philippines
COAC Acción Rural	Ecuador	Partner RB Cotabato	Philippines
COAC San José	Ecuador	SPBD	Samoa
COAC Jardín Azuayo	Ecuador	CEP	Vietnam
COAC Maquita Cushunchic	Ecuador	TYM	Vietnam
COAC Sac Aiet	Ecuador	Binhminh CDC	Vietnam
FINCA - ECU	Ecuador	Nirdhan	Nepal
ACCOVI	El Salvador	SB Bank	Nepal
Fonkoze	Haiti	MGBB	Nepal
FINSOL	Honduras	PGBB	Nepal
ODEF OPDF	Honduras	CBB	Nepal
Caja Popular Mexicana	Mexico	DD Bank	Nepal
FINCOMUN	Mexico	CSD NGO	Nepal
CMAC Arequipa	Peru	JSCCS	Nepal
CMAC Huancayo	Peru	Kashf	Pakistan
CMAC Maynas	Peru	FMFB - Pakistan	Pakistan
CMAC Sullana	Peru	Sabaragamuwa	Sri Lanka
CMAC Tacna	Peru	SEEDS	Sri Lanka
CMAC Trujillo	Peru	FECECAM	Benin
CMAC Del Santa	Peru	CBDIBA/RENACA	Benin
CRAC Caja Nor	Peru	MDB	Benin
COOPAC Santo Cristo	Peru	CODES	Benin
COOPAC San Martin	Peru	Kafo	Mali
MiBanco	Peru	Nyesigiso	Mali
ACLEDA	Cambodia	Miselini	Mali
AMRET	Cambodia	Kondo Jigima	Mali
AMK	Cambodia	CVECA Kita/Bafoulabé	Mali
HKL	Cambodia	PASECA - Kayes	Mali
CREDIT	Cambodia	Réseau KARABARA	Mali
Maxima	Cambodia	CACOEK SUDUDIAWDI	Mali
BRI	Indonesia	NovoBanco - MOZ	Mozambique
BPR AK	Indonesia	SOCREMO	Mozambique
LPD Kuta	Indonesia	MECREP	Niger
LPD Pecatu	Indonesia	CFE	Rwanda
LPD Panjer	Indonesia	CMS	Senegal
LPD Ketewel	Indonesia	PAMECAS	Senegal
LPD Bedha	Indonesia	ACEP	Senegal

<sup>18</sup> [www.mixmarket.org](http://www.mixmarket.org)

LPD Kukuh	Indonesia	U-IMCEC	Senegal
BPR Eka Ayu	Indonesia	DJOMECE	Senegal
BPR PKT	Indonesia	MECBAS	Senegal
LPD Celuk	Indonesia	FUCEC Togo	Togo
LPD Buahhan	Indonesia	WAGES	Togo
NWTF	Philippines	MICROFUND	Togo
Life Bank	Philippines	Centenary Bank	Uganda
CARD Bank	Philippines	FINCA - UGA	Uganda
1st Valley Bank	Philippines	UML	Uganda
Cantilan Bank	Philippines	U-Trust / UWFT	Uganda
CBMO	Philippines	CML	Uganda
BCB	Philippines	KYAPS	Uganda

**Appendix 2:** Sample of the regressions, by legal status

MFI ID (MIX Market)	Money transfer activity- MTA (1) or not (0)
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**Legal status: Bank**

Banco Los Andes ProCredit	1
BancoSol	1
ProCredit - ECU	0
Banco Solidario	1
MiBanco	1
ACLEDA	0
BRI	1
Nirdhan	0
Sabaragamuwa	0
NovoBanco - MOZ	1
SOCREMO	0
Centenary Bank	0
<b><i>Sub-total: 12 observations</i></b>	<b><i>6 with a MTA</i></b>

**Legal status: Cooperative**

COAC Mushuc Runa	1
COAC Acción Rural	1
COAC San José	1
COAC Jardín Azuayo	1
COAC Maquita Cushunchic	0
COAC Sac Aiet	0
Caja Popular Mexicana	1
COOPAC Santo Cristo	1
COOPAC San Martin	1
JSCCS	0
FECECAM	1
MDB	0
CODES	0
Kafo	0
Nyesigiso	1
Kondo Jigima	0
CVECA Kita/Bafoulabé	1
PASECA - Kayes	0
Réseau KARABARA	0
CACOEC SUDUDIAWDI	0
MECREF	0
CMS	0
PAMECAS	0
ACEP	1
U-IMCEC	1
DJOMECE	0
MECBAS	0
FUCEC Togo	0
MICROFUND	0

KYAPS	0
<b><i>Sub-total: 30 observations</i></b>	<b><i>12 with a MTA</i></b>

**Legal status: Non-bank financial institution**

Eco Futuro	0
FIE	1
PRODEM	1
Finamerica	0
FINCA - ECU	0
ACCOVI	1
FINSOL	1
FINCOMUN	1
CMAC Arequipa	0
CMAC Huancayo	1
CMAC Maynas	1
CMAC Sullana	1
CMAC Tacna	0
CMAC Trujillo	0
CMAC Del Santa	0
CRAC Caja Nor	1
AMRET	0
AMK	0
HKL	0
CREDIT	0
Maxima	0
TYM	0
FMFB - Pakistan	1
SEEDS	0
CFE	0
FINCA - UGA	0
U-Trust / UWFT	0
CML	0
<b><i>Sub-total: 28 observations</i></b>	<b><i>10 with a MTA</i></b>

**Legal status: Rural bank**

BPR AK	0
LPD Kuta	0
LPD Pecatu	0
LPD Panjer	0
LPD Ketewel	0
LPD Bedha	0
LPD Kukuh	0
BPR Eka Ayu	0
BPR PKT	0
LPD Celuk	0
LPD Buahari	0
CARD Bank	0
1st Valley Bank	1
Cantilan Bank	0
CBMO	0
BCB	0

Banco Santiago de Libon	0
Bangko Kabayan	0
RB Digos	0
CMEDFI	0
Valiant RB	0
RB Solano	0
New RB of Victorias	1
Bangko Mabuhay	0
RB Sto. Tomas	1
Partner RB Cotabato	1
SB Bank	0
MGBB	0
PGBB	0
CBB	1
DD Bank	0
<b><i>Sub-total: 31 observations</i></b>	<b><i>5 with a MTA</i></b>

**Legal status: Non-profit institution**

Fonkoze	1
ODEF OPDF	0
NWTF	0
Life Bank	0
SPBD	0
CEP	0
Binhminh CDC	0
CSD NGO	0
Kashf	0
CBDIBA/RENACA	0
Miselini	0
SOCREMO	0
WAGES	0
<b><i>Sub-total: 13 observations</i></b>	<b><i>1 with a MTA</i></b>

**Total: 114 observations                      34 with a MTA**

**Appendix 3:** Descriptive statistics (2006's data)

<b>Variable</b>	<b>Name</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>N</b>
<i>FINI<sub>i</sub> over GDP</i>	Capital inflows within MFI <i>i</i> 's country over GDP (%)	0	54	14,385	114
$\Delta GDP(-1)$	GDP growth rates of MFI <i>i</i> 's country one year lag (%)	-52	30	10,71	114
$\Delta GDP(-2)$	GDP growth rates of MFI <i>i</i> 's country two years lag (%)	-47	43	22,517	114
LSD	Legal status dummies				114
	Bank	0	1	0,105	
	Rural bank	0	1	0,271	
	Non-bank financial institution	0	1	0,245	
	Cooperative	0	1	0,263	
	Non-profit	0	1	0,14	
FTI	Fund transfer industry dummy	0	1	0,298	114
rem over GDP	remittances over GDP	0	26	7,359	114
FRR	Financial revenu ratio	8	74	22,982	114
FER	Financial expense ratio	0	16	4,71	114
ALS	Average loan size	77	22252	1154,518	114

**Appendix 4:** Descriptive statistics (2004's data)

<b>Variable</b>	<b>Name</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>N</b>
<i>FIN<sub>i</sub> over GDP</i>	Capital inflows within MFI <i>i</i> 's country over GDP (%)	0	52	12,798	114
$\Delta GDP(-1)$	GDP growth rates of MFI <i>i</i> 's country one year lag (%)	5	40	15,122	114
$\Delta GDP(-2)$	GDP growth rates of MFI <i>i</i> 's country two years lag (%)	5	63	29,868	114
LSD	Legal status dummies				114
	Bank	0	1	0,105	
	Rural bank	0	1	0,271	
	Non-bank financial institution	0	1	0,245	
	Cooperative	0	1	0,263	
	Non-profit	0	1	0,14	
FTI	Fund transfer industry dummy	0	1	0,298	114
rem over GDP	remittances over GDP	0	27	6,017	114
FRR	Financial revenue ratio	8	74	23,289	114
FER	Financial expense ratio	0	16	4,622	114
ALS	Average loan size	77	22252	777,193	114

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