Microfinance from the Clients' Perspective: An Empirical Enquiry into Transaction Costs in Urban and Rural India

Abstract: Inclusive financial sectors are important for development in terms of equity and efficiency. While microfinance has developed rapidly, little is known about the actual costs for clients to access microfinance services, except for interest rates. The insufficient outreach of microfinance in rural areas remains one of the main challenges of the sector. This paper uses the individual data of 255 clients in India and the data of 48 groups to which they belong, in order to compare the transaction costs (TCs) between urban and rural microfinance clients. The results suggest that the TCs incurred by urban microfinance borrowers are globally higher than those incurred by their rural counterparts (4.81% compared to 3.35%), mainly because of their opportunity expenses and individual costs that are not related to microfinance groups. Yet, when considering a household's total monthly expenditure level, the microfinance TCs for rural households constitute much higher relative expenditure than for their urban counterparts. Total TCs are still relatively low compared to the main cost of loans, i.e., their interest rates.

1. INTRODUCTION

The last few decades have seen the rapid emergence of the microfinance sector to address financial exclusion and sometimes make profits out of it. The costs of microfinance services have always been debated: microfinance institutions (MFIs) typically have a much higher interest rate policy than conventional commercial banks or former credit programmes (Armendáriz and Morduch, 2010; Hudon, 2009). This debate has been recently refueled by the financial crisis which has particularly affected the poor and also by rising levels of overindebtedness in some countries (Schicks, Forthcoming), especially in India (Guérin *et al.*, 2011; Guérin *et al*., Forthcoming).

Many recent papers have provided empirical evidence to address questions about the efficiency of MFIs (Hermes *et al*., 2011; Caudill *et al.*, 2009; Gutiérrez-Nieto and Serrano-Cinca, 2009) or governance issues (Labie and Mersland, 2011) often related to the risk of mission drift and the tendency to target more prominent clients than their original clientele (Armendáriz and Szafarz, 2011). Except for information on portfolio yield (Cull *et al.*, 2009), little is known, however, about the cost for clients to access microfinance services and on the specificities of this cost in urban and rural areas. These costs, borne by the consumer and not transferred to the seller of the good, are the transaction costs of the borrowers (Wallis, and North, 1987, pp. 97-98).

While microfinance has often spread in cities, the servicing of clients in rural areas remains one of the main challenges of the sector since most MFIs tend to target urban or semi-urban areas (Armendáriz and Morduch, 2010). The microfinance "revolution" that emerged in the 80s and 90s was thus mainly related to urban areas in most Africa and South Africa (Morvant Roux, 2011). Our main research question will therefore be: Are transaction costs higher for rural or urban microborrowers? This is a complicated issue since transaction costs, including

real and opportunity costs, vary across lending methodologies. For instance, loans may be offered individually or in solidarity groups, and the size of the loan may increase for each individual loan. We contribute to this debate by calculating and comparing TCs in Indian urban and rural areas. We therefore provide further empirical evidence about potential barriers to financial inclusion for microfinance clients additional to the interest rates.

In microfinance, TCs have been often used in the discussions of the interest rates charged to borrowers (reviewed in Johnson, 2005). Evidence for the actual transaction costs of microfinance clients, and more especially its variation between urban and rural areas is more difficult to find with exceptions including Adams (1999), Cuevas (1988), Rojas and Rojas (1997) and Karduck and Seibel (2004). Urban-rural analysis is necessary if we are to understand the potential barriers to financially include and build economic citizens in the most remote areas.

India would seem to be a perverse example to take since, contrary to most countries, microfinance in India has historically been predominantly rural-oriented with both the self-help group and Grameen principles models, being largely based on community trust and peer pressure (Sriram, 2005). The reluctance of microfinance intermediaries to work among the urban poor is evident from their minimal presence in towns and cities (Friends of Women's World Banking, 2008). According to NABARD and SA-DHAN microfinance network data, several large and small MFIs have however recently expanded in the urban areas but the growth posted in urban locations is still moderate compared to rural activities (Srinivasan, 2009).

The originality of our paper is essentially twofold. First, this paper is the first to test statistically if individual in rural and urban areas have similar TCs for microfinance operations. We compute an equality of mean test (Z-stat) to analyze which component of the various sort of individual TCs significantly differ. We use an original dataset including

individual information from 255 clients, and 48 group data from their respective 27 urban self-help groups (SHGs) and 21 rural SHGs. While the microfinance sector has dramatically evolved during the last decade (Armendáriz and Labie 2011), major studies related to transaction costs were using data collected a long time ago, between 1997 and 2004. Our research therefore provides more recent empirical evidence. Second, although the role of transaction costs in microfinance is well understood (Bhatt and Tang, 1998; Armendàriz and Morduch, 2010), there is no systematic framework to estimate TCs, with the exception of Karduck and Seibel's (2004) first attempt for NABARD. Our list of TCs differs from the one used by Karduck and Seibel's (2004) since, based on our field experience, we have included some additionnal TCs supported by borrowers.

Our results suggest that even if groups' relative transaction costs (TCs) are higher in the rural areas, the average annual total TCs per outstanding loan is higher for clients of urban SHGs clients than for these of rural SHGs (4.81% compared to 3.35%).. Nevertheless, that total TCs remain small compared to the average cost of lending in India.

The rest of the paper is structured as follows. Section II presents the origin of the concept of transaction costs, and its role in the microfinance exchange. Section III and IV introduce respectively the main hypothesis to be tested and the database. Section V provides the definition of rural and urban areas and the specificities of the Indian context. Section VI then proposes a framework for measuring transaction costs in microcredit transactions. The main results are discussed in Section VII. Finally, Section VIII draws some conclusions.

2. TRANSACTION COST IN MICROFINANCE

The transaction cost approach has been developed from the theory of the firm by Ronald Coase (1960). Two literatures simultaneously claim ownership of the term: the 'property

rights' school and the neo-classical one. However, there exists some kind of unanimity among researchers about Williamson's metaphorical explanation of transaction costs as the economic equivalent of frictions in physical systems.

Hence, we can define transaction costs as "any costs that arise due to the existence of institutions and the appearance of an economic exchange" (Cheung, 1969). If we apply this definition to a microfinance exchange, the party that cannot provide a service "within an organisation" or institution would be a set of individuals with financial needs, who face difficulties in interacting with each other because of information asymmetry and organizational problems. The other party – interested in an economic exchange – with which an agreement has to be reached would be the MFI (lender).

The concept of TCs has been mostly used in the microfinance literature to justify the high interest rates of lenders that would be due to the small loan size (Armendàriz and Morduch, 2010; Morduch, 2000). TCs are part of the total cost of the transaction for the borrowers, next to interest rates and fees paid to the institution. These different components may evolve through innovations or product design. For instance, some microlenders argue that they would be able to develop methodologies to reduce total costs supported by the clients through lower TCs even if interest and fees would increase, We will focus here only on the TCs of the borrower, the individuals with financial needs.

While there has been some other publications related to TCs of the borrower in microfinance (e.g. Adams, 1999; Cuevas, 1988; Shankar, 2007), the two most important contributions for our research are probably Rojas and Rojas (1997) and Karduck and Seibel (2004). Karduck and Seibel's (2004) conducted for NABARD, the Indian apex institution for rural banking, the analysis of TCs in microfinance for Indian SHGs. Even if they analyzed the different sorts of TCs on a large sample of SHGs, their analysis did not show that the differences between the various TCs are statistically significant. Their results do show some means per category

of TCs but, without information on the heterogeneity (variance) of the data for each TC, it is not possible to make decisive conclusions. We will fill this gap and provide these empirical evidence for each TC. Moreover, based on our field experience, we have added some additional TCs supported by borrowers: the penal charge from check bounce, the opportunity costs for training and the fine cost of missing a meeting that were not included in Karduck and Seibel's framework.

Another major reference on TCs is Rojas and Rojas (1997) who studied the relationship between transaction costs and institutional aspects of relative large firms with some attaining a turnover of 9 million $. They narrowed their methodology of TCs to costs appearing from the credit requirement (with distinction between variable and fixed costs). They found that transaction costs are relatively large. Our study will differ in two ways from their work. First, we will analyze data from borrowers with much smaller activities, more typical of microfinance borrowers. Second, we will adopt a more extensive approach, considering real cost from outside credit application.

3. MAIN HYPOTHESIS

It is often assumed that rural microfinance is relatively expensive compared to urban microfinance because it requires more travel, groups are sparsely located, and local resources, both human and financial, are not available (Yaron and McDonald, 1997; Schreiner and Colombet, 2001). By contrast, microfinance in urban areas will be less expensive in TCs terms due to the proximity of potential clients. In India, the early apprehension about working among urban population groups seems to have given way to optimism about the robust economics of financial intermediation in urban locations with new lending methodologies and business models (Ghate, 2007).

There is an urgent need to map the differences between both environments clearly; this will allow us to acquire a better understanding of the respective interests, challenges and specifics of rural and urban microfinance.

Many researchers reveal difficulties in the implementation of microfinance in rural areas (Gonzalez-Vega, 2003; Basu, 2008; Vanroose, 2008). In particular, some characteristics seem to increase transaction costs. For example, a low rural literacy rate can mean accounting costs for groups needing assistance with transactions. The absence of relevant infrastructure and low population density also explain why rural financial sectors are underdeveloped (Yaron and McDonald, 1997; Hulme and Moore, 2006). Long distances to banks and lower population densities in rural areas may require clients to travel longer distances. Overall, these factors are believed to drive transaction costs up for rural clients. This brings us to the following hypothesis: **"**Transaction costs per monetary unit (total transaction costs divided by outstanding loan) incurred by rural microfinance clients are globally higher than those incurred by their urban counterparts".

4. DATA SET

The Indian microfinance sector served a total of about 76.6 million poor people in 2009, spread all over the country (Srinivasan, 2009), targeting a wide array of different clients, and working on the basis of hundreds of different delivery systems. Different types of models co-exist. As Bali Swain and Varghese (2009) explain, private MFIs follow a market-oriented line, contrary to the SHG model, which follow what they consider an "institutional" and probably more "statist" type of approach than private MFIs. This means that each MFI faces very different challenges, threats, and opportunities in terms of product design or lending methodology. A standardized approach is not appropriate for such diversity and set of

stakeholders. We will use data from an MFI offering the most frequent microfinance methodology in India, i.e., self-help group intermediation.

The data used in the paper were collected in South India (Karnataka and Tamil Nadu) by one of the authors between September 2009 and January 2010. Both the urban and rural clients analyzed in the sample were clients of Sanghamithra Rural Financial Services (SRFS). SRFS provides microfinance services in districts in South Karnataka and few districts of Tamil Nadu.

Let us compare SRFS to a benchmark in order to situate its operations and assess its cost structure. The benchmark used here is provided by the Microfinance Information Exchange (MIX)[3] and consists of 283 Asian MFIs with an average of 12 years existence, comprising an average of 12 branches and 124 staff. The benchmark has 17,239 active borrowers, from which 93.8% are women, totaling 3,677,827 US$ gross loan portfolio. As of the end of March 2008, SRFS counted 120,080 borrowers totaling 12,127,591 US$[4]. The advantage of studying this type of MFI for our study lies in the fact that data from a wide variety of SHGs formed by different organizations is collected by the MFI. This diminishes the bias from working with only one institution. In addition, SRFS work with both rural and urban groups.

In total, data from 27 urban SHGs and 21 rural SHGs served by SFRS have been collected, covering 143 and 112 members'. Individuals have been randomly chosen from SRFS clients. The data, directly collected by one of the authors, provides information on SHG data (e.g., monthly saving amounts, meeting frequencies, meeting places, presence of other borrowing institutions, etc.) and on clients' data (e.g., language skills, education level, economic activity, use of mobile phone, etc.)..In addition to that, extensive information has been collected for the computation of transaction costs for both the clients.

[3] The Microfinance Information Exchange, Inc. is a non-profit company dedicated to improving the information infrastructure of the microfinance industry in developing countries, by promoting standards of financial and operational reporting, offering readily accessible data, and providing specialized information services. For further information please visit www.themix.org

[4] Data from the MixMarket.

Both rural and urban samples contain SHGs with similar ages, numbers of members and meeting times. The average loan per borrower is 3,878 INR (or 83.3 US$) in urban areas and 3,884 INR (or 83.4 US$) in rural areas. It is thus similar and is not related to a rule for loan. Concerning the caste distribution, about 2% of urban members and 6% of rural members were from scheduled caste (SC) groups, and 12% of members in both areas as part of scheduled tribes (ST). Remaining members are Other Backward Community (OBC) and a minority are labeled as religious and other castes. From Census data for 2001[6], the population of Scheduled Castes and to Scheduled Tribes all over India accounts respectively for 16.2% and 8.2% of total population. As the study was carried in Karnataka state, 89% of the members from our sample had Kannada as their mother, and the remaining members had Tamil (8%) or Urdu (3%). Concerning literacy rates, about 87% of urban members are literate, compared to 58% of rural members. We can compare the literacy rate of our sample with the Karnataka population data with the Census 2011. Our sample is more or less in line with the literacy rate in Karnataka where 82% of females are literate in urban areas whereas 60% of females are literate in rural areas. Nevertheless, this does not mean that these micro-borrowers are representative of the population because most microfinance clients are both self-selected and program-selected, which may imply some difference from the "standard population" of Karnataka.

5. RURAL AND URBAN CLASSIFICATION IN INDIA

It is important to provide criteria of classification of urban and rural area to later compare urban and rural TCs. We will base our classification of these areas on the latest Census. In India, the office of the Registrar General and Census Commissioner carried out its latest

[6] Data on castes included in Census 2011 were not yet published when this paper was written.

Census in 2011, which we will use in this paper. Urban population accounts for 31.2 % in 2011 whereas rural population accounts for 68.8%of the total Indian population in 2011. The dichotomy between rural and urban areas allows the separate analysis of data. To differentiate both areas, urban areas are usually strictly defined and rural area is then the residual category. In India, from the 1981 Census on, settlements can meet the definition of urban area in two ways: according to administrative and demographic criteria:

1) all places with a Municipality, Corporation, Cantonment, or Notified Town Area
2) all other places that satisfy the following criteria:
    - a minimum population of 5,000
    - at least 75% of the male working population is non-agricultural
    - a density of population of at least 400 persons per km²

However, with respect to certain other urban characteristics, exceptional cases exist where state governments have had the power to declare a settlement urban. It is to be noted that the present categorization of rural does not comprise any transitional category in the urban definition. It does not take into account the suburbanization process and hence underestimates the actual urban population. The categorization of semi-urban settlements has not been attempted officially and will therefore not be considered in this study.

6. METHODOLOGY TO CALCULATE CLIENTS' TRANSACTION COSTS

Clients' transaction costs are composed of two distinct parts: individual TCs directly incurred by an individual client ("direct TCs") and group TCs incurred by all members of a group

together ("indirect TCs). Group TCs have to be allocated on a proportional basis to every member of the group.

To calculate transaction costs, similarly to Karduck and Seibel (2004), we only consider the clients' transaction costs and do not take into account their price costs, i.e., cash payment to a microfinance institution (for example a membership card or annual training). In this case, transaction costs are non-price costs borne by clients and are not revenue for the MFI. Transaction costs also include opportunity costs, such as the time spent at group meetings, and real costs, such as transport and stationery related to the use of microfinance. Real costs are cash expenses to be paid on a regular basis. Even if they are imputed in cash, opportunity costs are in fact "non-cash" expenses related to an alternative that must be forgone in order to pursue a certain action. In this case, it implies the money the client could be making during the time spent on MFI matters. Opportunity costs are imputed on an estimation of a daily wage, where the average daily wage amounts to 30 INR for rural woman and to 72 INR for an urban woman.

The rural wage is from Karduck and Seibel (2004), as stated by 78 SHGs Women; the urban wage is computed based on the rural wage and a 2.4 ratio, as suggested by Bucci (1993) who analyzed the National Sample Survey data in depth. The data we used was related to women due to the fact that a vast majority of borrowers are women (Cfr. Section 4). It is difficult to find recent data on urban and rural wages and there is no consensual source. One exception is the Central Statistical Organisation (CSO, 2007) who used the National Accounts Statistics (NAS) database of 1999-2010 and found a 2.8 ratio. Nevertheless, these figures blatantly overestimate rural income (Kundu, 2010).

INSERT TABLE 1

Groups' real costs include penal charges (from bounced cheques), accounting costs (the cost of the book writer or auditor), meeting place costs, stationery and book costs, and finally check book costs. Groups' opportunity costs consist solely of travel time. Individuals' opportunity costs consist of income foregone because of travel time, meeting time, and training time and their real costs include fine cost of missing a meeting, picture and copy of ID proof cost, individual pass book cost, and travel cost to meeting. Based on that, average total costs will be calculated for both group TCs and individual TCs, finally allowing easily to compute clients' total TCs. Our measure of transaction costs include all major transactions costs supported by clients to our knowledge. The list of transaction costs included in the research is based on the other items used in the literature and our field experience in India. It should be noted that this list is not exhaustive. These are cost pools identified in the literature and from field observations. Nevertheless, many more hidden costs might exist, depending on the environment and the type of group lending / promoting institution involved. As illustration, the list evolved alongside field observation as new cost pools were identified.

Let us focus on the different cost pools of clients' TCs:

- Opportunity cost of travel meeting: cost related to the time needed to walk to and from the meeting place.
- Opportunity cost of meeting time: cost related to the time spent attending meetings.
- Opportunity cost of training time: cost related to the time spent attending trainings.
- Travel cost to meeting: cost of return journeys (rickshaws or bus) to attend meetings.
- Individual pass book cost: group members usually own a personal pass book for entries.
- Picture and copy of ID proof cost: MFIs' administrations usually ask for picture and Id proof.

- Fine cost of missing a meeting: SHGs usually fine members for not attending a meeting.
- Opportunity cost of bank-related travel: cost related to the time needed to walk to and from the bank.
- Penal charge cost (from bounced cheques): Sanghamithra charges 100 INR for *cheques* that cannot be processed because of insufficient funds on the SHG's account.
- Accounting support costs: SHGs lacking literates pay an auditor or book writer to help.
- Meeting place cost: some groups need to pay a fee for using a public place for their meetings.
- Cost of stationery and books: cost related to the purchase of eventual attendance register, minutes book, loan/saving ledger, cash book, general ledger, and bank pass book.
- Bank-related travel cost: 'go & return' cost of journeys (rickshaws or bus) to access banks.
- Cost of cheque book: some banks charge clients for cheque books.

All data collected was calculated based on interviews with the borrowers.

7. FINDINGS AND DISCUSSION

The comparison of clients' transaction costs examines the respective costs incurred by clients in both areas. Is it more costly for an individual with financial needs to access microcredit services in urban or rural areas? The results will allow us to discuss differences between enabling environments for microfinance exchange.

Heterogeneity of TCs among individuals included in the sample is relatively low since customers have very similar profiles. For every type of cost, only between 4% and 22% of the group face any transaction costs twice higher than the average of the sample. This figure

drops to even lower percentages for opportunity costs. Only very rarely do a member live more than a few hundred meters from the meeting place. Highest heterogeneity is found for real costs for travel to meeting and costs of check books and individual pass book since each SHG may buy different books for their members or the NGOs supporting the SHGs may have their own material.

7.1 Proportional group TCs

We will start with the analysis of the client's transaction related to the group methodology. Table 1 shows that total annual individual shares of (proportional) group TCs were found to amount to 102 INR for urban groups and 146 INR for rural groups. Most of it is due to monthly real costs amounting respectively to 85 INR and 133 INR. Groups' real costs include penal charges (from bouncing cheques), accounting costs (book writers or auditors), meeting place costs, stationery and book costs, and cheque book costs.

Groups' opportunity costs consist solely of bank journey travel times and amount to 17 INR for urban groups and 14 INR for rural groups, but their average values do not significantly differ. Opportunity cost figures involve a double dynamic and offset each other: rural groups take about 1.5 hours to deposit money at the bank, as opposed to 1 hour for urban groups, but average hourly wages are more than double in urban areas.

Groups' main proportional TCs are cost of stationery and books, accounting support costs, and bank-related travel costs, which do not differ significantly in urban and rural areas. A major difference between rural and urban groups' TCs exists for bank-related travel costs: only 22 INR for urban groups, but 64 INR for rural groups. The mean difference is significant at the 1% level. This difference can be explained by relatively long distances to banks (6 km

compared to only 1 km in urban areas)[9] that group leaders and/or other group members need to travel by bus or rickshaw. Hence, the average return journey cost to the nearest bank for rural groups amounts to 27 INR in contrast with 11 INR for urban groups, where most simply walk to the bank. This difference is reinforced by the fact that rural groups frequently meet on a more regular basis.

Accounting support costs also significantly differ between urban and rural groups. These annual costs amount to 26 INR per member for rural groups, while they are almost negligible (4 INR) for urban groups. As explained above, rural members have lower literacy rates and education levels, and are thus more likely to require the help of auditors, book writers, or the SHPI.

Penal charge costs, meeting place costs and cost of cheque books are similar and negligible as they all amount to less than 0.05% of total loans (or a monthly cost of 0.5 INR per member[10]). In conclusion, rural SHGs have to face on average 43% higher proportional TCs than their urban counterparts, essentially because of longer distances to banks (bank-related travel costs) and lower literacy level (accounting supports costs). This is only partially offset by higher prices of goods, implying slightly higher cost of stationery and books in urban area.

7.2 Individual TCs

Total yearly individual TCs were found to amount to 248 INR for urban groups and 143 INR for rural groups (Table 1). Real or directly incurred costs (63 and 38 INR respectively) are

[9] These results are in line with some rural data from Gonzalez-Vega (2003): "the median distance to the nearest financial institution ranges from 2 km (post office branches) to 5 km (commercial banks, cooperative banks); the median time taken to travel to the nearest commercial bank, cooperative or regional rural bank is thirty minutes (post offices are available at closer proximity)." In our case, we consider only commercial banks as we are working with SHGs.

[10] There is indeed no significant difference between both areas concerning penal charge costs as the percentage of check bounces, i.e., the number of check bounces divided by the number of loans, is about 20% for rural groups and 4% for urban groups.

lower than opportunity costs (185 and 106 INR respectively) in both areas. Indeed, individual opportunity costs consist of travel time, meeting time, and training time; individual directly incurred costs are composed by fine costs of missing a meetings, picture and copy of ID proof costs, individual pass book costs, and travel costs to meeting. In both urban and rural areas, there is no cost associated with meeting-related travel since all borrowers walk to the meetings.

Real costs are significantly higher in urban areas. The major differences in individual real costs are to be found, first, in the monthly individual pass book cost, with 13 INR for urban members and 6 INR for rural members (for similar reasons as group stationery cost); second, in the fine for missing a meeting: on average a monthly fine per member of 30 INR and 11 INR respectively. This is not so much related to the frequency of missing a meeting, but rather to the average penalty of missing a meeting which amounted to 7 INR in urban SHGs and 5 INR in rural SHGs. Costs of photos and copies of ID proof (20 INR) are identical in both areas. Concerning individual opportunity costs, the cost of meeting-related travel time (urban: 35 INR; rural: 20 INR) and training time (urban: 26 INR; rural: 12 INR) differ significantly between the two areas, but these are minor factors compared to meeting times (urban: 123 INR; rural: 73 INR). Meetings are of similar duration for both area, but vary significantly because of wage differentials, on which opportunity costs are based. Urban TCs are double rural ones. In conclusion, urban SHG's members face much higher individual TCs compared to their rural counterparts, a significant 73% difference on average.

7.3 Clients' total TCs

To sum up, total yearly opportunity costs for urban SHGs amount to 201 INR (184 INR related to individual expenses and 17 INR as an individually allocated proportion of group transaction costs), compared to only 120 INR for rural SHGs (106 INR related to individual expenses and 14 INR as proportion of group transaction costs). This substantial and significantly higher cost is in contradiction to the relatively longer time needed to travel to banks (all other cost pools being similar in terms of time units), but is explained by hourly urban wage levels that are thought to be double those of rural workers. Total monthly real costs amount to 12 INR for urban SHGs and 14 INR for rural SHGs. Two counterproductive dynamics explain these similar figures: higher price of goods (due to higher purchasing power and wealthier customers) affect the cost of stationery and books (including individual pass books) and fines for missing versus greater distances and lower literacy levels in rural groups impact bank-related travel costs and accounting support costs. Overall, there are cross dynamics where opportunity costs and real costs, as well as indirect and direct TCs, offset each other to result in quite similar total monthly transaction costs per member. Nevertheless, urban TCs are slightly higher with 350 INR, compared to 289 for rural members, because the effect of wage differentials on opportunity costs is enormous.

In order to fully estimate the effect of total TCs on clients, it is important to take into account the amount of the outstanding loan to which the TCs relate. Indeed, what makes microfinance expensive is the relatively high transaction costs compared to the average small loan amounts. As we have seen earlier, the average loan per borrower provided by Sanghamithra Rural Financial Services (external loan) is 3,878 INR in urban areas and 3,884 INR in rural areas. The SHGs in our sample usually had two types of outstanding loans: internal loans (within the SHG) and external loans provided by Sanghamithra Rural Financial Services.

We can now calculate the percentage of TCs per outstanding loan. As expected, Table 2 shows that the higher total outstanding loan per member of rural SHGs has globally increased the rural-urban TC gap even more with 3.3% and 4.8% annual TCs per (external) outstanding loan. Hence, the difference between the two averages is still significant.

Our results are consistent with the pilot study by Karduck and Seibel (2004) on rural TCs for NABARD, using a larger database.[11] They found that annual SHGs' transaction costs were 27 US$ per group or 1.22% of outstanding loan (averaging 2,230 US$), composed of 51% real costs and 49% opportunity costs. Moreover, SHG members' annual direct transaction costs were US$3.50, or 2.3% of outstanding loans (averaging US$148), constituted mainly of opportunity costs. Their study is based on rural SHGs, and their figures are very similar to ours, e.g., 3.5% of rural SHGs' annually TCs, compared to 3.3% in our case. The only cost pool globally, though only partially, offsetting higher urban TCs is the groups' real costs (especially because of bank-related cost and accounting support).

INSERT TABLE 2

Interestingly, the urban-rural gap in individual shares of groups' transaction costs is reduced when we divide the costs by the borrowers' outstanding loans. While rural groups' proportional costs are 43% in absolute value, they are only 21% higher in proportion to the borrowers' outstanding loans and not significantly higher than in urban areas. Costs of stationery and books are however now significantly higher in the rural areas.

Regarding individual costs, results are very similar when we divide them by the borrowers' outstanding loans. Indeed, rural borrowers end up with much higher individual costs than their urban counterparts, mainly because of operating expenses.

[11]Study based on 78 SHGs with 1160 members in Karnataka State.

One concern is the ratio we use to calculate urban wages and opportunity costs. Similar to Karduck and Seibel's (2004), we use Bucci's (1996) ratio of 2.4 for the most precise information. Nevertheless, our findings would be reinforced if we used the 2.8 ratio reported by the Central Statistical Organisation (CSO, 2007). Urban wages would be relatively higher, which would increase the opportunity cost compared to the rural workers. Our results, which suggest that the TCs incurred by urban microfinance borrowers are globally higher than those incurred by their rural counterparts, are not challenged if we use this other ratio.

It is however important to notice that our results are mainly driven by the high opportunity costs of wages. While our proxy of opportunity cost is an average figure for all workers, one may consider that many clients are stay-at-home-women who do not work for such a wage. Their opportunity cost, could be below the average daily wage. Results may therefore be inversed if one considers a very low wage for these women, what would decrease their opportunity expenses.

In conclusion, our results contradict our hypothesis that transaction costs incurred by rural microfinance clients per monetary unit are globally higher than those incurred by their urban counterparts. When considering only real costs, results amount to annual TCs per member of 1.7% for rural SHGs and 1.4% for urban SHGs.

Another factor to consider is the difference in expenditure levels. Average monthly expenditure (MPCE) for rural households amount to 559 INR, compared to 1052 INR for urban households[12]. If considering real transaction costs as a percentage of the total expenditure, figures amount to 2.5% for rural SHG members, in contrast with only 1.2% for urban SHG members. This ratio is more than double that of rural households. Nevertheless,

[12] Data from the National Sample Survey Organisation (NSSO). NSSO has been carrying out All-India surveys on a quinquennial base on consumer expenditure and employment-unemployment.

these low ratios as seen above suggest that TCs do not represent a major part of their expenditure pattern for these households.

Moreover, total transaction costs remain small compared to the average costs of lending in India. Compared to the average interest rates charged by the institution for these clients, total TCs are relatively low. A survey of Indian MFIs by M-CRIL, published in November 2010, reported an average yield of 28% for the 2009-2010 fiscal year (M-CRIL, 2010). Nevertheless, this yield varies from one lending institutions to another. Another survey of Indian MFIs reports average interest rates of 18 to 24% per year (on a declining base) for MFIs using self-help groups, while MFIs following the joint-liability model charge flat interest rates of 12 to 18% per year on their loans. Interest rates regularly exceed 24% for MFIs that do not use one of these two methodologies.

8. CONCLUSION

The concept of transaction costs has been widely used in the microfinance literature, mainly related to the TCs of lenders (Bhatt and Tang, 1998; Morduch, 2000; Armendàriz and Morduch, 2010). However, there was little empirical evidence of the transaction costs borne by microfinance clients. Similarly, rural and urban differences in operating microfinance have been widely asserted without any evidence. Difficulties with data availability are the cause here, as credit officers usually do not differentiate between rural and urban activities.

This paper contributes to the recognition that there are typical ‘urban’ and ‘rural’ characteristics that influence microfinance lending intermediation. The most result of this study comes from the comparison of urban and rural TCs. Rural and urban areas are different operating environments that need handling separately. Numerous and substantial difficulties impede the deepening of both rural and urban financial markets.

Our results show that the average annual total TCs per outstanding loan is higher for clients of urban SHGs clients than for these of rural SHGs (4.81% compared to 3.35%). Here, in contradiction with the literature, differences have been found between TCs borne by rural versus urban clients, invalidating our hypothesis. However, when considering the relation of real TCs to total expenditure basket, it is shown that rural households have to allocate a larger share of consumption to microfinance TCs. That is twice that of urban households' consumption (2.5% compared to 1.2%).

When we disaggregate total TCs, we find that urban transaction costs are higher while the share of rural group proportional transaction costs are higher in rural areas. This is mainly because of costs of stationery and books. Nevertheless, there is no significant difference when these costs are divided by the borrowers' outstanding loans. Individual costs are higher in urban areas, both in absolute value and in proportion to the borrowers' outstanding loans. This is mainly due to the opportunity costs incurred because of meeting costs and fines for absence from a meeting.

Of course, microfinance lending methodologies and contexts vary across countries. What is found for SHGs in India may be different in Africa or Latin America. Nevertheless, the outreach of Indian MFIs and recent events have shown that this country plays a key role in the international microfinance community.

The policy implications of our findings are that practitioners implementing group models in microfinance should try to minimize the expenses or time related to group meetings since these are major drivers of transaction costs. For instance, they might instead invest in new technologies which decrease the time spent on, and arriving to, meetings. Mobile or branchless banking and other mobile contacts are helpful tools to decrease TCs for MFIs but also costs of travel and time in meetings of clients. For instance, contacts with clients through

technologies instead of group meeting could facilitate the monitoring of the loan repayment and end up decreasing the number of meetings required for a similar repayment rate.

Moreover, time spent during meeting could be reduced through more efficient data collection. For instance, credit officers met in the field collect customer's information by transcribing information manually. This information is then again inputted into system at the branch office. Hand-held devices for credit officers could avoid this extra work and increase chances for greater accuracy of information. All these technologies could help save significantly on transaction cost by process improvement and are possible in the Indian context.

Though we have pinpointed the key differences for each type of transaction costs, one should not forget that transaction costs are minimal compared to the borrowers' outstanding loans and to what they paid out as interest. These low TCs experiences by borrowers of MFIs are definitely an asset for these institutions. This may, for instance, explain the rapid growth of SHGs. As Johnson and Rogaly (1996) explain, low transaction costs may however be counterbalanced by the clients' lack of bargaining power in setting the terms of the credit. Next to cheap services, clients of MFIs value flexible products that could meet their cash flows, cost but quality of the financial services are both important. The provision of other financial products (e.g. savings, insurance) next to credit in a same institution is, for instance, very valuable for micro-entrepreneurs. The key challenge for MFIs is therefore to sustainably provide cheap but also relevant financial services for the poor.

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