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Abel A Kinyondo, *University of Dar es salaam*
Nathan Okurut, *University of Botswana*

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DETERMINANTS OF LOAN REPAYMENT PERFORMANCE IN MICROCREDIT INSTITUTIONS: Evidence from Tanzania

Francis Nathan Okurut[1] and Abel Alfred Kinyondo[2]

Abstract

This study investigated the key factors that influence loan repayment performance among group clients of microcredit institutions (MFIs) in Tanzania. This was motivated by the fact that sustainability of MFIs is critical for poverty reduction among the poor through sustainable access to credit. Sustainability of microcredit institutions is greatly influenced by the loan repayment performance of their clients.

High repayment rates enable MFIs to recover interest income and minimize loan losses which enhance profits. In turn, these profits enhance the capital base which enables microcredit institutions to increase their outreach and reduce their dependence on donors.

The study was based on a sample of 150 respondents from PRIDE[3] and FINCA[4] in Kariakoo Division, Dar es Salaam, Tanzania. The logit model regression results suggest that experience, training time, and sanctions have positive and significant effects on loan repayment performance among group clients of MFIs. However transaction costs and group size have negative and significant effects on loan repayment performance.

The policy options to improve loan repayment performance among group clients of MFIs in Tanzania include: encouraging long term relationship with groups (i.e. client retention), adequate training of groups, establishing lasting social sanctions within the groups and by the microcredit institutions, cutting down transaction costs incurred by groups and encouraging more coordination amongst MFIs through the creation of a credit reference bureau.

[1] Department of Economics, University of Botswana, E-mail: okurutf@mopipi.ub.bw
[2] Department of Economics, University of Dar es Salaam, Tanzania
[3] Promotion of Rural Initiatives and Development Enterprises (PRIDE)
[4] Foundation for International Community Assistance (FINCA)

1. INTRODUCTION

Tanzania has made significant progress towards macroeconomic stabilization and structural reforms. Blyh and Wiberg (2003) observe that the real Gross Domestic Product (GDP) growth has been averaging at more than 5 percent since early 2000 while inflation had declined from as high as 30 percent in 1995 to as low as 5 percent by the year 2001. This improvement is mainly attributed to successful economic reforms initiated in 1980s which in essence entailed the transformation of the economy from socialist to the market oriented economic system.

Despite the financial liberalization initiative of 1991, economic agents (especially the poor) had constrained access to formal credit markets in Tanzania. Credit creation declined from 141.4% in 1990 to 38.8% in 1998 and commercial banks were increasingly risk averse in lending as evidenced by their increasing preference in holding risk free government papers which increased from US$ 2.4 million in 1990 to US$ 167.4 million in 1998 (World Bank, 2002).

Khijjah (2004) maintains that financial liberalization of 1991 in Tanzania only resulted in increase in the number of banks but did not translate into increased access to financial services by economic agents. The loans to small businesses by the year 2000 accounted for 7.6% of the total loans as compared to 36% in 1990. Randhawa and Gallardo (2003) further reveal that bank lending in Tanzania is extremely biased against the poor as they do not posses high value physical collateral to pledge as security.

The formal banks used collateral requirements as a screening mechanism to counter the problem of information asymmetry in credit markets. Unfortunately, this method has one undesired outcome of excluding the poor from financial services. The exclusion of the poor who make 80% of Tanzanians (Mkwawa, 2007) has repercussions ranging from worsening unemployment levels, inaccessibility of the poor to quality education, health services, and malnutrition. It is for this reason the Government of Tanzania (GOT)

created an environment that paved a way to the growth of MFIs throughout the country so as to compliment the formal financial institutions (World Bank, 2002).

Microcredit institutions (MFIs) are entities that provide small loans to low income people either individually or as a group (Candace, 2000). Under the individual lending methodology, loans are granted directly to individuals or business entities. The repayment history of the individual normally determines accessibility to future larger loans. The group lending methodology involves providing loans to individuals within a group. The group members co-guarantee one another for repayment of the loan to the MFIs, hence providing a form of social collateral. In case of one member defaulting; the whole group is liable for repayment of the outstanding loan balance, otherwise they forfeit future access to loans.

Ghatak and Guinnane (1999) summarize the advantages of group-based lending as follows: Firstly, group-based lending techniques mitigate the information asymmetry problems of determining the risk of default by borrowers since groups are normally formed by individuals who are likely to know each other well. Secondly, the loans are likely to be productively invested since members of the group tend to monitor each other constantly. Thirdly, groups tend to have their own traditional means to sanction each other at a considerable low cost in case of a default. Fourthly, the members provide a form of insurance to each other within the group for repayment of the MFI loan in case of a genuine reason of default hence the concept of social capital[5]. By implication, the rest of the members cover up the installment repayment for the defaulting member who then later repays to the group.

Ever since the success of Grameen Bank in Bangladesh and BancoSol in Bolivia, MFIs have been the popular way that many countries follow to alleviate poverty. Daley-Harris (2006) refers to microcredits as a "revolution" which took place in 1970s and created a strategy to attack global poverty by providing small, non-colletarized loans to the poorest

[5] World Bank (2000) defines social capital as the norms and social relations embedded in the social structures of societies that enable people to coordinate action to achieve desired goals.

in the world. These loans give individuals ability to start or expand the existing business ventures, and a dignified means towards poverty reduction. It was in this context that the year 2005 was declared as the international year of Microcredit by the United Nations.

However, for MFIs to contribute to sustainable poverty reduction, they must be sustainable themselves. Sustainability refers to the long-term ability of an MFI to cover all its operational and financial costs from internally generated revenues without external subsidy. Sustainability of MFIs is influenced by a number of factors which include loan repayment performance and interest rates charged on their loan products. Loan repayment performance of MFIs is a measure of whether the loans are repaid in full according to the loan contract. The higher the loan repayment performance, the higher the probability of the MFI collecting interest revenues and lower the loan losses (through negligible write-off of bad debts), both of which enhance sustainability.

Despite the commendable efforts that have been put in establishing MFIs in Tanzania, their long run viability is unclear (Wangwe and Lwakatare, 2004; Kashuriza, 1994). While some MFIs have attained high repayment rates, some have been hit by some considerable losses (MicroRate, 2004).

This study therefore investigated the determinants of loan repayment performance in MFIs in Tanzania. Specifically the study focused on the extent to which socio-economic characteristics of the group leader (gender and education level) and group characteristics (experience, homogeneity, sanctions and transaction costs) influence group loan repayment performance.

2. THE MODEL

The study adopted the logit model to analyze the determinants of loan repayment performance among MFI group clients (Bhatt and Tang, 2002; Mashatola and Darroch, 2003; Kasarjyan et al, 2007; Chirwa, 1997; Habteab et al, 2004). The logit model was specified as follows:

$$Pr(Y_i) = \alpha + \sum\beta_i X_i + \mu_i \quad \text{...} \quad (1)$$

Where:

Y_i = The repayment performance of a loan (=1 if the loan was fully repaid within the specified period of the loan contract, otherwise zero)

X_i = A vector of socio-economic characteristics of the group leader (gender, education level) and group characteristics (training time, experience, homogeneity, group size, sanctions and transaction costs), and a dummy for the MFIs in question.

β_i = Parameters to be estimated

μ_i = disturbance term.

The definitions of the explanatory variables (X_i) are as follows:

Gender

This is a female dummy variable (= 1 if group leader was female, otherwise zero).

Experience

This variable measures the number of years the group has participated in the credit programme of a given MFI.

Training Time

This captures the amount of time (in weeks) that the MFI devoted to training the group members on issues like loan management, group membership, sanctions and basic record keeping.

Transaction costs

This variable was proxied by travelling costs (in Tanzanian shillings) incurred by the group for arranging, acquisition and repaying the loan

Sanctions Index

This measures the perception of members of the group of the impending threat of action against them in the event that they default in repaying the loan. A sanctions' index is constructed using four yes-or-no questions (in which case a value of 1 is assigned to a "yes" and zero to "no") about whether force is applied by group members, whether the MFI will take action against the group, whether members of the group will embarrass the defaulter and whether members of the group feel bad in case of a default. The index is such that it ranges from zero (the absence of sanctions) to four (the presence of very strong sanctions).

Group Size

This variable measures the number of people that form a particular group.

Education level

This is the education level of the group leader, measured by the number of completed years while schooling.

Homogeneity Index

This assesses whether members of the group have similar socio-economic background. The homogeneity index is constructed based on 5 yes-or-no questions (in which case a value of 1 is assigned to a "yes" and zero to "no") about similarity of social traits in a group. These questions included whether group members operate their businesses in close proximity, whether group members live nearby each other, whether group members are in the same age cohort, whether group members have the same level of wealth and whether group members belong to the same social groups (such as churches and political parties).

The index is such that it ranges from zero (no homogeneity) and five (very high homogeneity).

MFI Dummy

This is the MFI dummy variable (=1 if the MFI is PRIDE, otherwise zero).

3. DATA SOURCES

This study was based on a sample of 150 groups for FINCA and PRIDE from Kariakoo Division, in Tanzania. The stratified random sampling technique was used to draw the sample. Tanzania was first stratified by region and one region (Dar es Salaam) was randomly selected. Dar es Salaam region was then stratified by division and Kariakoo division was randomly sampled. The sampling frames of all FINCA and PRIDE groups in Kariakoo Division were generated and 75 groups from each of the two MFIs were randomly selected, thus making a total sample of 150. A semi structured questionnaire was then used to collect information on the socio economic characteristics of the sampled groups.

The motivation for selecting PRIDE and FINCA was their unique similarities and distinctiveness. Similarities of the two MFIs include the fact that they are the biggest microcredit players in Tanzania. Together their clients account for about 77% of total microcredit client base in Tanzania. They also both use group-based lending methodology.

4. EMPIRICAL RESULTS

The logistic regression results are presented in table 1 below. The Wald Statistic test with a chi square distribution of 25.49 (and a p-value = 0.0025) suggests that the estimated parameters of the model are jointly significantly different from zero.

Table 1: Logit Model for Repayment Performance for MFI Group Clients in Tanzania

Dependent Variable: REPAY ***(=1 if the loan is fully repaid within specified period of time, otherwise zero)***				
Explanatory Variables	**Coefficients**	**Z**	**Prob>Z**	
Years of education	0.2639	1.30	0.193	
Gender (female=1)	1.1711	1.42	0.157	
Experience	1.346	4.26	0.000	***
Training time	0.8266	1.81	0.07	*
Traveling cost	-0.0008	1.84	0.066	*
Sanctions	2.726	2.61	0.009	***
Homogeneity index	0.5703	1.03	0.303	
MFI dummy (1, if PRIDE, otherwise zero)	-2.5913	0.88	0.378	
Group size	-0.036	2.25	0.024	**
Constant	-11.5228	2.54	0.011	**
Number of Observations	150			
Wald chi2(9)	25.49			
Prob>Chi2	0.0025			
Pseudo R2	0.08627			
* significant at 10%, ** significant at 5%, ***significant at 1%				

Four variables were found to be statistically insignificant and these include education level of group leader, gender of the group leader, homogeneity index and the MFI dummy. The insignificance of the variable gender of the group leader is rather surprising.

It has been argued that microfinance as a development intervention addresses gender biases in credit markets and as such works best with women borrowers (Godquin, 2004; Wenner, 1995). Essentially, women are believed to be better at loan repayment because they view microcredits not only as a vehicle for generating income for personal uses but also for supporting their families most especially their children. Further more, other

studies have suggested that women are more likely to assist and support one another should they face some financial difficulties (Bennet and Goldberg, 1993). The expectation was that female-headed groups would have a higher loan repayment performance. It is against such a background that this result of the gender variable being statistically insignificant deserves an explanation.

The above paradox could be explained by the fact that most female clients in Tanzania take multiple loans which end to be a burden to them (MicroRate, 2004). Fitzgibbon (1999) shows that Government of Tanzania (GOT) has a policy that views gender as a mitigating factor in development, with much focus being given to the financial empowerment of women to enhance their overall economic empowerment. Access to multiple loans not only tempts women into engaging in high risk economic activities but also reduces their incentives to ensure business success and loan repayment. Kasuga (1998) reveals in his study that although women in Tanzania own a large proportion of businesses, their ventures are actually the least economically viable. Further more; access to multiple loans may trigger loan default as the women realize that their future credits can be secured from more than a single MFI and hence exhibiting poor repayment behaviours.

Experience has a positive and significant effect on the probability on loan repayment. The result is consistent with the work done in Zambia by Van Bastelaer and Leathers (2006). Experience may be interpreted in two contexts: the retention rate of clients by MFIs and business experience of clients. The length of time that clients stay with a given MFI reflects the strength of relationship between the institution and the clients. The stronger the relationship, the more likely are the clients to repay their loans on time so as to guarantee access to future financial services. By implication MFIs with high client retention rates are more likely to have high loan repayment rates. Experience may also be interpreted as business experience by group members which implies that the groups made up of micro entrepreneurs who have been in the business long enough command more stable sales and cash flows than those who have just started which in turn enables them to repay loans on time.

Training time was measured by amount of time (in weeks) that the MFI dedicated to training group members on issues like loan management, group membership, sanctions and basic record keeping. This variable had a positive and significant effect (at 10% significance level) on the probability of loan repayment. The intuition of this result is that capacity building of groups in terms of selection of group members, how to venture into a business and simple bookkeeping increases an ability by group members to manage their finances properly and hence increasing their probability to repay the loans.

Transaction cost was proxied by traveling costs incurred by group members for arranging loan acquisition and repaying the loan. As expected, this variable had a negative and significant effect (at 10% significance level) on the probability of loan repayment. The result is consistent with the work done in the US by Bhatt and Tang (2002). The results can be explained by the fact that traveling costs add more financial burden on groups thereby reducing the probability of loan repayment.

Sanction index was constructed such that it ranged between zero (the absence of sanctions) and four (the presence of very strong sanctions). The variable sanction index was found to have a positive and significant effect (at 1% significance level) on loan repayment performance. The result is consistent with works done in Georgia by Kritikos and Vigenina (2005), Bhatt and Tang (2002) in the US and that by Oke et al (2007) in Nigeria. The result suggests that the presence of a perceived threat of action taken by either group members or MFI or both in the event of loan default, disciplines group members so that they behave in a manner conducive to high loan repayment performance. The importance of sanctions is even greater when considering the fact that repayment is not only a function of capacity but also willingness. Respondents reported that confiscation of personal properties of a defaulting individual was the most feared and effective form of sanction.

The group size variable (which was measured by the number of people that form a particular group) was found to have a negative and significant effect (at 5% significance level) on loan repayment performance, consistent with work done in Zambia by Van

Bastelaer and Leathers (2006). The intuition of the result is that with bigger groups, monitoring and evaluation within groups becomes increasingly costly and difficult. By implication, smaller groups hold advantage in harnessing information, collective action and mitigate enforcement challenges which result into higher repayment rates.

5. SUMMARY AND CONCLUSIONS

The econometric model results suggest that experience, training time and sanctions have positive and significant effects on loan repayment performance, while transaction costs and group size had negative and significant effects.

The above results have important policy implications for the microfinance sector in Tanzania. Firstly, the results revealed that experience is an important determinant of loan repayment performance. The policy implication is that it is crucial for MFIs in Tanzania to work towards enhancing their client retention rates to boost the loan repayment rates of clients. By implication, the MFIs need to undertake periodic reviews of the factors that cause clients to drop out of their programme with a view to addressing those that are attributed to MFI institutional inefficiency. In addition, the clients recruited into the credit programme should have adequate business experience to run viable business. Secondly, it is essential that the prospective microcredit clients are given full training prior to being entrusted with loans. MFIs need to regularly review their training programme of clients to ensure its relevance and adequacy. The estimation results have clearly shown that well trained clients are more likely to repay their loans. Thirdly, MFIs should continually evaluate their service delivery mechanisms so as to minimize client transaction costs. In addition, sanction mechanisms (both at the MFI and group levels) should be strengthened as an incentive for clients to repay the loans. Fourthly, MFIs should embark into greater coordination amongst themselves to curb the problem of multiple borrowing among clients which enhances loan default. The policy option is for MFIs to collaborate in the creation of a credit reference bureau[6] for all their clients.

[6] The credit reference bureau should have a data base on all MFIs clients (such as names, national identification numbers, MFIs where they have outstanding loan facilities and their loan repayment performance status)

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