

SHAPING THE SAVING BEHAVIOUR OF THE RURAL POOR: EXPERIENCES OF RURAL FINANCE PROGRAMMES IN TANZANIA

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ABSTRACT

This paper presents results on the investigation on the extent to which rural finance programmes influence the saving behaviour of rural poor households in Tanzania context. The study also aimed at understanding the determinants of savings/investments in financial assets offered by microfinance. The study was survey conducted in Iringa Region of Tanzania, and involved 210 small holder farmers. Several microfinance institutions operating in rural areas of Tanzania were involves; namely Mufindi Community Bank, National Microfinance Bank, SIDO, and SACCOS. Results show that rural finance programs have significantly managed to mobilize savings of rural farm households. Results further show that saving of rural poor are significantly influenced by MFIs specific characteristics. SACCOS members have more propensity to save than the rest of households with membership elsewhere. Location (geographical) specific characteristics also determines the savings of rural farm households. Policy perspective should focus on improvements of rural physical infrastructure and innovations in the savings products among MFIs.

KEYWORDS: Microfinance Institutions, Savings, and Rural Households

INTRODUCTION

Ensuring access to financial services among rural poor population for augmenting agricultural production, alleviating poverty, and improving the efficiency of rural credit delivery systems has been an area of focus in the planning process the developing world including Tanzania (*e.g.* Kilimo Kwanza- Agriculture First Vision, URT, 2009). Many of the developing countries governments believe that microfinance programs can alleviate financial liquidity constraints, stabilize consumption and thus impact both income and consumption for the poor, thereby augmenting the poor's welfare. The poor are expected to use financial services to invest in health and education, manage household emergencies, and meet the wide variety of other cash needs that they encounter. Proponents of microfinance schemes (Yunus, 2006; Littlefield *et al.*, 2003; Morduch, 2009) believe that microfinance around the world can increase household income, build assets, and reduce vulnerability of poor households and individuals. It is further believed that access to financial services among the poor households can also translate into better nutrition and improved health outcomes, such as higher immunization rates. Microfinance institutions services can also allow poor people to plan for their future and send more of their children to school for longer make women more confident and assertive and thus better able to confront gender inequalities (Makombe *et al.*, 1999; Tchouassi, 2011; Umara *et al.*, 2011).

Furthermore microfinance institutions seek to stimulate saving behaviour, building asset base of poor households. Despite the general belief that there is low demand for savings instruments amongst the poor (CGAP, 2004; Basu, 2008) Some researches on savings of the poor have shown that the poor do save and look for savings outlets for their savings

(Robinson, 2001; Rosenzweig, 2001). Savings services provided by microfinance institutions have included fixed deposit, membership shares (compulsory savings) and normal savings (Koveous, and Randhawa, 2004). These products can improve creditworthiness of members thereby improving household borrowing chances especially during crisis (Adjei *et al.*, 2009; Robinson, 2001).

STATEMENT OF THE PROBLEMS

While greater focus of empirical studies has been and continues to be on impact of microfinance institution credit market, scanty empirical works are focusing on the implications of MFIs endeavours on savings in financial assets among the poor in Tanzania. The extents to which MFIs specific characteristics and household socio-economic characteristics facilitate or hinder savings/investments in financial assets offered by MFIs among rural households are not clearly documented. Thus it is interesting to add to the existing literature and general understanding on the extent to which MFIs are shaping the saving behaviour of rural households and the extent to which specific characteristics of microfinance institution and rural finance programs limit the savings and investments in financial assets.

METHODS

The Study Area and the Sample

The Study Area

The study was conducted in Iringa Region in 2011. Iringa region is one of the “Big six” regions well known for producing surpluses in food crops such as maize and potatoes in Tanzania (IRSEP, 2007). Other regions in the big-six group are, Mbeya, Ruvuma, Morogoro, Rukwa, and Kigoma. These regions are known as typical agrarian regions in Tanzania and also are served by various microfinance institutions (BoT, 2014) and therefore suitable for the study.

Being one among the well known big six agricultural region in Tanzania Iringa region was purposively selected because it is a home to one of the well known community banks in Tanzania– the Mufindi Community Bank. Mufindi Community Bank (MUCOBA) is a community based bank that deals with farmers as well as small and medium enterprises. It is one among the few community banks in Tanzania that provide microfinance to small and medium businesses in farm and non-farm businesses. Others are Dar es Salaam Community Bank, Mwangi Community Bank, and Mbinga Community Bank (Chijoriga *et al.*, 2009).

The Sample

The sample was composed of farm households who are participants in microfinance institutions. Farm households who do not participate in microfinance institutions were not included in the study because information of such households on savings was not observable and was generally constrained to zero. As indicated in Table 1 the sample used was composed of 210 household.

Table 1: Iringa Region, Distribution of the Households Sampled by District and Microfinance Participation Status

Location	Participants	
	Number	%
Mufindi- High	68	32
Mufindi-Low (Madibila)	59	28
Njombe	51	25
Kilolo	32	15
Total	210	100%

The largest number of respondents was drawn from Mufindi district, followed by Njombe district and lastly Kilolo district. The sample from Mufindi district was larger than the other district because first it is the district served mainly by Mufindi community bank, an institution that deals with poor rural farm households and secondly it was drawn from two large different places of Mufindi highlands and Mufindi low lands. Mufindi highlands covered the mountainous areas of Mufindi in Mudabulo division served by Tujikomboe SACCOS and Mufindi Community Bank while the Mufindi low lands covering areas of Malangali wards and Madibila wards mainly served by Mufindi Community Bank and Madibila SACCOS.

Table 2 presents the distribution of the household participants by type of microfinance membership. The sample was composed of SACCOS members at 42.3%, bank members at 33.9% NGOs -MFIs and Governmental institutions with a combined proportion of 16.3%. It was also noted that 7.5% of the participants had multiple memberships

Table 2: Iringa Region, Microfinance Participants by Type of Microfinance Institution Memberships

Microfinance Institution	Number	%
Banks (Mufindi Bank, NMB Bank,)	77	33.9
SACCOS (Tujikomboe, Mlevere, Ng'anda, Madibila)	96	42.3
NGO (PRIDE& FINCA)	15	6.6
Governmental (SIDO)	22	9.7
Multiple Membership	17	7.5
Total	227	100

RESULTS AND DISCUSSIONS

Descriptive Results

The descriptive statistics show that the mean saving of farm household MFIs members was TAS 490 130 and the overall standard deviation was TAS 1 495 463. Table 3 shows that farm household members located in Madibira area had the highest level of average savings (TAS 891 661), followed by Njombe households (TAS 543 900). Household located in Mufindi (TAS 168 683) areas indicating the lowest amount of savings after Kilolo households (TAS 261 354). These results suggest that location characteristics are attributable to the observed savings variations.

Table 3: Descriptive Statistics of Sampled Households MFIs members' Outstanding Financial Savings (in TAS) by Location of Households

Location	Mean	Standard Deviation	Minimum	Maximum
Mufindi	168 683	261 046	0	1 230 000
Madibira	891 661	2 500 681	15 000	16 000 000
Njombe	543 900	736 280	0	3 200 000
Kilolo	261 354	1 069 036	0	6 000 000
Whole sample (N= 200)	490 130	1 495 463	0	16 000 000

As indicated in Table 4, the mean savings of farm households also differ by type of MFIs for which farm household had membership. The highest amount of saving was TAS sixteen million (TAS 16 000 000). The lowest amount of savings observed savings is zero. The standard deviation was as wide as TAS 1 495 463. These results suggest for the presence of variations of saving levels by MFIs membership in the survey areas. On average SACCOS members had the highest average saving compared with farm households with membership in other MFIs. These results suggest that MFIs specific characteristics such as compulsory savings, interest rates on savings and others affect savings of farm households.

Table 1: Descriptive Statistics of Outstanding Financial Savings of Sampled Farm Household by Type of MFIs Membership (in TAS)

Type of MFI	Mean	Standard Deviation	Minimum	Maximum
Bank (MuCoBa)	255 512	402 768	0	2 420 000
SACCOS	694 725	1 787 500	20 000	16 000 000
NGO	62 000	86 419	0	125 000
Government	358 667	1 295 907	0	6 000 000
Whole sample (N= 200)	490 130	1 495 463	0	16 000 000

Table 5 shows the frequency distribution of outstanding amount of savings. The Table shows that around 46% of farm households had savings less than or equal to TAS 100 000 and only 9% of farm households members had savings above one million.

Table 5: Frequency Distribution of Outstanding Financial Savings of Sampled Households' Microfinance Members

Amount Outstanding (in TAS)	Frequency	%	Cumulative %
1-100 000	92	46	46
100 001-200 000	45	22.5	68.5
200 001- 300 000	20	10	78.5
300 001- 400 000	8	4	82.5
400 001- 500 000	7	3.5	86
500 001- 600 000	2	1	87
600 001- 700 000	1	0.5	87.5
700 001- 800 000	3	1.5	89
800 001-1 000 000	4	2	91
1 000 001 +	18	9	100
Total	200	100	100

Econometric Analysis

Estimation of the impact of microfinance institutions on farm household savings behaviour was carried out using econometric estimations procedures. Tobit regression was used instead of OLS because some households who are members to microfinance institutions had saving amount of zero. Tobit regression was more appropriate because it is able to handle censored observations in the dependent variable more appropriately than OLS. The dependent variable in the analyses was the log of household cumulative financial savings in MFIs. The analysis was guided by a model specification of the following form:

$$\ln B = \beta_0 + \sum_{i=1}^n Xi + \sum_{i=1}^n Zi + \sum_{i=1}^n Mi + \Omega D + \mu \dots\dots\dots(1)$$

Where B = outstanding amount of saved money at the time of survey for the household in natural log form; β_0 is

constant term; X , is a vector representing the control variables of household structure and household assets; Z is a vector representing household location characteristics (districts) in form of dummy variables; M is a vector representing microfinance institution type (dummy variables), and μ is the error term, representing other variables not included in the model that influence demand for savings. The explanatory variables of interest that measured the impact of MFIs on savings behaviour in the analyses was the microfinance membership duration variable (in months) measured by the coefficient of D (Ω). Household demographic variables, economic variables, microfinance type dummy variables and location dummy variables were included in the analysis as control variables. Table 6 provides the variable description and measurement details of the variables used in the analyses.

Table 6: Description of Explanatory Variables used in the Analysis

Variable Name	Description, and Measurement	Expected Influence	Reason
Household Size	Total number of household members	-	Reflects the consumption and production needs of household
Dependents Ratio	The ratio of dependants to total household members	-	Indicate household labour shortage or adequacy
Age of household Head	Age of household head in years	+ / -	Age reflects experience, economic activeness and adoption of innovations
Sex of Household Head	This reflects the gender of the household head.(dummy, 1= male; 0= female)	+/-	Gender reflects differences in decision process between male and female
Land Owned	Size of land in hectares owned by a household	+/-	Large land sizes reflects wealth of household/ land shortage
Total Household Assets	The market value of all assets owned (excluding land and house)	+/-	Reflect wealth and ability to collateralize loan and acceptance by peers. Also well off household may dislike microcredit..
Education of Household Head	The highest education of household head dummy variables (no formal education; primary school ; secondary school or above)	+	Education reflects the stock of skills and knowledge, thus ability to deal with training and paper works in MFIs
Non-Farm Income	The total annual market income from all non-farm sources (shop, restaurant, sale of milk, alcohol sale)	+	Income reflects ability to generate cash
Location (Mufindi, Madibira, Njombe, Kilolo)	Dummy variables=1 for respective location and 0= otherwise	+/-	Reflects the differences in, location characteristics (product markets, infrastructure, land quality, etc

As shown in Table 7, the coefficient for the microfinance membership duration variable is statistically significant at the level of 5% ($p = 0.043$). Implying that MFIs influences savings of farm households. Older members had more savings than new members. In other words savings increases with duration of membership in MFIs. These results suggest that MFIs positively influences the cash savings behaviour of household members.

Table 7 also reveals three other factors determining financial savings behaviour of farm households. These are household location, type of MFIs for which a household is a member, and total household assets. Household located in Madibira, Njombe, and Mufindi had more financial savings than those in Kilolo which was categorized as a reference location in the analysis. The aboserced higher level of savings among Njombe and Madibila households could be attributed

to good communication networks available in these two locations which in lower savings transaction cost. Money can be easily deposited and withdrawn at low travel costs. Conversely households located in areas with poor communication (e.g. Kilolo and Mufindi highlands) had low motivation of saving in MFIs due to high transaction costs associated with withdrawals and depositing.

Results also show that the types of MFIs for which a household have membership determines the amount of household financial savings. SACCOS members had statistically significant more savings than any of the other MFIs members ($p = 0.034$).

Table 7: Tobit Coefficient Estimates of the Impact of Microfinance Institutions on Household Cash Savings/Investment in Various Securities (Deposits and Shares)

Dependent Variable = <i>Log of Savings</i> Independent variables	Treatment and Control Sample, N = 200 Coef.	Std. Err
Household Duration of microfinance membership in months	0.017 (2.03)**	0.08
Age of household head in years	-0.028 (-1.12)	0.024
Household Location Dummy 1 = Mufindi, 0= otherwise	4.081 (3.72)***	1.097
Household Location Dummy 1 = Madibira, 0= otherwise	4.635 (4.09)***	1.132
Household Location Dummy 1 = Njombe, 0= otherwise	4.620 (4.31)***	1.073
Log of household total assets	0.395(1.69)*	0.234
Household dependants ratio	0.314 (0.25)	1.241
Microfinance institution type: 1 for Banks- and =0 for otherwise	0.693 (0.91)	0.762
Microfinance institution type: 1 for SACCOS- and =0 for otherwise	1.530 (2.14)**	0.714
Microfinance institution type: 1 for GOV and =0 for otherwise	0.848(0.84)	1.006
Pseudo R ²	0.0799	
	LR ch2 (12) = 84.47 Prob > ch2 = 0.000	

Significant at 1% (***), 5% (**), and 10% (*). Figures in (), are t-values; log likelihood = -486.26482; Kilolo was reference location; NGO-MFIs reference category.

The results that SACCOS membership is positively correlated with savings in financial assets among farm households can be attributed to the fact that SACCOS are generally member based and their capital largely depend on members savings (deposits and shares) where as MFIs such as SIDO (governmental supported) or MuCoBa (banks) have a diversified source of operating capital, thus farm household saving is not generally taken to be a major source of operating capital. Results also indicated that total household assets (income) influences the savings of farm households at a significance of 10% level ($p = 0.093$). Holding other factors constant, household with more assets were expected to have more savings than otherwise. Empirical evidence by Johnston and Morduch (2007) in Indonesia reported similar results. They revealed that the propensity to have savings account rises with income levels. However they further indicated that those who saved but did not borrow were likely to be poorer than those who borrowed, in their opinion it was on the saving side BRI (Bank Rakyat Indonesia) achieved its greatest outreach.

While the present study results show significant effects of access to microfinance on saving of farm households, the results by Coleman (1999) found contradicting results. He found no evidence to suggest that microfinance membership increases savings in the Thailand context. However empirical studies by Hashemi *et al.* (1996), Montgomery *et al.* (1996), and Morduch (1998) in Bangladesh context support the present study results. They similarly found that micro-credit programs stimulate savings behaviour thus strengthened crisis-coping mechanism of members especially among women.

In the Philippines, Ashriff *et al.* (2006c) showed that innovations in savings product of MFIs improved saving behaviour of poor households. MFIs clients who accepted a new commitment savings product increased their savings balances significantly than those clients who were in a traditional saving account. Results implied that with innovations in savings products, MFIs can mop up large volumes of savings from poor households than expected. In similar avenues Morduch (2009) suggest that despite the known factors influencing savings of the poor such as transaction costs, liquidity, and interest rates, products innovations that commit savers to re-building their accounts after major withdraws would be welfare improving.

Yet in other studies by Dupas and Robinson (2008) in Kenya, Jonston and Morduch (2007), and Stewart *et al.* (2010) in selected countries of Sub-Sahara Africa (Tanzania excluded) evidence indicated that MFIs have positive impact on the levels of poor people's savings. Micro saving was found to be a better model than credit both theoretically and empirically because it does not require an increase in income to pay high interest rates and so implication of failure is not high.

As reported by previous empirical works, this study suggests that with appropriate saving products, households can save/invest in financial assets, thus building up liquidity, which in turn can be used as collateral, smooth seasonal consumption needs, self-insure against shocks, and self-finance investments in agricultural activities. The poor households require a safe and convenient place to keep their money and a structure with which to discipline the accumulation of lots of small sums and their transformation into large sum and MFIs are moving toward this end.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The analyses on the impact of microfinance institutions on saving behaviour of rural households provide some evidence for rejoicing. Econometric results point to a positive and statistically significant impact of microfinance program on saving behaviour among farm households. Savings in financial assets increases with microfinance program membership duration.

Results suggest that household access to MFIs has a positive and significant impact on financial savings of farm household. Previous empirical literature suggests that underdeveloped rural financial markets in developing countries retarded economic growth and development. The assumption has been, rural poor are too poor to save. This assumption limits the extension of saving services to rural areas by most of mainstream banks. However, this study shows that rural farm households are able to save/invest in financial assets (Deposits, shares and other securities). This signifies the importance of appropriate saving/financial investments facilities to rural farm households in Tanzania.

The study also shows that savings are determined by the type of MFIs, for which a household is a member, and location characteristics of the household. Farm households who are SACCOS members are more likely to make savings

than other farm household with membership elsewhere. Both MFIs characteristics variables and location characteristics reflect the influence of transaction costs associated with savings in MFIs.

RECOMMENDATIONS

Findings show that farm households save and enjoy MFIs saving farcialities. In this respect the poorest who cannot borrow should be encouraged to save and thus contribute to resource mobilization and thereby enhance the capital base of MFIs and make them sustainable. Policy perspective should be to reduce transaction costs associated with financial savings in rural areas. MFIs need to relocate themselves as close as possible to the people in rural areas. Adoption of savings incentives strategies such as increasing interest rate on savings and deposits can stimulate saving behaviour of farm households. Furthermore MFIs and main stream banks innovations in savings products appropriate for the rural farm household is important for exploiting the potential savings of farm households in rural areas.

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