Research Article

DETERMINANTS OF SAVINGS BEHAVIOR AMONG RURAL HOUSEHOLDS IN CASE OF BORICHA WOREDA, SIDAMA ZONE, SOUTHERN ETHIOPIA

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ARTICLE INFO	ABSTRACT
	Household savings is an important factor for the economic growth of the country. This study identified and examined different determinants of saving behavior of rural households and analyzed the pattern and distribution of savings related factors like the mode of saving, amount preferred for saving, attitude preferred for saving, type of saving, expectation for the future savings in Boricha Woreda of Sidama Zone, Southern Ethiopia. The data of 204 sample households was collected from rural households by using structured questionnaires, focus group discussion and key informant interview. For this study, Multiple Regression Model was employed to find out the determinants of saving behavior of households in the study area. The results ultimately revealed that age of household head, education, training, membership to cooperatives, farm and off-farm income, farm size, and livestock were significant and influencing positively rural households' savings. Whereas saving behavior of rural households negatively influenced by expenditure, family size, and distance to savings associations. These factors therefore have to be considered in designing strategies aimed at improving the saving mobilization of rural households.

INTRODUCTION

According to Hafeez *et al.* (2011) national saving is an important feature for achieving high growth in the economy. More saving rates bring out more investment. This will ultimately lead to industrial growth, improvement in quality of products, employment generation, stable prices and finally higher growth. Households saving play an important role in the economic development and the largest component of national savings of both developed and developing nations, due to its significant influence on the circular flow of income in the economy (Iyoha *et al.,* 2003, Issahaku, 2011). Within the agricultural sector, growth attained will largely depend upon what the farmers do with the seasonal additional incomes generated from their farm activities (Akerele and Ambali, 2012). Rural savings could also be intended to address other forms of household expenditure which include children's education, smoothening consumption during off-seasons and unforeseen events such as illness and other emergencies. This implies that rural savings is critical to the welfare and development of the rural people (Ogheneruemu, 2014).

According to Dejene (2003), savings in rural Ethiopia is mainly made out of the income from agricultural activities. The saving level in Ethiopia particularly in rural areas is very low and characterized as seasonal and irregular as the cash flow through sale of agricultural produce and availability of work is seasonal. This reduces their financial capacity to save or poorly respond to incentives that promote savings in the country.

According to Rogg (2006) serious problem confronting poor countries including Ethiopia is the savings and investment gap. Because of this gap, these countries find it difficult to finance investments needed for growth from domestic saving. It is also common to see these countries to finance their investment in the short run partly through domestic government borrowings and/or foreign loan and grants but this would significantly increase the country's debt burden and would not be a solution in the long run (Girma *et al.*, 2013). Consequently, the Ethiopian government focuses on the financial sectors to effectively exploit domestic saving potential, it has planned to increase financial sector accessibility in rural areas and diversify services that are provided by financial sectors. Therefore, this study tried to analyze major determinants of savings behavior of rural households with particular reference to Boricha Woreda of Sidama Zone at household level.

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Description of the Study Area

This study was carried out in Boricha *Woreda* which is found in Sidama Zone within southern Ethiopia. Boricha *Woreda* is geographically bordered on the south, by Loka Abaya *Woreda*, on the west by the Wolayita Zone, on the northwest by the Oromiya region, on the northeast by Hawassa Zuria *Woreda*, on the east by Shebedino *Woreda*, and on the southeast by Dale *Woreda*. It has an estimated area of 588.05sq km, comprising 39 *Kebeles* of which 3 *Kebeles* are urban *Kebeles* and the others are rural. It extends from the lowest point at south west of the mouth of tributary of Bilate river 1320m.a.s.l to north east 2080m.a.s.l (Bechaye, 2011). Boricha *Woreda* has a total population of 250,260, of whom 125,524 are men and 124,736 women. Only 4.16% of its population is urban dwellers. The major crops by coverage are maize, haricot bean, coffee, horticultural crops and *teff* (CSA, 2007). The study area has undertaken high extent of maize production. However, use of agro chemical, irrigation and manure for soil fertility practices and maize production is very low. In this area, cultivation of maize crop occupies much share in the crop production.

MATERIAL AND METHODS

Sample size determination: The following formula was used in the determination of sample size (Israel, 1992),

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size needed, N is the population size of the study area (= 280576), and e is the desired level of precision (in this case, e= 7%) with the same unit of measure as the variance and e^2 is the variance of an attribute in the population.

Then, the sample size (n) was calculated as follows,

$$n = \frac{280576}{1 + 280576(0.07)^2} = 204$$

Therefore, a total of 204 households were selected for the study. These households were selected from selected four *Kebeles* by using random sampling method. The population size of *Woreda* was obtained from Agriculture and Rural Office of *Woreda*.

Sampling procedures: A multi-stage stratified sampling technique was used to select sample farmers. In the second stage, Boricha *Woreda* was grouped into three livelihood zones based on the way of living. These livelihood zones are Agro Pastoralist Livelihood Zone (APLZ), Coffee Livelihood Zone (CLZ) and Maize Livelihood Zone (MLZ) as shown in the following picture. Each livelihood zone has 5, 10, and 24 *Kebeles* respectively (Bechaye, 2011). In the third stage, two *Kebeles* from maize Livelihood Zone, one *Kebele* from Agro Pastoralist Livelihood Zone and also one *Kebele* from Coffee Livelihood Zone were selected based on the extent of maize production, number of *Kebeles* in each zone and discussion with extension officers. Consequently, Koran Gogi and Konsore Arki *Kebeles* from maize Livelihood Zone, Shelo Elancho *Kebele* from Agro Pastoralist Livelihood Zone and Alabo Arke *Kebele* from Coffee Livelihood Zone were randomly selected from respective livelihood zones. The sample size was distributed in each sample *Kebele* based on the probability proportional to size method.
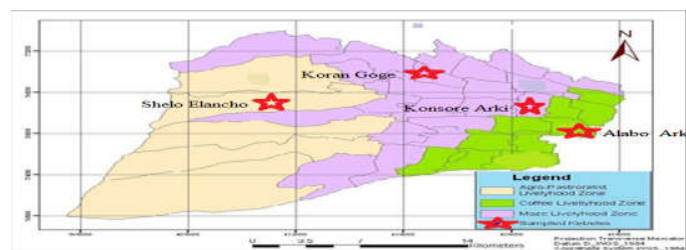
Model specification: The estimation of household saving function for this study was obtained by using OLS method. This study is focused, therefore, on the factors that are likely to influence the level of financial savings held by rural households. The difference between household income and expenditure (Consumption) is taken as saving. The econometric regression model used to analyze the household determinants of saving with other independent variable is given through multiple linear regressions. The analysis was made based on the Absolute Income Hypothesis, which related the household saving behavior with household income and other socio economic variables.

The model that was used for the econometric regression is

$$S = \alpha + \beta_1 \text{sex} + \beta_2 \text{age} + \beta_3 \text{age2} + \beta_4 \text{Edu} + \beta_5 \text{Training} + \beta_6 \text{farminc} + \beta_7 \text{Memb} + \beta_8 \text{Cons} + \beta_9 \text{Disa} + \beta_{10} \text{Famlsize} + \beta_{11} \text{Farmsize} + \beta_{12} \text{Livestock} + \beta_{13} \text{offarminc} + u_i$$

RESULTS AND DISCUSSION

Econometric Results: This part of the paper presents econometric results of the multiple linear regression model was presented and discussed. Test of the appropriateness of the model and the explanatory variables included in the model is critical step before analysis and drawing implications. The determinants of rural household savings were analyzed using the ordinary least square regression technique. Table1 shows the multiple regression results of savings against socioeconomic and institutional variables. The R-squared of 0.8131 implied that 81% of the variation in the level of savings of the household heads is jointly explained by the independent variables. Also, the overall significant of the model as measured by the F-statistics of 63.59, showed that the model is significant at 1 percent level. This means that the overall model has a good fit. In addition, a number of independent variables were statistically significant at various levels of significance.

Age of household head was significant and had a positive effect on saving of rural households up to the mean age. Age has direct relationship with savings of younger individuals. Reasons behind positive sign may be that households of lower age group need more earnings to sustain in the critical situations of country. Mostly people are job holders or labor class in these groups that's why they have to save more for precautionary purpose for future need (marriage, emergencies, education of children, etc). And age squared inversely related with savings when households become elder and elder at 5 percent level of significance. This finding is consistent with findings of Rehman *et al.* (2010)] that showed square of age is highly significant and inversely related to savings. It indicates that up to age of 40 years, rural households can increase their

savings significantly but beyond that their savings will decline due to low efficiency in old age or due to reduced potential of work in this age. It proves the presence of life cycle hypothesis in higher income group. Therefore, the higher the dependency ratio of a nation, the lower will be the saving rate. Thus, implying what is called the level of effect of the life-cycle theory. Findings of this study are matched with Gonzalez and Ozcan (2008) and Rehman *et al.* (2010). The same findings are given by Burney and Khan (1992) and Ahmad and Asghar (2004).

Family size is found to be negatively related to savings rural households. Due to more members of the family, their savings decline. People with large families do rarely save compared to those with small families. This implies that an increase in household size will decrease rural household savings. Other variables remaining constant, results of regression denote that a rise of one member of family diminishes their savings by an average of 391.9 Birr.

Since, education is used as a proxy for human capital. According to this study, the education level of household head was highly significant affecting positively savings of rural households at 1 percent level of significance. Remaining other variables constant, one year increases of education among rural households, increase the savings magnitude of respondents by an average of Birr 235.2. This study showed also that educated households exhibited higher levels of savings. Most of the literature and common consensus tells us that education increases the awareness of household and help them to calculate the present and future benefits and costs and decide on saving or dis saving. This is because educated farmers are likely to access information easily, and make well informed decisions with better management of farming activities and savings. Findings of Gina et.al ,2012 in Ethiopia, East Hararge Zone, Oromia Regional state showed this positive relationship between head of household education and household saving.

Similar to education level of head of household, training farmers about savings is important for households to improve their skills and practices and to have knowledge savings. Training was positively related with savings of farmers at 1 percent level. Keeping other variables constant, the average saving of those who are trained is higher by about 713.9 Birr than their counter parts. Trainings helped households to obtain information and to correct misconception concerning savings. Therefore, building the capacity of the existing farmers' training centers and expanding their coverage as well as strengthening the field level training programs are highly demanded to improve savings of rural household.

Membership to cooperatives was found to be positively related and significantly affecting savings in the study area at 1 percent level. Holding other variables constant, the average saving of those who are members to different cooperatives is higher by about 229.9 Birr than their counter parts. Farmers` cooperatives played an important role in organizing members to save in different organizations and in creating ways to mobilize or attract saving.

The households those were closer to the office of saving association and institution had more contacts with agents. Thus, distance to the saving center was found to be negatively related and significantly affecting saving in the study area at 1 percent level of significance. Holding other variables constant, if distance increases by one kilometer, the savings magnitude of rural household decreases by an average of Birr 38.57. Those households who were closer to saving association and institution enabled to participate in agricultural meetings, field days, demonstration and best available practices**.** As result, households who are closer to the saving association and institution, save more than their counterparts.

It was hypothesized that on-farm income is positively related to the magnitude of annual savings. On-farm income influences the savings magnitude by positively and significantly at one percent probability level of significance, confirming the hypothesis. Multiple linear regression model showed that Marginal propensity to save is 0.20. Meaning, a one Birr increase in on farm income, leads into by an average 0.20 cents increase in the amount of savings, holding other variables constant. Findings of this study goes in line with findings of Wener and Earnst (2003), who found income of the households positively related to the magnitude of savings.

Additionally, the findings indicated that off-farm income had a positive and significant effect on saving at one percent level of significance. Multiple linear regression model showed that Marginal propensity to save is 0.51. Meaning, a one Birr increase in off farm income, leads into by an average 0.51 cents increase in the amount of savings, holding other variables constant. Interestingly, rural households that diversify their livelihood into non-farm activities tend have higher saving than other households.

Expenditure on social/religious ceremonies: It includes wedding, death of family member, funeral (*teskar*), holidays, "*mahber or zikir*" and religious ceremonies. Celebration of one or more of these ceremonies needs much material and financial resources which are sometimes beyond what the households could afford. Expenditure on social issues is inversely related to the savings magnitude and statistically significant at one percent level of significance. Therefore, a one Birr increase on social and religious ceremonies will decrease the amount of savings by an average of 0.75 cents, other variables are held constant.

Farm size of Land holdings**,** it is associated with the savings magnitude of rural households positively and significantly at one percent level of significance. Furthermore, it was found out that landholding strongly influence the rate of total saving, since the size of land holding influences income and income influences savings positively. A one hectare increase of farm size of rural households will increase the savings by an average of Birr 34.83 under the effects of other variables remaining constant. The same results were reported by Azhar, (1995) landholdings strongly influence the rate of total saving, since the size of land holding influences income and income influences savings positively. This implies that land holding has an influence on the savings magnitude in the study areas. Raising livestock affected savings significantly and positively at 1 percent level of significance. This is consistent with the hypothesis that increased number of livestock increases the level of saving. The implication of the result was that livestock are an important source of cash in rural areas to increase the savings amount. Hence, having them offer a means for a better

propensity to save. Under normal condition, savings in livestock represents the most practiced form of savings in the study area. When livestock increases by a unit of TLU, the savings magnitude of respondents increased by an average of Birr 14.74 while the effects of other variables remain constant. Similar empirical evidences were reported on household savings in Pakistan by Azhar, (1995).

Table 1 Multiple linear regression model results

Variable	Robust Coefficient	Standard Error	t-Value
Sex	50.67297	121.1133	0.42
Age	26.79553	14.3889	1.86*
age2	-316.6757	136.0743	-2.33**
Family size	-391.9033	45.60103	-8.59***
Education	235.2135	18.74864	12.55***
Training	713.9078	175.3249	4.07***
Membership	229.9233	18.70842	12.29***
Distance	-38.57359	12.13979	-3.18***
Onfarm income	0.2030316	0.067825	2.99***
Offarm income	0.5191921	0.129009	4.02***
Expenditure	-0.759415	0.126337	-6.01***
Farm size	34.83426	1.750116	19.90***
Livestock	14.74517	0.221285	66.63***
_cons	4.099525	1.108461	3.70***
F(13, 190)	= 63.59	R-squared =	0.8131
Prob > F	= 0.0000	Adj R-squared =	0.8003

Source: Model output (2015).***, ** and * indicate level of significance at 1, 5 and 10 percent, respectively.

CONCLUSIONS

Consolidating relatively small private savings into larger blocks of finance that can be used to fund large profitable investments and increasing the volume of savings that going to physical investments through formal, supervised financial institutions are important instruments to achieve sustainable economic growth. Again mobilizing savings through microfinance institutions in Ethiopia is one of the policy instruments used to enable rural households to increase their output and productivity, induce technology adoption, increase input supply, increase income thereby helping them reduce their poverty and attain food security. Furthermore, some of the significant explanatory variables of rural household savings in the study area were household head education level, livestock holdings, membership to cooperatives service, income, age, training participation. This study shows rural farm households indeed save in respective of their low economic status. However, as these households mainly use the informal saving institutions, their savings is hardly traced in the national account. Policy-wise, efforts should be made to encourage the rural households to save through trainings and using the formal channel. Consequently, policies targeting and encouraging training, membership to cooperatives and access to education of rural households would promote savings of rural households in the study area.

Recommendations

Based on the findings of the study the following policy implications were forwarded:

1. Providing continuous training and follow up of rural households about savings is important. This calls for more efforts by the government and NGOs to increase farmer's trainings on roles of savings. If such knowledge is disseminated then farmers will improve on saving attitude resulting into increased saving magnitude, hence poverty alleviation.

2. Membership to farmers' cooperatives should be encouraged and strengthened to improve access to market information and other extension services. When farmers are better organized it becomes easier even for microfinance to offer extension saving mobilization services to the rural households.

3. Policies that motivate and mobilize income of rural households in farm and off farm activities would be likely to bring a tremendous improvement in savings.

4. It implies that there should be policies to improve savings of older households and encourage them to be in farming activities by providing them incentives. Also, according to the findings, older farmers were less likely to have contacts with banks and microfinance and were less willing to adopt savings. This is an important finding which younger farmers were comparatively more educated than the older farmers. Therefore, by increasing the education status of older farmers through adult based education government can increase the savings rate of farmers.

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