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Determinants of Saving Behavior of Farm Households in Rural Ethiopia: The Double Hurdle Approach

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Abstract
This study examined the factors that affect saving behavior of rural households in Benishangul Gumuz Regional Sate. The study employed descriptive statistics and double hurdle model to analyze the data collected from a sample of 325 farm households in the study area. The descriptive result showed that about 68 percent of sampled households save in the formal financial institutions where as 29 percent did not save at all. The result of double hurdle model provided empirical evidence on a positive and significant effect of age, income and education on household's decision to save; whereas household size, distance to formal financial institutions and employment status negatively influenced their decision to save. With regard to the extent of saving; income of a household, level of education, landholding size and involvement in petty trade activities showed a positive significant effect on the amount of saving; whereas household size, employment status and distance to formal financial institutions significantly reduced the amount of saving by households. The findings implied the need for designing strategies that could improve the saving behavior, mobilization and diversification of saving by households. Finally, building capacity through education and information systems in mobilizing saving as well as encouraging financial institutions to implement door-to-door service provisions to enhance saving behavior of households are desirable.
Keywords: Household, Savings, Double hurdle, Assosa

1. INTRODUCTION

Saving refers to a fraction of income not instantly consumed, but kept for future investment, consumption or unforeseen contingencies in the future. It is a method of moderating the risk resulting from the inability to predict the future thereby acting as a precaution. So it is considered as an important element in fulfilling the financial gap by households. Although household saving is meant to cover consumption expenditure at large, households in developing countries in general are financially constrained due to seasonality of cash flows, poor work culture and the resulting low income that makes saving seasonal and irregular, too. Mobilization of saving is also critical for household welfare in that it helps households' smoothen their consumption and finance productive investments in human and physical capital (Karlan *et al.*, 2013).

At macro level, saving in the form of capital formation is a crucial instrument for economic growth as it increases country's capital stock, thereby improving the ability of an economy to produce future higher incomes (Donkor and Duah, 2013). Saving in the form of capital formation is strongly correlated with economic growth as suggested by neoclassical growth models. This is evident from the fact that countries that were able to accumulate high level of saving and thus high investments were seen to achieve faster economic growth (Todaro and Smith, 2012).

We know that Ethiopia has set a high and ambitious growth rates on its growth and transformation plan (MoEC, 2016). In order to achieve and sustain such high growth targets, the country requires substantial amount of capital formation. With binding external financing constraints, critical investments are expected to be financed from domestic saving mobilization. Although Ethiopia's record in mobilizing resources as compared unfavorably to its Asian comparators are relatively low (IMF, 2014), the figures by Minster of Finance and Economic Cooperation (2014) revealed an increasing domestic saving rate from 5.2 percent in 2009/10 to 17.7 percent in 2012/13 and the share of gross domestic investment increased from 24.7 percent to 33 percent in the same year. We know that such national saving rate statistics that forms important part of capital accumulation are the aggregated result of household saving. Thus, it is important to study the saving mobilization and behavior of households to interpret aggregate results.

Household saving in general and their saving behavior and mobilization in particular in the study area are highly constrained by many factors. The annual report of region's Microfinance Institute (BGRMI, 2014), revealed that although there are some progresses in saving mobilization from time to time, substantial effort is required at all levels to bring the fragmented savings available at the rural areas to financial institution. In the rural area where banks are not widely expanded and the majority of the population has no access to formal banking institutions,

mobilization of saving executed by micro finance institution, saving and credit cooperatives as well as informal financial institution dominate the sector. As such it is important to examine the determinants of rural household decision to save and the intensity (amount) to save.

2. STATEMENT OF THE PROBLEM

The main purpose of this study is to examine the determinants of saving and the saving behavior of households in rural Benishangul Gumuz Region. We know that improving mobilization of household saving could free up significant amounts of resources for investments that could promote economic growth. Therefore, understanding why and how households save, what determines their saving behavior can help identify appropriate policies that increase the amount of resources available for development.

An improved access, adequacy and reliability on the part of the financial sector could trigger an increase in savings held in a financial form through substitution from non-financial to financial saving instruments. Moreover, the credit and insurance markets are mostly unproductive and underdeveloped in all poor countries, so making saving as the prime source of raising wealth and assets of the society (Mariam *et al.,* 2014). It is evident that saving mobilization and development of saving habits of a given society will have an effect on capital accumulation and thus on economic development of a country in general and on the financial well-being of the individuals in particular. However, the relatively low GDP per capita limits the potential for domestic savings in developing countries such as Ethiopia which would be encouraged by offering attractive interest rate for savers.

Ethiopian economy faces resource (financial) gap where the savings-investment gap has been widening from an average of 1.1% of GDP during the Imperial period (1960-74) to 6% of the GDP during the Derg period (1974-91) and further to 11.7% of the GDP in the EPRDF (Tadese, 2011). So, saving is more of meant for meeting contingencies but sometimes it also acts as a form of investment for households. But people are not inclined towards to saving due to lack of awareness and other socio-cultural factors (Tsega and Yemane, 2014). The saving culture of the society in general is poor for so many reasons such as low interest rate from saving, lack of incentives for saving and high inflation rates prevailing in the country. The single most determinant of poor saving habit is the attitude of the societies in favor of consumption than saving (Aron *et al*., 2013)

In Ethiopia majority of the population is living in rural sector where there is limited access to financial institutions. The financial sector is not effective to reach the rural societies at the same time with lower transaction cost (Tsegabrihan, 2009). According to the Region's Food Security Strategy (2004), the region has important income generation potentials but their contribution to livelihood of households is very limited. Most income generation activities are geared towards satisfying daily needs. According to the annual report of the region (BGMFI, 2014), the financial outreach of the rural farm household in the region is limited. The report indicated that about 65 percent of active working age populations need a service from financial institutions. Besides to this, even though there are improvements in saving mobilization of households from time to time, one observes inadequate and fragmented savings in the rural areas of the region (BGMFI, 2014). Moreover, formal banks are not available and thus mobilization of saving is usually done by micro finance institutions and other informal financial institutions.

In light of the above discussions, it is important to analyze the saving behavior of households through identifying the determinants of their decisions to save and extent of saving as such studies recommend practical policy related solutions to problems of saving mobilization by rural households. This study is different from other previous studies in that; first, it employed different methodological approaches to analyze the households' decision to save and the extent of saving. Second, as to my knowledge it is the only study conducted in the research area, BGRS, which will help deepen our understanding of factors influencing household saving in Benishangul Gumuz region particularly in the Asossa Woreda.

3. OBJECTIVE OF THE STUDY

The general objective of this study is to analyze the saving behavior of rural households in Benishangul Gumuz Regional State. The specific objectives are to:-

- assess the motives and challenges of rural household saving in the study area.
- identify the factors that affect household decision to save and the extent of saving.

4. REVIEW OF LITERATURE

4.1. Financial institutions and mobilization of saving in the study area

Accesses to financial services help the poor to manage their financial resources and relieve them from abject poverty. However, providing financial service requires sound and sustainable financial institutions that understand the financial needs and service requirements of the pro poor. The significance of deposit service to the poor is as important as loans services if they are given due attention and tailored to the saving patterns of the poor. As noted by Woldemichael (2010), access to deposit services in financial institutions mostly enables the poor to efficiently manage their financial resources.

The formal financial institutions in Ethiopia that deliver limited services to both rural and urban areas include private and government banks and microfinance intuitions. Such institutions are formal in that they possess modern accounting and reporting systems that could help evaluate their performances every time. They help smoothen consumption during economic shocks and provide an opportunity to accumulate large sums of money for future investment and household out lays. Even if they are the main forms of the formal financial institutions involved in saving mobilization in rural Africa in general, they face several challenges in handling saving mobilizing particularly for the poor in many parts of developing countries. Some of the challenges include limited access to the poor, lack of trust on to financial institutions, awareness problems and inadequacy of other formal institutions (Birhanu, 2015).

On the other hand, the aim of financial institutions during the GTP period has been establishing an accessible, efficient and competitive financial system. In relation to this, emphasis has been given to strengthening modern payment and settlement system, developing access to financial services, supporting the bank system with modern technology and extending the information exchange system to microfinance institutions, among others (MoFED, 2014).

Most people in Ethiopia in general and those in Benishangul Gumuz Region in particular make little or no use of the formal saving and lending institutions. They use informal institutions that occur within the formal sector of the economy. Especially in developing countries such as Ethiopia, a variety of informal institutions that enable transactions and are particular to the poor can be observed (Birhanu, 2015). But saving in such institutions did not yield interest for the depositors and thus are not channeled to investment in order to yield income as a return. In Ethiopia for example, informal mechanisms such as '*Iqub'*, *'Iddir'*, buying livestock and jewelry and keeping cash at home are common for centuries. People choose to use such mechanisms due to inaccessibility of commercial bank branches, absence of postal saving services and lack of strong cooperative movement.

4.2. Determinants of Household Saving Decision and Behavior

Household composition and characteristics, individual factors, demographic, economic and social features of households affect the pattern and behavior of household saving in a society. The variations in such factors may lead to changes in national saving rate over time (Schultz, 2005). Studies indicated that about six million households in Ethiopia save money in financial institutions with average of 875 Birr per year and with saving rate as percentage of GDP of 9.5 percent; which is very low as compared to that of China, Bangladesh and South Africa (Aron et *al.*, 2013).

Family composition and characteristics is one important factor at influencing household saving. Families with larger number of active working members involved in economic activities save much more than other families. Whether the household is male or female headed matters at influencing saving. Findings indicated that male headed households are more likely to save large as compared to female counterparts as they are more frequently involved in different occupations (Popovici, 2012; Nayak, 2013).

The dependence ratio is another important factor influencing saving in many empirical studies. The elderly and young are expected to consume out of post saving while those within the working age are expected to accumulate saving (Quartey and Blankson, 2008; Hussein, 2007). Moreover, Schultz (2005) analyzed the demographic determinants of saving in a group of Asian countries by using econometric methods and found that dependence ratio has a significant negative effect on saving across counties. The finding by Halefom (2015) revealed some differences in average saving across different age groups. The mean saving of middle age, early and old age household heads is about Birr 360.6, 206.2 and 244.6 per month respectively.

Education level of the household head influences amount of saving. For instance, Girma *et al*. (2013) applied single equation Tobit model on household survey data to analyses determinants of household saving in Ethiopia. Their finding indicated that education level of household head affected household saving positively. The mean saving of illiterate household heads is Birr 58.57 whereas household heads with primary education, secondary education and tertiary education on average saves Birr 261.8, Birr 269.93 and 546.65 per month respectively. Hence, as the educational level increases saving also increases.

The structure, nature and relative size of financial instruments and financial institution in a country is an important factor in of enhancing the mobilization of saving and channeling of saving into productive investment Ndikumana (1999). The result further added that households mainly use the informal saving institutions as the result of which their savings is hardly traced in the national accounting system. Out of the sample households taken in this study, 54% are male and 46% are female. Moreover, financial institutions with easy access, low transaction costs, higher real returns on savings and convenient withdrawal of savings provided incentives for those households who hold financial savings to channel their savings into the formal institutions Nayak (2013).

Economic features of household are also important factors at affecting the household saving of which income of the household is an important variable in affecting saving situation of households. Different studies confirmed that an increase in income was found to increase saving significantly. For instance, the study by Popovici (2012) indicated that an increasing income increased the level of total savings by 1.7 percent. Moreover, Nwanchukwu

and Egwaikhide (2007) found that income has a positive and significant effect on the private saving in Nigeria. In the same manner, the change in livestock holdings in TLU, access to credit, training participation, contact with extension agents, choosing saving institution and saving motives increases the level of household savings by 1044.47, 2631.3, 1388.83, 109.29, 2538.88, and 4463.67 Birr among the savers households, respectively(Girma *et al*.,2013). Moreover, he pointed out that diversification into non-farming activities was found to increase saving rate of the rural household heads. Households involved into non-farm activities were found to save more as compared to those not involved.

The rate of interest determines the saving rate of the individuals on a view to encourage people towards saving. The finding by Kibet *et al* (2009) on smallholder farmers and entrepreneurs in Keyna indicated that interest rate on deposits has some positive influence on the saving of farmers. Increase in interest rates is expected to motivate farmers to save as it implies that they get better returns on their saving. When the rate of interest is high people are more interested to save rather than invest and also the reverse is true (Nayak, 2013). Even though poor people have some capacity to save; they will deposit their savings in a financial institution if an appropriate institutional structure and appropriate savings products exist to the depositor's savings needs (Donkor and Duah, 2013).

Michael (2013) conducted study using multivariate regression analysis (binary logistic and Ordinary regression least method) and found that savings habit of households are versatile and are influenced by demographic and economic factors based largely on income. The findings showed that the main predictors of the probability of an individual to have savings account were income, locality, and national health insurance registration, place of accommodation, sex, age and education. On the other hand, the main determinants of the level of savings were namely income, locality, and sector of employment, national health insurance registration, age, education, household size and marital status.

5. METHODOLOGY

5.1. The Data Set Used and Sampling Procedure

This study is conducted in Assosa Woreda (District) of Benishangul Gumuz Regional State. The region is endowed with fertile land suitable for high value crops, livestock, apiculture, fishery, minerals like gold and marble, and economically important trees like bamboo and incense. Mixed farming system, involving both crop production and livestock rearing activities are the dominant type of farm production system (BoFED, 2004). The data set used in this study is a primary data obtained from survey of randomly selected farm households in rural areas of Assosa Woreda. It consists of household composition and characteristics, income and asset ownership, saving related variables. The primary data were collected through structured questionnaire. First, sample size of 335 households was determined based on some statistical procedures and sampling techniques. To arrive at sample unit, multi-stage random sampling technique and proportionate to sample allocation methods were used. Finally, the sample household is selected using random probability method.

5.2. Model specification- The Double Hurdle Model

Some empirical studies used single equation Tobit model to analyze the determinants of household saving (Girma *et al*., 2013; Obayelu, 2012). However, Tobit specification has its own drawbacks; first it is actually used in cases where the dependent variable is not observed for some sample households due to censoring and not due to individual decision. This means Tobit specification can assume negative values, but will actually take zero for some censored observations. Therefore, all zero amounts of saving are interpreted as corner solutions. Second Tobit specification is based on a restrictive assumption that both the decision to save and level (amount) of saving given that decision are determined by the same set of variables which implies that a variable that increases the likelihood of household to save will also increase the extent of saving. Therefore, double hurdle model is used as better alternative over Tobit specification.

In a double-hurdle model the determinants of households' decision to save and the extent (amount of) household saving are estimated independently. In the first hurdle, the decision whether or not to save is identified, and if she/he decides to save, hurdle two considered the level of household savings. The maximum likelihood estimator (MLE) in the hurdle 1 can be obtained using a binary probit regression and the likelihood estimator (MLE) for hurdle 2 can be estimated from truncated normal regression model (Mishra and Chang, 2011;Amsalu *et.al,*2013). Double hurdle specification is advantageous in that it permits the joint modeling of the decision to save and extent of saving. Accordingly, individuals should pass through two-step decision processes; first they have to decide to save and then they need to put some amount of money (should save).

Double hurdle specification requires two latent variables; y_1^{**} related with binary choice model determining decision to save (which is probit model) and y_2^{**} referring to the level (amount of saving) that is a truncated regression in nature. These latent variables are expressed as linear functions of the first and second hurdle regressors, x_1 and x_2, respectively, where x_1 represents the regressors used to explain the decision to save and x_2 shows those variables used to explain the decision regarding the amount to save.

$y_1^{**} = x_1\beta_1 + \mu_1$
$y_2^{**} = x_2\beta_2 + \mu_2$, suppose that an index variable y_1^* is expressed as $y_1^* = 1$ if the household decides to save and $y_1^* = 0$ otherwise, then we will have;

$y_1^* = 1$ *if* $y_1^{**} > 0$ and,

$y_1^* = 0$, Otherwise. Assuming that the error term u_1 in the first hurdle is normally distributed, the first hurdle corresponds to a probit model. Similarly, turning to the second hurdle, provided that the first hurdle was cleared, y_2^* can also be generated as:

$y_2^* = y_2^{**}$ if $y_2^* > 0$ and;

$y_2^{**} = 0$, if otherwise.

This second hurdle takes the form of truncated regression and is capable of generating zero levels of saving independent of the first hurdle. Finally, the observed (actual) amount of saving, *y*, is determined by the interaction of both hurdles, that is: $y = y_1^* y_2^*$. In specifying this model it is important to note that all required econometric test such as appropriateness tests of Tobit vs Double hurdle, comparison tests of probit vs logit, tests of normality assumption and multicollinearity tests need to be conducted and justified for relevance of the model. There are two components for dependent variable; the first is the decision to save. It has a dichotomous nature measuring rural households' decision to save which takes a value of 1 if the household decides to save at formal financial institutions and 0 otherwise. The second dependent variable is the extent or amount of saving by households at formal financial institutions conditional on the decision to save and is of truncated regression.

6. RESULT AND DISCUSSION

6.1. Descriptive data analysis

The data for this study contains 325 randomly selected households of which 271(83.4%) involved in saving and the remaining did not participate in saving practice of any type. The summary statistics of data is given in table 2. As shown in the table the average amount of household saving annually is birr 3298.7 and almost 83.4 percent of households involved in saving (saving be it the formal or informal institutions).

Table 2:- Summary of data used in analysis (N=325)

Variables	Mean	SD	min	Max
Household's amount of saving in Birr	3,298.674	3,825.64	250.00	3,955.97
Decision to save (1= save, 0 otherwise)	0.834	0.373	-	-
Age of the head	46.222	12.668	25	78
Household size	6.462	2.867	2	15
Sex of household head(male=1)	0.714	0.453		
Illiterate	0.246	0.431	-	-
Primary education	0.163	0.37	-	-
Secondary education	0.338	0.474	-	-
College diploma and above	0.252	0.435	-	-
Dependency ratio	0.572	0.158	0.2	0.89
Farmer	0.557	0.498	0	1
Employed	0.182	0.386	0	1
Petty trade	0.262	0.44	0	1
Annual household income in Birr	15,998.45	9,681.035	2,200	48,000
Distance from financial institutions in kms	10.123	4.085	4	18
Landholding size of household in hectares	1.863	1.527	0	6

Source: Own computation (2016)

As indicated on the table (Table 2) households were seen to have large family size and are relatively more literate. About seventy one percent of the respondents are male headed households. The average annual household income is Birr 15,998.45 with the maximum ranging up to 48,000 birr per year and the average landholding size of households is 1.86 hectares. Similarly as shown in the table, on average households walk a distance of 10 kms to access formal financial institutions.

One of the important factors in creating incentive to save money by households is the saving rate. Households who save money were asked as to what extent the interest rates were encouraging them to save in a formal financial institutions and 230 households (71%) of them reported that interest rates are discouraging them to save. In relation to these households were also asked about the awareness level of the interest rate of financial institutions. Only 78

savers (28 percent) were not aware about the amount of interest rate on their saving.

6.2 Saving Practices and Financial Institutions in the Study Area

As indicated above out of the total 325 households interviewed for this study, 83.4 percent reported in the involvement of saving practices of any type. The motives behind saving by households were identified for savers. Accordingly households gave several reasons as to why they were engaged in saving. The reasons are summarized in the following table where unexpected expense constitutes the largest proportion.

Table 3. Reasons for saving in Formal Financial Institutions

Reasons for households to save	Frequency	Percentage (%)
Unexpected expenses (illness, home repairs etc.)	117	43.2
Undertaking a new business	45	16.6
Education of children	53	19.6
Acquire household asset (land, house, clothes, TV, etc.)	33	12.2
Funeral/wedding for a family member	16	5.9
Retirement	7	2.6
Total	271	100

(Source: own survey, 2016)

Out of the sample households participated in saving in the study area, 68.3 percent used formal financial institutions such as banks, microfinances, saving and credit associations as well as farmer cooperative unions and the remaining 31.7 percent used informal saving options such as '*Edir*' '*Iqub*', friends, keeping at home and changing to the form of assets. Similarly, of the sampled households that used formal financial institutions 39.6 percent were customers of saving and credit cooperatives, 25.1 percent used microfinance institutions, 15.8 percent used government banking system (Commercial Bank of Ethiopia) and the remaining used other private banks located in Assosa.

Figure 4:1. Formal financial institutions used by sampled households

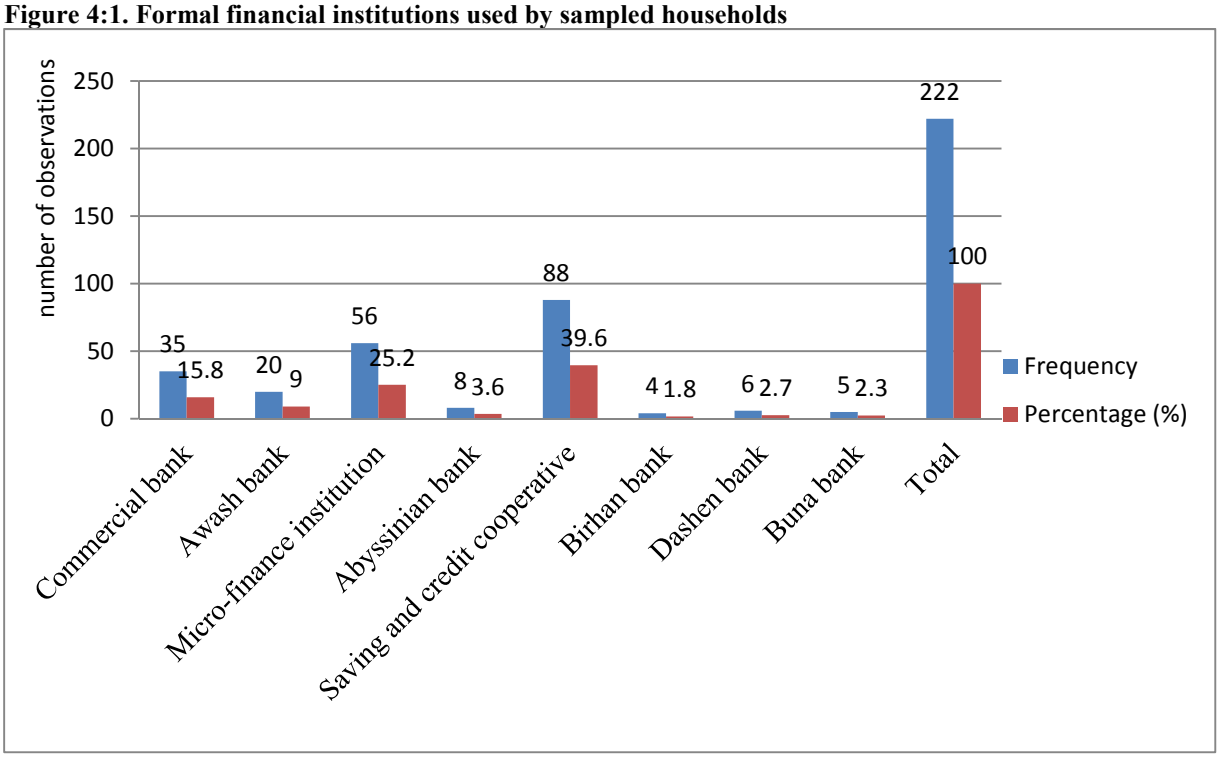
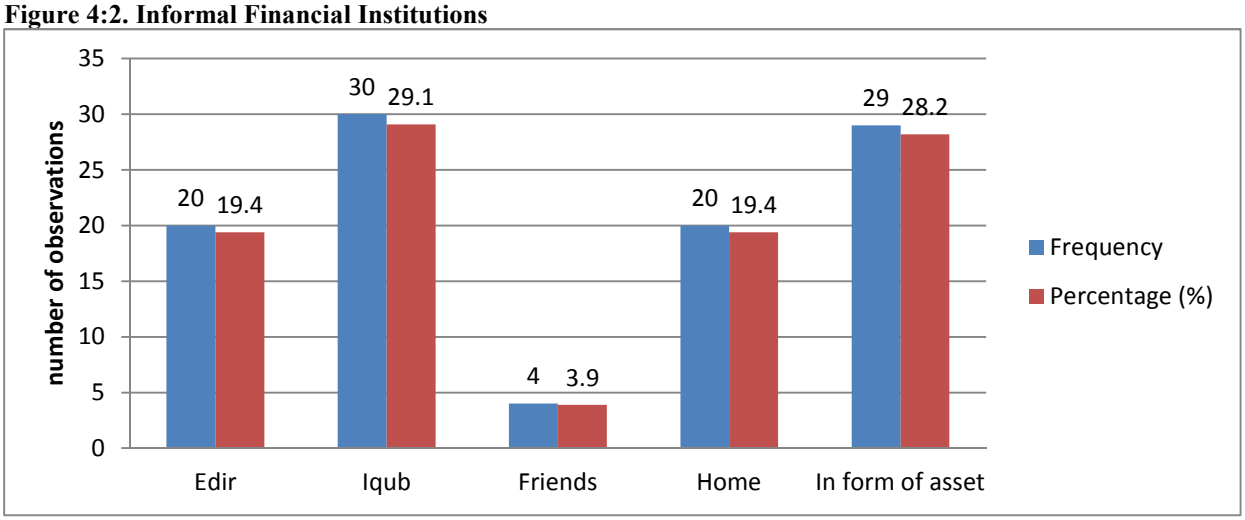


Figure 4:2. Informal Financial Institutions



(Source: own survey, 2016)

Households were also asked about their choice behind the use of formal institutions and informal saving options. About 31.7 percent of savers had no saving experience in the formal financial institutions due to different reasons. Thirty three percent reported lack of awareness about the use of formal institutions, 41.7 percent reported low income as a reason and 25.2 percent complained about the distance of the institutions away from their residence.

6.3. Econometric Results

As outlined in methodology section, this study used the double hurdle model to identify the determinants of household saving. The model analyzed the household's decision to save and their extent of saving independently by using maximum likelihood method of estimation. Before going any further, it is important to present different tests conducted as required by the methodology. First, the computed Wald chi^2 statistics is by far larger than critical value indicating that the model has a strong explanatory power. Second, the likelihood ratio test for Tobit restrictions (computed LR χ^2 of 40.97> 10.51) revealed the rejection of Tobit model. Thus the decision to save and amount of saving are not based on the same set of decision making process.

Table 4: Test of double hurdle estimation

Type of Test	Computed χ^2	Critical χ^2	Decision
Model adequacy test	100.47	4.60	Model adequate
Tobit Restriction -LR χ^2	40.97	10.51	Tobit model rejected
Covariance test ($\rho = 0$)	0.660	3.56	Interdependence of errors not rejected

Source:- Own computation (2016)

Finally, computed value (0.66) of covariance test statistics being less than critical value (3.56) implies that the hypothesis of zero coefficient of the variance cannot be rejected for the given degree of freedom. As a result independent double hurdle model is preferable than the single equation Tobit model.

Table (5) below shows the result of the double hurdle model where analyses of households' decision to save and amount of saving were estimated independently. The first hurdle (probit model) and the second hurdle (truncate regression models) are estimated using the maximum likelihood method of estimation on the determinants of the decision to save and amount of saving respectively. As shown in the table, the age of household head has positive significant effect on the decision of household to save, however it has no significant effect on the amount of saving. That is, as the household head gets older his decision to save will increase; this may be because his possibility of getting more income and awareness about saving will increase as age increases. Family size has statistically significant but negative effect on both the decision to save and amount of saving. This is because as family size increases, households are expected to allocate more of their income on consumption expenditure and thus there will be no income left for saving. As a result the household's decision to save and his level of saving may decrease as shown in the analysis.

Table 5:- Estimation of Double Hurdle Model

Variables	Probit regression of saving decision (save =1/0)		Truncated regression of saving(amount in Birr)	
	Coefficient	SE	Coefficient	SE
Age of household head	0.056***	0.016	27.146	38.137
Family size	-0.177***	0.058	-419.932**	173.665
Sex of household head(male)	0.495	0.313	251.872	580.361
Employed	-1.252**	0.49	-2086.373*	1201.18
Petty trade	0.133	0.586	2344.623**	1057.8
Income of household head	0.00015***	0.00004	0.325***	0.049
Primary education	1.313***	0.432	2015.514*	1102.64
Secondary education	1.292***	0.399	3831.224***	1253.25
College diploma and above	1.612***	0.526	5286.080***	1332.05
Dependency ratio	-1.357	1.047	-229.158	1825.48
Landholding size	0.141	0.143	662.058**	263.342
Distance to financial institutions	-0.096**	0.032		
Sigma			2787.225	285.202

Source: Own computation (2016)

***significant at 1%, **significant at 5%, *significant at 10%

Employment status, that is, whether the household head is employed or engaged in self-employment activities such as petty trade matters in his probability to save. Those households who are employed in government offices are mostly to be non-skilled and usually employed at lower salary levels so that their capacity to save is limited. For the case of petty trade, even though households are less likely to participate in saving decision, it may be the case that as they participated in petty trade activities, this will increase the level of saving.

Annual income of the household has a positive significant effect on both the decision to save and amount of saving as predicted in theoretical and empirical literature. An increase in incomes of households increases their tendency to participate in saving and the amount they save. This is because such households will have income left for saving after paying for consumption expenditure. Similarly, although landholding size has no significant effect on their decision to save, but their level of saving increases as land size increases, which may be related with the potential of households to produce more and get more incomes for saving.

Education status of household heads is another important variable at influencing their saving levels. The study analyzed the effect of education at three levels; primary, secondary and college diploma or above and found statistically significant effects on their decision to save and the amount they choose to save. This is theoretically justified from the fact that education has the probability to increase households' awareness to saving and also their capacity to save as more educated households has wider possibilities of earning more income than not educated ones. Finally, distant location of saving institutions such as banks and microfinance institutions has negative significant effect on the decision of households to save.

7. CONCLUSIONS AND POLICY IMPLICATIONS

In this study efforts were made to analyze the saving behavior of households in rural areas of Benishangul Gumuz Region. The study particularly addressed the households' decision to save and their level of saving using the double hurdle process. Application of double hurdle model over that of Tobit was justified using econometric methods and the data at hand. Generally, the estimated result confirmed the importance of family composition and age, household income and family asset holding, education and employment status of households at influencing households' decision to save and their amount of saving.

The data also confirmed the use of formal financial institutions and informal saving options for households who decide to save. The reasons for households to save are largely guided by meeting unexpected expenses in the future. Moreover, nearly 32 percent of households opt for the use informal saving options owning to lack of awareness about the use of formal institutions, low annual income and distance of the institutions away from their residence.

The findings imply the need for identifying alternative income sources for rural households through different income diversification options so as to mobilize more saving for economic growth. Second, as education level of household increases, the awareness regarding the importance of saving and saving institutions is expected to increase. Thus emphasis should be given to create and strengthen awareness of households to save through educational and awareness creation opportunities to rural households.

Third, as distance to financial institutions had negative and statistically significant effect on the saving decisions and amount of savings of rural households, policy interventions should focus on increasing the availability and accessibility of financial institutions in rural areas to promote rural households saving. Finally,

financial institutions need to pursue favorable policies and regulations to enable financial service providers to broaden their scope of coverage by opening more branches. This will also encourage financial institutions to implement door-to-door service provision to enhance the savings and investment functions in the study area.

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