Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.14, No.1, 2023

Determinants of Saving Behavior among the Rural Households: The Case of East Wollega Zone, Oromia Regional State, Ethiopia

Gemechu Feyissa G
College Of Business And Economics, Wollega University, Ethiopia

Abstract
In Low Countries economic fluctuations and climate risk lead to income variations and this exposed the rural households vulnerable to severe hardship. Hence, their social coverage is restricted and credit and insurance markets are not well developed. The objective of this study is to investigate determinants of households saving behavior among the rural house hold. Both Primary and secondary sources of data were obtained from 385 households by using questionnaire. A binary logistic regression model was employed to analyze the data. The findings of the study revealed that the sex of household, educational level, household income and number of dependents in the family size have significant and positively affect rural household saving. While access to credit is negative and significantly affect household saving. Therefore, to improve the rural households saving concerned bodies and others stakeholder should work more through awareness creation and creating different means.
Keywords: Saving Behavior, Rural Households, Determinants, Ethiopia
DOI: 10.7176/RJFA/14-1-03
Publication date: January 31st 2023

I. INTRODUCTION

In less developed Countries economic fluctuations and climate risk leads to income variations. These and others exposed the rural households vulnerable to severe hardship. Hence, their social coverage is restricted and credit and insurance markets are not well developed. Further, there is no enough domestic saving as a result most of them rely on foreign aid and debt for undertaking their investment. This in turn, increases country's debt burden and cost of capital. Therefore, adequate saving is important to capital formation and has a direct impact on economic growth and macroeconomic stability (Abera et al. 2013). The households saving in Africa got very low due to high levels of unemployment, low wages, and the engagement of large population in the informal sector and poor performance of the economy. According to different literatures serious problem confronting poor countries including Ethiopia due to 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. The average gross saving rate as percentage of GDP of Ethiopia was 21% (MoFED 2014). Savings can be viewed from two broad categories; these are private savings and public savings. Private saving is done by the private sector of the economy. Private saving is further divided into two; Personal savings or household savings and Business saving. Household savings refers to saving done by families and individuals, whereas business savings refers to the purchases of new capital equipment's or the expansion of its operations. Public saving on the other hand, is the saving done by the government sector including state and local government as well as federal government. However,.

The Traditional view of savings capacity purports the idea that rural households cannot save because they are poor. Rural savings and mobilization efforts are thus deemed futile and useless. But the new views of savings capacity suggest that rural households have the capacity and the desire to save and would respond to saving opportunity and incentives. Further the absolute income hypothesis also postulates that current level of income determines savings, since saving is an important macroeconomic variable to be studied under the purview of the economic arena on an individual as well as household basis. Therefore, in a country like Ethiopia, the income standards is almost uncertain and leads to more consumption rather than saving which has now been a central problem. Cognizant of this fact, this study attempts to analyze the main determinants of household saving in Ethiopia giving special emphasis to east wollega zone, Oromia Reginal State.

The study was organized in to the following sections. The first section provided the general introduction about the whole study. Section two presented the review of related literatures. Section three provided detail description of the methodology. Section four presents the results as well as discussion, while fifth sections presents the, conclusion and recommendation of the study.

1.2 Statement of the Problem

Saving is a very important component which is meant for safeguarding oneself or meeting emergencies encountered either by the individuals or the households. It is a driving force of economic success and Mostly

savings acts / serves as a form of future investments. Saving is undeniably considered as a strategic variable in the theory of economic growth determining both individual and national wellbeing. However, the saving level in Ethiopia particularly in rural areas is very low due to they mainly depend on the income from agricultural activities. It is also characterized as seasonal and irregular as the cash flow through sale of agricultural produce and availability of work is seasonal. This and others factors reduces their financial capacity to save or poorly respond to incentives that promote savings in the country (Girma T, et al 2013). Further the existing financial institution potentials have not been fully exploited in rural household. Financial institutions like banks see rural farmers lending as risky since they are unable to pay back or do not have collateral security. In Ethiopia, there are a few researches related to saving behavior of households Yemane (2014) in his study stated that incomes, age, sex, marital status significantly affects household saving. Similarly, the study conducted by Hagos and Mirach in Gondar zone, showed that income, age, sex, marital status, forms of institutions used for saving and the frequency of getting money were significant determine household savings. Further, a research by Pawulos in (2014) in Wolaita zone, suggested that family size, sex, access to financial institution, credit access, income and interest rate have significantly affect households. Therefore, many researchers have tried to analyze the determinants of house hold savings in rural areas . However they came up with different conclusions. Therefore, this study, to fill the existing literature gap. Based on the problem and research gap mentioned above the general objective of this study is to examine the determinants of saving behavior among the rural households of the east wollega zone.

2. Review of related literature

Lawrence, et al (2009), employs multiple linear regressions in analyzing determinants of household savings in rural areas of Kenya. The findings indicated that education, interest rate, income, occupation and services provided by financial institutions have positive and significantly impact on savings whereas transport cost and household size were found to have negative impact on savings.

Abu (2004), suggested that the recent rate of saving is too low in Ethiopia relative to other developing countries. The trend has also made the economy increasingly reliant on external financing sources, with excessive exposure to external shocks, and delaying the necessary reforms to create favorable investment to the private sector and put the economy on a sustainable path of growth and financing. A developing country with a weak saving performance cannot secure enough investment resources to finance its investment necessities. Hence, low saving performance of the country is due to various determinants of saving.

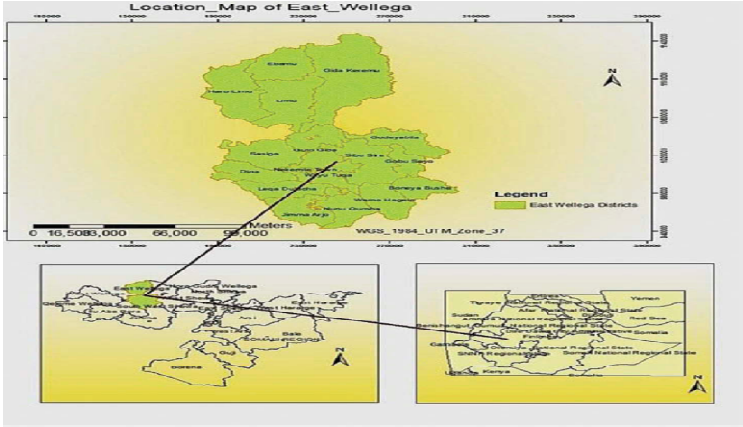
Touhami et al (2009), also used multiple linear regression analysis in their micro econometric analysis on household savings in Morocco. The results revealed that, savings rate impacts positively on household income in rural and urban areas. They saw household size to have negative effect on savings in urban areas whereas in rural areas household size has no impact on savings Haruna (2011) also employed multiple linear regression analysis in determining the influence of various factors on savings behaviour. He found out that income level, educational status, assets of household heads, age and occupation have positive significant impact on household savings behaviour. However, household size turns to have negative significant impact on household savings. Qiuxia (2004), in his survey data used descriptive statistics in analyzing the impact of rural enterprise on household savings in three selected areas in China; Jiangsu, Shandong and Sichuan. The result showed that income seems to be important determinant of savings. Family size in a developed country such as The Netherlands positively impacts on household saving behavior (Eizenga, 1961). However, family sizes in developing countries such as some Latin American countries negatively correlate with household saving behavior (Edwards, 1996). Mark, et al (1999), analyzed determinants of household savings in Australia. They used probit model to analyze the effects of various factors that influence household savings behavior. Their results revealed that, gender has significant impact on household savings. They stated specifically that male has positive significant impact on savings thus males save more than women and the vice versa. However, dependency ratio negatively correlates for both developing and developed countries (Leff, 1969). Further, the result revealed that education has a positive impact on household saving for developing countries, specifically countries such as India, Indonesia, and the Philippines (Bernheim & Garrett, 1996; Kelly & Williamson, 1968; NCAER, 1964; Rodriguez & Meyer, 1988; Sharma, 1986); however, it negatively correlates with household saving behavior in Estonia (Kulikov, Paabut, & Staehr, 2007). Household income positively correlates with household saving for both developing and developed countries (Faridi et al., 2010; Kraay, 2000; Kulikov et al., 2007; Loayza, SchmidtHebbel, & Serven, 2000; Nasir & Khalid, 2004). Credit access positively impacts on household saving in developing countries such as in Ecuador, El Salvador, Paraguay, and in Mexico (Aportela, 1999; Rogg, 2000). Credit constraints negatively impact on household saving in developed country such as the United Kingdom (Berry & Williams, 2009). Home ownership has varied effects on household saving behavior in developed and developing countries. In Japan, saving varies across homeowners and renters (Suruga & Tachibanaki, 1991). However, real estate ownership does not have a significant effect on household saving in some developing countries such as Morocco (Abdelkhalek et al., 2009). Most of the prior studies adopted a macroeconomic approach to saving behavior, yet

the behavior of economic units on the aggregate level may not necessarily be the same as on an individual level. Hagos and Michael (2014) Analyze the main determinants of household saving in Ethiopia giving special emphasis to North Gondar zone on three selected districts i.e. Gondar, Dembia and Dabat using survey data collected from 604 sample households. Their results shows that 54.1% of sample households practiced saving. In addition, low income, cultural background, education, social affairs and unemployment were found as the most significant reasons for households not to save. Kulikov, et al (2007) examined how household characteristics affect saving behavior, in Pakistan and Estonia respectively. They found that "increased income leads to a greater desire to participate in some form of savings institutions but as income increases more individuals shift to the formal sector". They also found evidence that the urban-rural differences in bank use is negligible which suggests that formal finance is not primarily restricted to urban households in Pakistan. Alma and Richard (1988) analyzed savings behavior among rural household in the Philippians. And found that, income is the most important economic variable affecting rural savings. They also saw that, mobilization of voluntary rural savings is necessary for economic development. Their further result shows that household size and transaction cost negatively influence household savings. However, educational attainment, assets of household and interest rate positively influence savings.

3. Research Method and Methodology

The study was carried out in East wollega zone of Oromia Reginal State of Ethiopia. East Wollega zone is found in west part of Oromia located at latitude 80^0 31 "52 South and longitude 360^0 07"51 East. Nekemte is the main city of East Wollega zone and it is Administratively managed into 17 Woredas, 1 Special woreda, 43 towns and 287 rural kebeles. According CSA 2007 report, the total population is 1.5 million. In the zone, agriculture is the dominant livelihood of the population.

Figure 1. East Wollega Zone Map



A cross sectional community based study was used to investigate determinants of the rural household saving in east wollega zone (Haro limmu, Gida Ayana, Gida Keremu and Ebentu). The study was carried out using both qualitative and quantitative approach. The quantitative approach was used to obtain numerical data whereas qualitative approach was used to carry out thematic discourse analysis, to make deeper understanding, and description of the problem under investigation and to present a detail view of the study. Both primary and secondary data have used . The primary data was taken from sampled households via questionnaire and interview. Secondary data were collected from published and unpublished documents such as books, research reports, Central Statistics Authority (CSA), articles journals and Woreda Administrative Office. At large multi-stage sampling method was used to identify woredas and kebeles that were included in the study. From the zone researcher have selected woredas randomly, and then the kebeles were selected from woreda at second stage by using simple random sampling method. At final stage, from the each identified kebele actual sampled respondents were selected. To analyze major determinants of household savings logit Model was used.

This model was chosen because amount of household savings tends to be censored at the lower limit of zero (Gujarati, 2007). 385 sample respondent households were used which was determined based on the simplified formula developed by Yamane (1967) at 95 per cent confidence level, 0.5 degree of variability and 95 per cent level of precision. suppose we desire a 95% confidence level and ±5% precision level. The resulting sample size is determined using following Equation

$$\boldsymbol{n = \frac{Z^2 pq}{e^2} = \frac{(1.96^2)(0.5)(0.5)}{0.05^2}} = 385$$

n = sample size p = an estimate of the population assumed the effect of rural household saving i.e. (p=0.5) z = the standard normal value corresponding to the desire level of confidence (95%) α = the area under the normal curve to the left or right of Z, α=0.05 (zα/2=1.96) the tails (1-α equals the desired confidence level, e.g., 95%),

e^2= the maximum acceptable error, i.e. e= 0.05,

Model Specification & Data Analysis Techniques

In order to increase the level of precision and quality of the research, econometrics model was used in combination with the descriptive statistics. In this research, the logit model is used for the estimation of the probability of saving based on observable household characteristics. Thus, the model can be specified as follows:

$$zi = \beta 0 + \sum_{i=1}^{n} \beta i x i + \mu i$$

Where i = 1, 2…n, where n = number of explanatory variables, 0 = intercept term, i = coefficient of explanatory variables, i u = disturbance term, i x = explanatory variables,

$Y= \alpha_0+ \beta_1 Age + \beta_2 Edu+ \beta_3 Fsize + \beta_4 Sex+ \beta_5 Mstu+ \beta_6 Acc + \beta_7 Inc + \varepsilon i$

Where, Y = House hold saving measured as 1 having saving & other wise 0, β = are partial slope coefficients of the explanatory variables, that determine saving of households head , like, Age of the household head, education, Family size, sex, marital status, Access to financial institutions and income of Household in Ethiopia birr. Ɛi the error (disturbance) term.

4. RESULT AND DISCUSSION

The aim of this study was to examine the determinants of saving behavior among the rural households of the East Wollega Zone, Oromia Region. To achieve the study data were collected from 385 respondents living in different rural area of selected sample. As mentioned in the table 4.1 the majority household age found in between 41-50 years. However, among the total respondents 85(22%) are savers. This implies most respondents that save their income lies between 20 – 30 years i.e younger age. Sex of household is also an important factor that determines household saving. Accordingly, from the total of 385 respondents that were enrolled in the study, 58.7 %(226) respondents were males while 41.2.% (159) respondents were females. So the data revealed that male household head save more parts of their disposable income than female.

Table 4.1 Demographic Characteristic of Respondent

Age of House **Hold Crosstabulation**						
						Total
		20-30	31-40	41-50	>=51	
Saver	non saver	0	1	78	43	122
	Saver	85	74	37	67	263
Total		85(22%)	75(19.4%)	115(29.8%)	110(28.5%)	385
		Sex of House Holds				Total
		Male		Female		
House Hold Saving	non saver	121		1		122
	saver	105		158		263
Total		226(58.7%)		159(41.3)		385
		Martial Status of House Hold				Total
		married	Sigle	Divorced	Windowed	
saver	Non saver	119	2	1	0	122
		240	2	10	11	263
Total		359(93%)	4(1%)	11(2.8%)	11(2.8%)	385

Marital status of household is important factor that affects household saving. As shown in the table, 93.1 % (359) of respondents were married, 1 %(4) were single while the rest 2.8 % (11) and 2.8 % (11) were divorced and widowed respectively. This finding showed that married households on average save more parts of their disposable income than single, divorced and widowed households. This confirmed that married households save more portion of their income because marriages are morally and socially responsible for collective interest and it has important factor for financial planning (Sinha and Sinha, 1998). This finding contradicts with study conducted by Rehman, Bashir et al. (2011); Girma and Alemu (2015) states that married household save less of their disposable income than those unmarried household as they are subjected to more responsibilities which discourage them to save more as the income of the individuals is spent on the family consumption.

* Education of House Holds Crosstabulation							
Count							
			Eduction of House Holds				Total
			not attened formal eduction	primery eduction(1-8 grade)	secondry school(9-12 grade)	>= cerificate	
Hause Saving	Hold	non saver	53	54	10	5	122
		Saver	98	140	14	11	263
Total			151(39%)	194(50%)	24(6%)	16(4)	385
			Family Size of House Hold				Total
			1-3 family size	4-6 family size	7-10 family size	>=11	
Hause Saving	Hold	non saver	0	1	76	45	122
		Saver	85	74	39	65	263
Total			85(22%)	75(19.4%)	115(29.8)	110(28.5%)	385

With regard to education background of the households, the researcher were used the number of schooling years of the household head as an indicator of household saving. From the total respondents 151 (39%) are not attending formal education, 194 (50%) are primary education, 24 (6%) are secondary schooling and 16 (4 %) are certificate and above holder. Regarding family size household with less family size were save more compared to more dependency ratio. This also indirectly means that children below 14 and people above 65 years contribute nothing to the saving rather they just consume.

Result and Discussion on logit regression model

With respect to the level of education, the probability of saving behavior for a household head with education level is more compared to less uneducated. As this research is on rural household those educated household have awareness on saving. This is because such household heads seem to have more understanding regarding the need to save and its benefits associated with it. This implies that as a household head is educated the higher the probability for him/her to save more as compare to household heads with low level of educational attainment. The result support Lawrence et al (2009) Haruna (2011) Alma and Richard (1988) (Faridi et al., 2010; Kraay, 2000. The sex of the household is also positive and significantly affact the households' saving behavior in the study area. In connection with demographic characteristics the probability of female-headed household to save is higher than that of its counter male -headed households. Therefore, sex is important variable that explained household savings significantly. Even though different Studies reveled that women are more conservative in their investment decisions than men this study contradict their result. For example, Bajtelsmit and Bernasek (1996), find that women hold a much higher proportion of their portfolios in fixed assets than men. Similarly, family size and number of dependents have significantly negative effect on households' saving behavior. The probability to save of the household head with larger number of dependents decreases as compared to that of household with small number of dependents. This implies the household head with larger number of dependents likelihood to save less as compared to a household head with small number of family dependents.

The level of income of the household has a significant and positively affect the households savings. The result below revels that the probability to save of a household increases by 70% with an increase in income of the household. Thus, household with high monthly income saves more than household that has less monthly income. As the research area under taken in rural house hold majority of the household income is from agricultural and animal production. This is due to households in developing countries on average are poorer and income is likely to be less stable, due to seasonality of production and the allocation of income over time faces severe competing pressures that differ in intensity from those in developed economies. The result is in accord with previous study by Kulikov et al., 2007; Loayza, Schmidt, & Serven, 2000 ; Nasir & Khalid, (2004).

Logistic regression Result

		B	S.E.	Wald	df	Sig.	Exp(B)
	AGE	-.225	.917	.060	1	.806	.798
	MART	-.864	.750	1.328	1	.249	.422
	EDU	.083	.193	.186	1	.006	.920
	SEX	6.791	1.651	16.919	1	.000	889.651
	INCOME	.687	.706	.948	1	.003	1.988
	ACCCR	-.157	.570	.076	1	.073	.855
	FAMILY	.560	1.093	.263	1	.006	1.751
a. Variable(s) entered on step 1: AGE, MART, EDU, SEX, INCOME, ACCCR, FAMILY,							

Access to credit is also important variables which negative and significantly affect savings behavior of a household. This implies that access to credit have negative impact on household saving. Access to financial institutions and the availability of financial instruments are more uneven in developing economies like Ethiopia. Lawrence, et al (2009), Touhami et al (2009), Subhashree, (2013) indicates that a large and rapid increase in income tends to raise the rate of household savings because household capacity to save increases with household income. Hence, developing countries tend to have shallow social safety nets. This means families must rely largely on household-level savings and investments in kinship networks as part of their consumption smoothing strategy that the women feel deeply.

5. Conclusions And Recommendations

5.1 CONCLUSION

A cross sectional community based study was used to investigate determinants of the rural household saving in east wollega zone. From the total variables Sex, education, income of household and access to financial institution became among the important factor that determines household saving. From the, total of 385 respondents enrolled in the study, 58.7 %(226) respondents were males while 41.2. % (159) respondents were females. Further, based on logistic regression result sex, education status, income of household and access to financial institution of household head was significant. This implies that household heads who had higher level of educational attainment, less family size, income and access to financial institution have higher probability to save.

5.2 Recommendations

In order to improve house hold savings policy makers and other stakeholders should provide awareness to the households on the need to save. The family size of household, education, sex income of household and access to finance is significantly related to households saving, the households size must be managed through using family planning and other strategies. Households' income and education level also improved. Government should encourage households saving through diversifying their source of income, escalating their educational endeavor. it is also recommended that the government and other concerned bodies should provide capacity building training on awareness, and attitude of saving to boost the level of rural households' saving.

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