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Full Length Research Paper

Determinants of saving Behaviour of cooperative members survey evidence from Tigrai region, Ethiopia

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Abstract

The primary purpose of this study is to investigate the determinants of saving behaviour of cooperative members in Tigrai region of Ethiopia. The data for the study was obtained from randomly selected 120 rural household savers from eight financial cooperatives. The empirical analysis, using multiple regression model shows that gender, household income, amount of loan borrowed and year of cooperative membership significantly raise household savings. Therefore, these factors have to be considered in designing strategies aimed at improving the saving pattern of cooperative members.

Keywords: Saving, cooperative, member, rural area, determinants, regression.

INTRODUCTION

In recent years, economists, international organizations, and governments in developing countries have placed increasing emphasis on the mobilization of deposits, not only to increase domestic savings, to achieve sustained economic growth and development but also to strengthen domestic financial intermediaries (Admas and Vogel, 1986; Besley, 1995). Similar study by Baharumshah et al. (2003) argues that the existence of positive effects of household savings on economic growth. The recent financial crisis has led to serious repercussions in the global economy due to deep economic and moral losses of investors (Bhalla, 1978). These events revealed the relevance of saving and especially its allocation in the nation economy (Bernhiem and Shoven, 1991). Indeed, saving is very important in the development of industrial and financial systems (Attanasio, 1998; Baharumshah et al., 2003) as well as the only means to accumulate assets in the absence of credit and insurance markets to households. Although there is controversy regarding the relation between savings and economic growth, it is generally agreed that once savings start to rise-perhaps due to increases in income-they enhance the potential to finance investment , and lead to the creation of more opportunities in the economy (Attanasio,1998; Bernhiem and Shoven, 1991). Domestic savings consists of three components, viz., corporate, households, and government savings. Household saving could be accumulating in real assets or financial assets. Large part of saving accumulation in developing countries is in the form of real assets (Rehman et al.,2010). These include livestock, precious metals, or food stocks. However, these real assets less useful for industrial activities since it does not liquid. The weakness saving in real assets is important reason for household in developing countries to save in financial assets (Deaton, 1989). They could save in banks or non-bank financial institutions in cash form. In this respect, access to financial institution that meets liquidity needs is crucial. This is the reason to introduce rural financial institution such as saving and credit cooperatives that strategic in order to increase financial savings and loan facilities.

Household save for a variety of reasons such as liquidity constraint or life cycle savings. In developing countries savings are important determinants of household welfare. On one hand, without savings, households have few other mechanisms to smooth out unexpected variations in their income, and so, shocks may create some problems of human capital accumulation at early ages (Attanasio, 1998). In

particular, Ethiopia, like other developing countries, is prone to adverse shocks such as bad weather events, pest and downward in the price of agricultural output relative to the cost of agricultural inputs. Therefore, it is relevant for rural households to consider saving as possible protection against the occurrence of such shock. Additional to its micro-level effects, household deposits make capital available for investment and as such, contribute to macro-economic growth.

Following the financial liberalization in Ethiopia in 1992 and the growing of the cash economy in rural area, associations like Rural Savings and Credit Cooperatives (RSCCs) become very instrumental in savings mobilizations and provision of micro loans to members in remote areas of the country. The most important economic obligation of members of a farm cooperative society is saving. Saving is important for agricultural production since it is used as a credit for lending to members. This form of arrangement allows farmers who are members of cooperatives tend to achieve higher yields, and staple crops that are marketed through cooperatives attain a price premium of around 7-8 percent. The 2008 World Development Report reviewed the evidence and concluded "Producer organizations are essential to achieve competitiveness for small-scale producers". The amount of loan that a farmer could obtain however depends on the amount of saving she/he has in the society. The amount that individual farmers could save also depends on a number of factors such as income and family size (Adeymo and Banire, 2005). However, hitherto there have been few studies examining saving behaviour at the micro level in Ethiopia, since various studies have mainly focused, with very few exceptions, on aggregate savings data. Therefore, this paper examines the socio-economic characteristics of cooperative members as well as identifies the determinants of saving at the micro level in two *Woreda, Ofla and Alaje* in Tigrai region of Ethiopia.

Review of Related Literature

Overview of RSCCs in Ethiopia

Saving and Credit Cooperatives (SCCs) are cooperative financial institutions that are owned, managed and capitalized by their members (principles of owner user). The history of SCCs in Ethiopia dates back to 1950`s. Although significant progress has been made in recent years, many rural financial institutions generally have insufficient capital, reach, and capacity to provide agricultural cooperatives with services at the scale they need. Performance analyses of the sector indicate that at present there are 6134 RSCCs active in the country with the total membership of 529063. As of 2011, the sector has pulled a saving amount of 211.36 Million Birr (12.03Million (Birr' is the money unit in Ethiopia which currently exchanges for 1 USD to 17.5645 Birr.), with 80.76 Million Birr (4.60Million USD) in share capital and loan disbursed of 244.64 Million Birr (13.93 Million USD). However, the sector provides less than one % of the country's total financing, and many struggle with low-capacity management and governance. The nature and range of their products remained basic and rudimentary. In terms of savings products they have compulsory and voluntary savings only. With respect to loans, they involve 100 % security requirements. They provide collateral plus guarantor-based loans with uniform interest rate. Moreover, the sector still faces a number of challenges including low membership base, poor saving culture, lack of separate regulation for being financial institutions, and lack of demand driven and diversified financial services(Tesfamariam, 2011).

Conceptual and Empirical Studies

Savings fundamentally is about choosing between current and future consumption. Savings theories traditionally predict that current consumption is related not to current income, but to a longer-term estimate of income. In recent years, few studies have been presented nationally on this issue using aggregate saving data. But still this issue is needed to be discussed more at micro level to find solid policy framework in the future. Keeping in view the importance of households saving in Ethiopia, some conceptual and empirical evidence from international economy is reviewed based on saving in developing countries postulated by Deaton (1989).

The major contribution to savings literature comes from Modigliani and Brumberg (1954) stated that life-cycle hypothesis, whose basic assumption is that individuals spread their lifetime consumption evenly over their lives by accumulating savings during earning years and maintaining consumption levels after retirement. The permanent income hypothesis (Friedman, 1957) argues that consumption is proportional to a consumer's estimate of permanent income. However, these theories of saving were originally developed by and for developed economies. If we apply them in developing countries, we have to take the features of these countries into consideration. Deaton (1989) suggests at least four reasons why these theories might be of limited use in developing countries. **First,** households in many developing countries tend to be larger than households in developed countries, and there is a much greater tendency for several generations live together. At the extreme, a household might have a stationary demographic structure: old people, as they die, are replaced by those a little younger. Such a household has

no need for "hump" or retirement saving, either as a vehicle for transferring income from high-productivity to low productivity phase of the life cycle or as a means for transferring wealth between generations. Resources are shared between workers and dependents, and ownership is passed from parents to children. As emphasized Kotlikoff and Spivak(1981), this large family character can internalize many of the insurance activities that would otherwise require savings. As a result there is less need to save for retirement or for intergenerational transfers. **Second**, income in many of developing economies is inherently uncertain and cyclical, making estimation of long-term income flows difficult. Although households are myopic, for survival, they still have to save for the consumption in the near future. This is a form of inter-temporally smoothing savings, not continuing over a long period. **Third,** individuals are likely to be credit constrained, so that borrowing in early years will be difficult. Because the majority of households in developing countries live in abject poverty, it is not possible for them to obtain consumption loans. Even where there are financial institutions, they may be unwilling to lend for consumption purpose to individuals who have no collateral. The borrowing constraint is an important factor for the savings of poor households. **Finally**, these combined factors suggest that savings in developing economies often plays an important role in buffering between income and consumption. Individuals often save small amounts at frequent intervals to smooth income, rather than accumulate or save for retirement.

A household study on determinants of saving behaviour (Beverly and Sherraden, 1999) asserts that three factors were influence household saving behaviour in Africa. One of these was the ability to save which in turn depends on a household's disposable income and expenditure. The second was the propensity or willingness to save as influenced by socio-cultural and economic factors like the family obligation to educate children. The third one was the opportunity to save and returns on savings. In another studies, household size has a negative effect on household savings suggesting that larger household are more resource constrained than small ones with disposable income and consequentially a lower level of savings(Newman et al., 2008; Orebiy`s et al., 2005). Furthermore, it was also found out that landholding strongly influence the rate of total saving, since the size of land holding influences income and income influences savings positively(Bhalla, 1978).

Basically, various scientific studies have examined the effect of socio-economic variables and their predictive power on households' savings behaviour. Some researches indicate that income (Christensen, 1993; Newman et al., 2008), level of education (Brata, 1999), age of household head (Rehman et al., 2010) do have a positive impact on household savings. In another studies, dependency ratio, resource ownership and expenditure (Orebiy`s, 2005) pattern affect the decision of household savings significantly. Overall, socio economic variables like household income, level of education, interest payment, farm size, household size were the major factors determining informal savings amongst vegetable farmers in developing countries (Christensen, 1993; Khalek et al., 2009; Orbeta, 2006). In contrast to the studies cited above, a study examined the effects of various socio-economic factors on household savings by Burney and Khan (1992) showed that household income, dependency ratio, education levels of household head, employment status and age of household head were found to have negative relationship with households saving in urban as well as in rural Pakistan.

METHODOLOGY

The analysis of this paper is based on a household survey conducted in *Ofla* and *Alaje Woreda* between September and November 2011. A sample of 120 cooperative members was interviewed from eight rural saving and credit cooperatives. These include *Endodo, Meseret, Fikre-Welde*, *Embeba-Hashenge, Fre-Alaje, Hadnet-chelena, Genet Telma and Bruh Tesfa*. The sample cooperatives were selected purposively, i.e., robust financial performance, type of savings products they have (compulsory and voluntary savings) and long years of existence in the sector. A random sample of 120 member was selected using probability proportion to size from the selected cooperatives; with each cooperative's list of members used as the sampling frame. A detailed and structured interview schedule has been prepared and canvassed to all households in selected cooperatives.

The study has utilized primary and secondary, qualitative and quantitative data from different sources. The primary data relating to the socio-economic variables and saving behaviour of the households has been collected by using structured interview. The required secondary data has been collected from Regional and *Woreda* Cooperative Promotion Offices. To draw some important conclusions on the member's saving behaviour, OLS regression model and descriptive statistics like mean, standard deviations and percentage has been used in the analysis. The package used for estimation is SPSS.

Model Specification

To observe rural households saving behaviour, the researcher used regression model. Symbolically the

saving function is expressed as below:

$Y_i = f(X_1, X_2, X_3, \ldots\ldots, X_n)$

Y_i is dependent variable which is household saving and $X_1, X_2, X_3, \ldots\ldots, X_n$ are independent variables. We have used multiple regressions model which is stated as follows:

$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots + \beta_k X_k + \varepsilon_i$

Where, α is intercept and $\beta_i's$ are vector of coefficients, $X_1, X_2, X_3, \ldots\ldots, X_n$ are explanatory variables and ε_i is stochastic random term. The model may have econometric problems like Multicollinearity and Autocorrelation that can be investigated and removed during estimation. Multicollinearity is a problem regarding Ordinary least square Method. If coefficient of correlation between $X_1 \text{and } X_2$ is in excess of 0.80, so there is sever problem of Multicollinearity (Gujarati, 1995). It can be removed by dropping one variable from the regression model. Autocorrelation may also be problem in regression model but in primary or cross sectional study it is not a serious problem (Green, 1992). To examine the determinants of Net Household Savings (NHS= Total Household Savings – Loan Borrowed), we have formulated the following saving model;

NHS =f [GEND, AGE, EDU, HFS, AMBO, THI,YRCM, IRAT]

Variables and Theoretical Expectations

The objective of this study is to analyse cooperative member saving behaviour given the effects of various socio-economic and demographic factors along with income on savings. The factors, whose impact on savings will be examined in this study, are:

Net household saving (NHS): This is the dependent variable and it is the net amount of saving in Birr in a year which the household saved after repay the borrowed money from cooperative. Households with higher income, other things being equal are expected to save a higher amount. Though, other factors also affect this variable as we are going to see later.

Gender of the cooperative member (GEND): The gender of the cooperative member could also be important factor in saving behaviour. This is because gender could determine the income level and the production of the farmer. It could also affect access to other resources which could influence the income and well-being. This variable was expressed as a dummy and female members=1 and male members =0, the expected effect of gender on saving could be positive or negative.

Age of the cooperative member AGE): This is a continuous variable refers to the completed age of the member. It was hypothesized that age have a positive relation with the savings in cooperative. The expected effect of this variable on saving is positive.

Educational of member (EDM): This variable indicates the level of schooling of the member of cooperative. Higher level of education enables a member to acquire information and understand the benefit of saving in cooperative. It is expected, therefore, that a member of cooperative who are literate have a higher probability of saving behaviour than member without schooling.

Household family size (HFS): This is the size of the household family measured in terms of total number of members spouse and children. Since food requirements increases with the number of persons in the household, food and non- food expenditure increases with increase in household size and this could reduce the saving of the household. The expected effect of family size on saving is negative.

Amount of money borrowed (AMBO): This is the total amount that the cooperative members had borrowed from the society in the last one year. This variable is expected to influence the member's participation positively on the assumption that money borrowed improves the financial capacity of members to purchase modern inputs thereby increasing production, which is reflected in the participation and volume of sale. The expected effect of this variable on saving is positive.

Total household income (THI): This refers to the sum total of the earnings of the household in a year from farm and off-farm sources. The income is expected to boost household's food production by increasing access to more productive resources. The expected effect of this variable on saving is positive.

Year of membership in cooperative society (YRME): This is the length of time, measured in year, that the cooperative farmer had been a member of the society. Founding members could have enjoyed certain benefits and trust of the society which could have positive effect on their saving behaviours.

Interest charged on loan borrowed (IRAT): This is the amount of interest to be paid on borrowed money from the society. The rate of interest could encourage or discourage members from borrowing from the society and this could in turn influence their willingness to save money with the society. The interest rate could also affect the society's surplus and dividend to members at the end of a year. The interest was expressed in Birr not in percentage and the expected effect of this variable on saving is positive.

RESULTS AND DISCUSSION

Socio-economic characteristics

It can be seen from table 1 that the mean, minimum,

Table1. Descriptive statistics of households' socioeconomic attributes

Household Features	N	Mean	Minimum	Maximum	Std. Deviation
Sex(1=female, 0=male)	120	0.40	-	-	0.491
Member age	120	32.5	21	59	6.636
Household size	120	4.67	1	10	2.36
Size of landholding	120	1.12	0	2.0	0.819
Total income per year	120	9106	4280	37230	11236
Total expenditure per year	120	4885	2486	23398	2926

maximum, and standard deviation of data series. Of the 120 households, 56.67 % of the members were men while 43.33% were female. The survey data also reveals that the average age of the members was 32.5 years. In the study area, the average family size of the household was 4.67 slightly above the regional (4.3) and below the national average (4.9). Large household size could lead to increase in non-farm business expenses such as payment of school fees, hospital bill, clothing, feeding as well as the purchase of other household consumable items. This could detrimental to increase production in the rural economy, a disinvestment resulting from dis-saving.

It can be observed from table 1 that the average landholding size of the household was1.12 ha. A large proportion of the members (85.83 %) have between 0.5 and 2 ha of farmland; whereas about 10 % of them have more than 2 ha land and only 4.17 % were landless. The major source of income for the cooperative members was from on-farm and off-farm sources. The average income of the household was 9106 Birr per annum. The minimum income of the household was 4280 Birr and the maximum income of the household was 37230 Birr. The survey data as well signifies that the households' annual expenditure varies between 2486 Birr to 23398 Birr; the average annual household expenditure was 4885Birr. With regard to the distribution of expenditures, the largest proportion (71.65%) of household expenditures is utilized mainly for consumption while only (28.35%) is used for productive investment such as agricultural inputs, housing, education, etc.

Level of education

In order to capture the education level of the household, the researcher used the number of schooling years of the household head as an indicator for the human-capital endowment of the whole household. Of the 120 households, 20 % are illiterate, 31.67 % are elementary school graduate, 26.67 % are with junior and secondary school certificate and 21.67% are with higher education. The mean annual savings of members with different educational background of illiterate, elementary, junior and secondary, and higher were 360.25, Birr 480.25, Birr 412.5, and Birr 441.75 respectively. It can be concluded from this trend (see table2) that higher years of schooling are often inversely correlated to household savings. When the educational status of the members was compared sex-wise, women's higher educational status constitutes only 35 %. Junior and secondary education, 46.87 % were men while the proportion of female household with secondary education at most was 53.13 %.

Overall, it can be concluded from table 2 that male members were better educated among the cooperative members. A study executed by (Adeyemo and Bamire, 2005) stated that education improves the quality of labour and the ability to derive, decode and evaluate information. It also exposes the farmer to more investment opportunities. Thus, it is expected to positively influence farmers' savings/investment decisions for improved farm production and increased income levels. However, the descriptive statistics shows that higher educational level negatively correlated with savings.

Years of membership of the cooperative society

Years of members' stay in financial cooperative have a positive contribution towards saving among rural households. The results of the survey show that the average year of membership was four years. This shows that most of the members have not spent more years as member of their cooperative society and therefore they couldn't be acquired enough experience on saving habit.

Amount of money borrowed

As the amount of loan borrowed range increases, the proportion of female cooperative members in each loan group declines (see table 4). On the average, 89.17% of the members have collected loan in the last one year. The largest proportion of the members (46.73 %) have collected loan from their society between 3000 and 6000 Birr. More than quarter (28.04 %) of the members were collected more than 6000 Birr loan and only 25.23 %

Table 2. Specification of household educational

Educational status	Male	Female	Total	Mean annual saving
Illiterate (0 years of education)	14 (58.33%)	10(41.67%)	24	360.25
Elementary (1-4 yrs of education)	22 (57.89%)	16 (42.11%)	38	480.25
Junior and **second**ary (5-12 yrs of education)	15 (46.87%)	17(53.13%)	32	412.50
Higher education (13-16 yrs of education)	17(65.38%)	9(34.62%)	26	441.75

The percentages are calculated based on the specific educational status(horizontally calculated)

Table 3. Years of cooperative membership

Years of membership	Frequency		Percent
1-3	35		29.17
4-7	69		57.50
8 and above	16		13.33
Total	120		100.00
Mean	Minimum	Maximum	Std. Deviation
4.2	3	8	2.197

Table 4. Members borrowed amount and sex distribution

Loan range	Male	Female	Total
Loan is less than 3000 Birr per annum	15(24.59%)	12(26.09%)	27
Loan is between 3000 and 6000 Birr per annum	27(44.26%)	23(50.00%)	50
Loan per annum is greater than 6000 Birr	19(31.15%)	11(23.91%)	30
Total	61(100%)	46(100%)	107

collected below 3000 Birr loan in the last one year.

Member Savings

Since we do not have complete information on all household savings, we investigate mainly financial savings in cooperative (i.e., member voluntary and compulsory savings). From the productive point of view, financial savings are interesting since raising it could potentially increase resources for investment.

The average savings deposit per member per year in the study area was 362.56 Birr during 2009 while the figures were increased between 2010 and 2011 with the value of 421.36 Birr and 565.75 Birr respectively. The maximum, minimum, and the standard deviation of savings trends for the last three years are depicted above. A study by Adeyemo and Akala (1992) pointed out that similar arguments as the annual household income increases, the average amount of savings per month in SCC also increases.

Reasons for savings

Why do households save their valuable money that they not spend on food, water, and other daily expenses? Table 6 displays the multiple possibilities as answer to the saving motives of members. None of the members choose earning interest as a motive to save, from the given alternatives. Unlike what is assumed in theory, households not only save for future consumption but also for future investment. This may explain the reason for insensitivity of saving to interest rates as found in numerous empirical studies. If the households have the opportunity to deposit money at a cooperative, their prime reason is not the inter-temporal substitution motive-earning interest but simply to have access to loan and stored safely. This concurs with the studies by Browning et al. (1996) showing that interest on savings does not motivate saving amongst rural households. The three most common saving motives for both men and female members were: to obtain loans, for emergencies and for housing building. Table 6 shows the distribution

Table 5. A snapshot of the eight RSCCs members' savings

Years	Mean savings (in Birr)	Minimum	Maximum	Std. Deviation
2009	362.56	248	825	121.77
2010	421.36	312	825	147.84
2011	565.75	298	825	180.81
Total	1349.67	90	2400	382.08

Mean savings refers only to deposit savings, not to RSCCOs shares

Table 6. Saving motives for cooperative members

Reasons for savings	Percent
Obtain loans	42%
Emergencies	36%
Housing building	26%
Household appliances	14%
Purchase farm input	11%
Education	6%

of members according to principal reasons for saving. The propensity to save to obtain loan and for emergencies correspond with the result of the study of Karlan et al.(2006) about micro saving in Philippines, which was also for emergencies and loan. These results show that poor households need different types of deposits to deal with different needs. Accessible products such as the voluntary saving accounts allow withdrawals at any time for emergencies, and compulsory saving accounts enable households to accumulate money for expected expenses, such as to obtain loans and housing building.

Determinants of savings among cooperative members

The preceding section has provided some descriptions concerning the relations between saving and household socio-economic variables. However, the weakness of the descriptive statistical analyses is that each determinant has been calculated without varying other determinants. This section analyzes the determinants of household savings behaviour with OLS estimation technique that takes the effects of all determinants at the same time in to account.

Table 7 shows the regression estimates for determinants of savings by cooperative members. The explanatory power of regression model is measured by R^2 (0.46), shows that 46 % of the variations in members net saving were explained by explanatory variables included in the model. The coefficient of total household annual income (THI) was significant and positively related to savings. Results show that one Birr increase in income tends to raise household savings by 0.4687 Birr because households' capacity to save increases with rise in income level. Marginal propensity to save (MPS) for member saving equation is 0.4687 indicates that 46.87% portion of total income is saved per year. Similar positive result were found by Sameroynina (2005); Brata (1999); Khalek et al. (2009); Schrooten and Stephan (2003) showing that income positively influences household savings. The results of the study also show that household savings were affected by gender (GEND). Considering the gender dummy, we conclude that women co-operators save more than men members since the dummy stipulate women as the reference group. The amount of money borrowed has a positive coefficient and significant at 1%, as expected, indicating that a one Birr increases in credit raises the household savings by 0.9428 Birr. Consistent with several empirical studies (Admas and Vogel, 1986; Attanasio, 1998), this finding suggests that the level of saving among rural household positively related with credit. Years of cooperative membership (YRCM) also have a positive and significant at 5%, signifying that the higher the number of years of cooperative membership, the higher the amount of saving. This is because in-built mechanisms that exist among the cooperative members enable them to be able to mobilize savings more than non-cooperative members. One more year of cooperative membership by household; will increases savings by 3286.29 Birr per year.

In our study, the household family size does have significant impact on savings. The coefficient of this variable is negative but significant at 1%. It can be interpreted, as a rise of one family member is associated with decline of savings by 819.07 Birr. It is socially evident as well that only one person is responsible for all type of financial matters for the family in our study area.

Table 7. Determinants of household savings

Variables	Coefficient	Standard Errors	t-values
Constant	4043.21	132.96	11.85
Gender	11761.49	572.94	11.20*
Age	-533.17	34.4443	-1.50*
Member education	-300.47	14.9025	-2.07**
Household size	-819.07	31.2216	-2.77*
Amount of money borrowed	0.9428	1.6894	4.21*
Household income	0.4687	0.0118	6.36*
Years of cooperative membership	3286.29	0.305	2.87**
Interest charge on loan	-6456.32	28.06	-2.56**
R^2	0.46	AdjustedR^2	0.41
Observations	120	Prob(F-statistic)	0.000

Notes: * 1% significance level, ** 5% significance level and *** 10% significance level

If family size is much large households cannot save much amount of money than having small family size. Family size is also a major cause of fewer saving. This result is consistent with Burney and Khan (1992) which suggests that the larger the household size, the higher the expenditure and the smaller the amount of saving by the household. The age of the member is negatively associated with savings in the study area. As age of household increases by 1 year it will result in a decline in household savings by 533.17 Birr. It is expected that, savings by the young member would be diminishing with age as they grow towards and beyond retirement age. This shows that the members lessen their savings, as they grow old. This confirms with the life cycle hypothesis of savings, which claims that a person would be expected to save up to a point and then start dis-saving as he grows old. Consistent with several empirical studies (Rehman et al., 2010; Robinson, 2001), this finding suggests that age of the household is negatively related to household savings.

Cooperative member demographic features such as educational status do have positive effect in the household savings but the results of our study show that this variable is negatively correlated with the dependent variable. The rationale behind such type of relationship may be their preference towards education of their children. Elite household heads would like to spend more on their children's education and wish to provide higher studies. In this way, they spend more and save less. One more year of education is attained by head of household, will reduce savings by 300.47 Birr per year. The interpretation is in line with the literature (Burney and Khan, 1992). In contrast, the interest rate was found negative and insignificant in explaining household saving. This means the variable was negatively correlated with the household savings. In general, gender, household annual income, amount of loan borrowed, year of cooperative membership were statistically significant in determining the amount of savings by cooperative members in the study area.

POLICY RECOMMENDATIONS AND CONCLUSION

The purpose of this paper is to identify the determinants of household saving behaviour in Tigrai region of Ethiopia, using the data available from the household survey for the year 2011. The result of the study showed that savings mobilized is determined by gender, household annual income, amount of loan borrowed and year of cooperative membership. Based on the result obtained, it is recommended that rural cooperative members should be encouraged and enlighten on the need for savings. Also institutions that are involved in development projects need to increase their support to improve the business environment of the rural populations. Such decisions include supporting through revolving funds since cooperatives are more effective and efficient in mobilizing funds with low default rate. This will enable them to expand their production output and increase their savings thereby stimulating the rural economy.

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REFERENCES

Adeyemo R, Akala O (1992). Cooperative Fishermen in the Riverine

area of Nigeria. Int. J. Environ. Manag. 36(4): 27-34.www.unilorin.edu.ng. (downloaded on 02 January 2012).
Adeyemo R, Bamire AS (2005). Saving and Investment Patterns of Cooperative Farmers in South western Nigeria. J. social sci.11(3):183-192.www.krepublishers.com. (downloaded on 11 March 2012).
Admas DW, Vogel RC (1986). Rural financial markets in low-income countries: Recent controversies and lessons. World Development. Elsevier Sci. 14(4): 477- 487.
Attanasio OP (1998). Cohort Analysis of Saving Behaviour by U.S. Households. Journal of Human Resources. 33(3): 575-609.
Baharumshah A, Thanoon MA, Salim R (2003). Saving dynamics in the Asian countries. J. Asian Econ.. 13(6): 827- 845.
Bernhiem BD, Shoven JB (1991). National Saving and Economic Performance. NBER-University of Chicago Press. 131-158.
Besley T(1995). Chapter 36 Savings, credit and insurance. Handbook of Development Economics. 3: 2123-2207.
Beverly S, Sherraden M (1999). Institutional determinants of saving: implications for low-income households and public policy. Journal of Socio-Economics. 28(4): 457-473.
Bhalla S (1978). The role of sources of income and investment opportunities in rural savings. J. Develop. Econ.5(3): 259-281.
Brata AG (1999). Household Saving Behavior: The case of rural industry in Bantul. Analysis CSIS. 28(1): 75-86.
Browning M, Lusardi A (1996). Household Saving: Micro Theories and Micro Facts J. Econ. Literature. 34: 1797-1855.
Burney NA, Khan AH (1992). Socioeconomic Characteristics and Household Savings: An analysis of the Households' Saving behavior in Pakistan. The Pakistan Development Review. 31(1):31-48. .www.econpapers.repec.org. (downloaded on 21 September 2012).
Christensen G (1993). The limits to informal financial intermediation. World Development. 21(5): 721-731.
Deaton A. (1989). Saving in Developing Countries: Theory and review. Proceedings of the World Bank annual conference on development economics. 1: 61-93.
Friedman M (1957). A theory of the consumption function. Princeton: National Bureau of Economic Research.
Greene WH (1992). Econometric Analysis. New York, MacMillan Publishing Company.
Gujarati DN (1995). Basic Econometrics. New York: McGraw Hill, Inc. 3rd Edition. .
Karlan D, Ahraf N, Yin W (2006). Tying Odysseus to the mast: Evidence from a commitment savings product in the Philippines. Universities of Princeton and Harvard, Mimeo.
Khalek TA, Arestoff F, De-Freitas NE, Mage S (2009). A Micro-econometric analysis of Households Saving determinants in Morocco. 1-18.
Kotlikoff LJ, Spivak A (1981). "The Family as an Incomplete Annuities Market." Political Economy 89:372-391.
Modigliani and Brumberg(1954). "Utility Analysis and the Consump-tion Function." In K. K. Kurihara, ed., Post-Keynesian Economics New Brunswick,N.J. Rutgers University Press.
Newman C, Tarp F, Broeck K, Quang C, Khani L (2008). Household saving in Vietnam: insight form a 2006 rural household survey. Vietnam economic management review. 3(1):34-40.
OrbetaJr AC (2006). Children and Household Savings in the Philippines. Philippines Institute for development studies. Discussion Paper Series. 14: 11-22.
Orebiyi JS, Fakayode SB (2005). Determinants of Saving Mobilization by Farmer Cooperators in Kwara State, Nigeria. Int. J. Agric.Rural Dev. 6: 66-73.www.ajol.info. (downloaded on 16 April 2012).
Rehman H, Faridi Z, Bashir F (2010). Households Saving Behavior in Pakistan: A Case of Multan District. Pakistan Journal of Social Sciences (PJSS). 30(1): 17-29.
Robinson MS(2001). Saving Mobilization and Microfinance Enterprise: The Indonesian Experience. West Hartford, Connecticut: Kumarian Press.
Sameroynina Y(2005). Consumption and Saving Behaviour in Russia". The Economics of Saving. . Edited by Gapinski J.H, Kluwer Academic Publishers, London.
Schrooten M, Stephan S(2003). Private Savings in Eastern European EU -Accession Countries: Evidence from a Dynamic Panel DataModel. German Institute for Economic Research, Berlin.
Tesfamariam KS (2011). Management of Savings and Credit Cooperatives from the Perspective of Outreach and Sustainability: Evidence from Southern Tigrai of Ethiopia. Research Journal of Finance and Accounting. 2(7/8): 16-20. www.iiste.org.(downloaded on 17 June 2012)