DETERMINANTS OF SAVING AMONG RURAL HOUSEHOLDS IN ETHIOPIA: THE CASE OF WOLAITA AND Dawro ZONE, SNNPR.

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Abstract

Saving is the most important factor for economic growth. It constitutes the basis for investment, capital formation, growth and development. However, household saving behavior is mainly affected by ability, willingness, and the opportunity to save which is revealed in factors such as income, wealth, dependency ratio, education, age, occupation, interest rates and the level of financial intermediation. Thus, this survey aimed to investigate factors that determine rural households saving in Ethiopia in reference to Wolaita and Dawro Zones. To achieve the objective of the study, cross sectional community based study was employed and the data was collected from both primary and secondary sources. The primary data was collected using questionnaire and interview. The 423 sampled respondents were selected from total population using simple random sampling technique. The collected data was analyzed using simple descriptive statistics, and Tobit model was used to explore factors that affect rural household saving. The finding of the survey revealed that age and inactive family members of household were significant and negatively associated with household saving at 5% significant level. This dictates that as one of these variables increases the households saving decreases. Households’ income, total land holds & interest on saving were significant and positively associated with household saving at 5% significant level. This demonstrates that an increment in one of these variables led to increase in household saving. Therefore, it is recommended that the government and other concerned bodies should provide training for households so as to increase their level, culture and attitude of saving.

Introduction:

Saving is the most important factors of economic growth. It constitutes the basis for investment, capital formation, growth and development of the country. To move third world countries to the path of development, rate of savings must be enhanced. The household's savings contribute a major part of the national savings. It has been found that in any economy the household savings rate is a prime cause for the highs or lows economic development. For the
developing countries including Ethiopian, the household savings rate is a decisive factor of influencing the overall economic scenario.

Adequate saving is important to capital formation and has a direct impact on economic growth and as such are vital for achieving macroeconomic stability (Hailesellasie, Abera et al. 2013). However, there is no enough domestic saving for developing countries and as a result the most of developing countries rely on foreign aid and debt for undertaking their investment. This in turn, increases country's debt burden and cost of capital. Gross domestic savings in Africa averaged only 8 percent of GDP in the 1980s, compared to 23 percent for Southeast Asia and 35 percent in the Newly Industrialized Economies. Aside from being generally low, saving rates of most of the African countries had shown consistent decline in the last thirty years. 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 ((Hailesellasie, Abera et al., 2013). The saving habit of developing countries also has been hindered by different factors such as inadequate financial service, physical distance from financial institution, little incentive to save, low interest rate and lack of adequate income to save (Ondiege, 2012). The most of population has no experience of modern saving as they still keep most of their saving in livestock, stockpiles of good, grain, jewelers and about 80% of all household asset in Africa is non-financial form.

The act of saving is influenced by several variables like the perception of saving for those who save, their assessment of its costs and benefits, their age, family size and structure, objectives or motivations for saving, environment, etc. Different households perceive saving differently. For some, saving is money reserved for future needs, whereas for some others it is surplus of income over expenditure and still for others it is purchase of land, construction of buildings, consumer durables or other household goods. When saving is perceived as money reserved for future needs it implies a deliberate decision on saving, rather than being a residue. This deliberate decision on the part of the households to save for meeting the future needs depends on many factors namely, the determinants of saving which includes the factors that affect both the ability to save and the will to save. Thus, this study tried to examine major determinants of savings behavior of rural households in Wolaita and Dawro zones which have not been well investigated in the study area.

**Statement of the problem:-**

Saving is a very important component which is responsible for combating or meeting any emergency accrued by the individuals or the households or any corporate agencies. Saving is more of means for meeting contingencies but sometimes it also acts as a form of investment. But sometimes people are not inclined towards saving and the very delicate reason is lack of awareness. Aggregate saving for any economy is dependent on a number of variables. For effective economic planning, the planners should have an idea about the volume of saving for different groups of people and the method by which saving can be improved more in a better way. To advocate appeals to saving, there is a need to know about the saving motives of the individuals (Nayak, 2013).

In developing countries, economic fluctuations and climate risk lead to important income variations and leave the households vulnerable to severe hardship. Moreover, their social coverage is restricted and the credit and insurance markets are not well developed. Thus, these countries often face saving allocation problems and have difficulties to develop productive investments (Ebissa and Kassie). The saving habit of developing countries has been hindered also by different factors such as inadequate financial service, physical distance from financial institution, little incentive to save, low interest rate and lack of adequate income to save (Ondiege, 2012).

According to Mirach and Hailu, 2014 a serious problem confronting developing countries including Ethiopia is savings and investment gap. Because of this gap, these countries faced challenges to finance investments needed for growth of domestic saving. It is also common to see in these countries to finance their investment in the short run partly through domestic government borrowings and/or foreign loan and grants but this can significantly increase debt burden and cannot be a solution in the long run.

The saving level in Ethiopia particularly in rural areas is very low and little is known empirically about its patterns and determinants. Savings in rural Ethiopia are mainly made out of the income from agricultural activities. It is also characterized as seasonal and irregular as the cash flow through sale of agricultural product and availability of work is seasonal. This reduces their financial capacity to save or poorly respond for incentives that promote savings in the country (Teshome, Kassa et al., 2013).
However, rural households do indeed save in the form of tangible assets and/or in financial forms which can be potentially utilized by savings institutions and for investments which is very essential for both households and national well-being (Dimova and Sen 2010; Karlan, Morduch et al., 2010).

Hence, this study tried to investigate determinants rural household’s saving in Wolaita and Dawro zone which has been less addressed.

**Objectives of the study:**

**General Objective:**
The general objective of this study was to investigate determinants of saving among rural households in Ethiopia in reference to Wolaita and Dawro Zones, SNNPR.

**Specific Objectives**
The specific objectives of the study were:
1. To identify the demographic factors that affects rural household saving
2. To explore economic factors affecting rural household saving

**Limitations of the study**
The first and foremost limitation of the research was that the survey confined only to Wolaita and Dawro Zone, thus conclusion and recommendation drawn for this study does not include another area. In addition, reluctance of some respondents was another limitation throughout research study.

**Materials and Methods:**

**The Study Area**
Wolaita and Dawro zones are located in the Southern Nation, Nationalities and People Regional (SNNPR), southern part of Ethiopia. Wolaita zone is bordered on the south by Gamo Gofa Zone, on the west by the Omo River which separates it from Dawro, on the northwest by Kembata Tembaro, on the north by Hadiya, on the northeast by the Oromia Region, on the east by the Bilate River which separates it from Sidama zone, and on the south east by the Lake Abaya which separates it from Oromia Region. Its distance 390 km away from Addis Ababa through Hosanna and 329 km Shashamane and 166km from Hawassa the regional capital city . It is astronomical location is much North longitude and 37 east longitude and 6 51 " 81 “N 37'40 ' 5 " E elevation. Dawro is bordered on the south by Gamo Gofa Zone, on the west by the Konta special woreda’s, on the north by the Gojeb River which defines its boundary with the Oromia Region, on the northeast by Hadiya and Kembata Tembaro Zones, and on the east by Wolaita Zone; the Omo River defines its eastern and southern boundaries. The administrative center of Dawro was Waka before it was transferred to Tarcha town.

**Study Design**
A cross sectional community based study was employed to assess factors affecting the rural household saving in Wolaita and Dawro zones. The study was carried out using both qualitative and quantitative approach. 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.

**Data Types and Sources**
The study was used both quantitative and qualitative data types. Besides, both primary and secondary sources of data were 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, articles, journals and websites. Furthermore, the secondary data sources were collected from documents of various agencies such as Zonal finance and economic development office, Central Statistics Authority (CSA), Woreda Agricultural and Development office and Woreda Administrative Office.

**Sample size and Sampling technique**
The target populations of the study were households of the selected Woreda’s of Wolaita and Dawro Zones. At large multi-stage sampling method was used to identify woredas and kebeles that were included in the study. From both of the zones researchers have selected woredas randomly, and then the kebeles were selected from woreda at second
stage by using lottery method. At final stage, from the each identified kebele actual sampled respondents were selected. As a result, 423 sampled households were used as a source of primary data from the selected kebeles. The sample size was determined based on the formula used in the (Dixon and Leach 1978). Accordingly, the sample size “n” is determined as follows:-
\[ n = \frac{p(1-p)z^2}{d^2} + 2\% \]
Where;
- \( n \) = 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%)
- \( \alpha \) = the area under the normal curve to the left or right of \( Z \), \( \alpha=0.05 \) (\( za/2=1.96 \))
- \( d \) = the a maximum acceptable error, i.e. \( d= 0.05 \)
- 10% = contingency value.
\[ n=\frac{0.5(1-0.5)(1.96)^2}{(0.05)^2} + 10\% = 422.576\approx 423 \]

The model specification and definition of variable
To investigate the determinants of households’ savings the researchers intended to employ Tobit model. The Tobit model is originally developed by James Tobin, the Nobel laureate economist in 1958. This model is chosen because saving tends to be censored at lower limit of zero (Maddala and Lahiri 1992, Grogan-Kaylor, Ruffolo et al. 2008, Gujarati 2009). To explain this model, researchers continue with our saving behavior of households. In the Tobit model our interest is to find out the amount of money a household keeps on saving in relation to different factors. Now we face a dilemma here: If household does not save, obviously we have no data onto saving for such household; we have data only on household that actually saves part of their disposable income.

Thus, households were divided into two group, one consisting of, say, \( N_1 \) households about whom we have information on the regressors (say, income of the household, wealth of the household, age of the household head, sex of the household head, awareness of the household, etc.) as well as the regressand (amount of saving) and another consisting of \( N_2 \) households about whom we have information only on the regressors but not on the regressand. A sample in which information on the regressand is available only for some observations is known as a censored sample. Therefore, the Tobit model is also known as a censored regression model. Some authors call such models limited dependent variable regression models because of the restriction put on the values taken by the regressand (Gujarati, 2004).

Statistically, we can express the Tobit model as:
\[ Y_i = \beta_0 + \beta_1 X_{i1} + \mu_i \]

Where, \( Y_i \) — Observed saving of households, which takes zero and any positive value. If the household is not saving, \( Y_i \) takes zero value (i.e saving censored from below), and if the household is saving considerable share of their disposable income \( Y_i \) takes continuous positive values.
- \( \beta_0 \) — the intercepts term
- \( \beta_1 \) — are partial slope coefficients of the explanatory variables, \( i=1,2,3,\ldots, K \)
- \( X_{i1} \) — the explanatory variables that determine saving culture of households, like Income of the household, Wealth of the household, Age of the household head, sex of household head, etc. \( i=1, 2, 3,\ldots, K \)
- \( \mu_i \) —the error (disturbance) term

Instruments of data collection
Pre-test structured questionnaire was used to collect information on households’ demographic and socio-economic characteristics of the households and access to financial institutions and the changing patterns of saving behaviors in rural households. In this survey scheduled questionnaires were used because most of households cannot write and read. It also gives full demographic details of households, the status of individuals, and data on education, age, family relations. Then, five enumerators were selected based on their proficiency in communicating using local language, educational background and prior exposure to similar works.
Method of Data Processing and Analysis
Upon completion of the fieldwork, the household data was coded, entered into STATA software Version 14 and cleaned and verified. To analysis quantitative data Tobit regression model was used. In addition, simple descriptive statistics such as percentage, frequency and table were employed to summarize the collected data. Qualitative data was analyzed by transcribing informants’ ideas and views through narrative and descriptive approaches, and helps to capture the aspects of the research that could not be done through the quantitative method and useful to relate research findings to the data derived from the literature reviews and primary sources.

Reliability, Validity and Ethical Consideration
To test reliability of the questions, Cronbach's Alpha was used to check for internal consistency. Pilot tests were conducted using convenience sampling technique to see validity of the instruments of data collection. During this study, first official letter was obtained from Wolaita Sodo University that signifies the legality of the study and the research participants were asked to cooperate during data collection. Secondly, the Wolaita Zone and Woreda administration was written a letter of support for the researchers and data collectors to collect the necessary information from the target population. Thirdly, the sampled households were informed before responding to the questions; their responses would be kept secret and used only for the objectives of the study. They are also informed that they have full right not to participate in the study at all or not respond to any question .Thus, selected voluntary household heads have been participated in the study and the questionnaire was administered to them based on their verbal consent.

Result and Discussions:-
Personal and Socio-demographic characteristics of respondents

Table 1:- Personal and Socio-demographic characteristics of respondents

| Item       | Category     | Frequency | Percent | Average saving (Birr) | Min | Max  |
|------------|--------------|-----------|---------|-----------------------|-----|------|
| Gender     | Male         | 356       | 84.2    | 1436.544              | 0   | 22888|
|            | Female       | 67        | 15.8    | 799.194               | 0   | 6000 |
| Occupation | Salary       | 54        | 12.8    | 1790.486              | 0   | 17000|
|            | Causal worker| 24        | 5.7     | 2955.875              | 0   | 11030|
|            | Self employed| 178      | 36.6    | 1511.213              | 0   | 17050|
|            | Unemployed   | 125       | 0.71    | 696.752               | 0   | 22888|
|            | Pensioner    | 13        | 2.36    | 1172.077              | 0   | 9005 |
|            | Farmer       | 30        | 41.8    | 914.6                 | 0   | 10240|

Sex of household is an important factor that determines household saving. Accordingly, a total of 423 respondents were enrolled in the study, of 84 % (356) respondents were males while 15.8 % (67) respondents were females. The analyzed data revealed that male household head save more parts of their disposable income than women do with average saving of Birr 1436.544 (minimum 0 and maximum 22888). With regard to occupation, of the total sampled household 41.8 % (177) were farmers, 36.6 % (155) were self-employed, 12.8% (54) were causal worker, 5.7 % (24) were salary earner and the remaining 13 % were pensioner and unemployed. The finding confirmed that households who participate in causal work save more part of their disposable than other worker because they have fear of work insecurity in the future.

Age and Household size of respondents

Table 2:- Age and Household size respondents

| Variable  | Observation | Mean   | Std. Dev. | Min | Max  |
|-----------|-------------|--------|-----------|-----|------|
| Age       | 423         | 42.74  | 10.138    | 20  | 100  |
| Household | 423         | 6.24   | 2.483     | 2   | 13   |

The average age of household heads was 42.74 years with the minimum and maximum ages of 20 and 100 years with standard deviation of 10.138 years. The age of household has significant impact on household saving. The result of the study showed that, as age of household increases saving performance of the household decreases. With regard to household size, mean family size of sampled respondents was 6.24 with ± SD (2.483), (minimum 2 and maximum 13). Household family sizes negatively associated with household saving. This revealed that increase to households’ family size lead to decreases in household saving and vice versa.
### Marital Status

#### Table 3: Marital status of respondents

| Item       | Category     | Obs  | Percent | Average saving (Birr) | Std. Dev. | Min  | Max      |
|------------|--------------|------|---------|-----------------------|-----------|-------|----------|
| Marital status | Married      | 334  | 78.96   | 3061                  | 2928.537  | 0     | 22888    |
|            | Single       | 20   | 4.73    | 1381.89               | 5176.657  | 0     | 17000    |
|            | Divorced     | 40   | 9.46    | 515.6                 | 511.3951  | 0     | 2560     |
|            | Widowed      | 30   | 7.1     | 766.5667              | 985.5385  | 0     | 4000     |

The marital status household is another important factor that affects household saving. As shown in the above table, 78.96 % (334) of respondents were married, 4.73 % (20) were single while the rest 9.46 % (40) and 7.1% (30) 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 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.

### Educational background of respondents

#### Figure 1: Educational background of respondents

With regard to education background of the households, the researchers were used the number of schooling years of the household head as an indicator of household saving. Of the 423 households, 29.1 % are not attending formal education, 33.8 % are elementary school graduate, 26.67 % are secondary and preparatory school graduate and 4 % are certificate and above holder. The result of survey showed that as education level of sampled respondents increases the saving level of household increases. This finding concurs with survey conducted by (Ashiku and Oldashi 2017) states that as the level of education increased the awareness of households concerning saving also to increase. Several studies conducted in Africa revealed a similar finding where highly educated individuals tend to have higher saving habits Beverly and Clancy (2001), Timerga, Gotu et al. (2011) and in India similar result is obtained Timerga, Gotu et al., (2011). In contrast, one study from Nigeria educational qualifications is not a determining factor of savings habits (Girei, Dire et al. 2013). This contradiction occurs because in Ethiopia mainly the poorest people have less educational level implied that less saving habits.

### Factors influence household saving

As it is shown in Table 3, gender of household significantly affect household saving at 1 %. The result of previous study by (Souksavang, 2013) indicates that female headed households seemed to spend much of their money on cosmetics, jewelers, clothes and crockery, thus they cannot save more. This finding is also consistent with the studies by (Ahmad and Asghar 2004, Gedela 2012, Kostakis 2012) indicated that the male headed household saved more than female headed households.
The other factor that determines of household saving is the age of the household head. The result of study depicted that the age of the household is negatively associated with household savings. As the age of household increases by one year it will result in decline in household savings by 41.38 Birr. This revealed that the household saving declines, as household age grow old. The finding contradicts with study conducted by (Mirach and Hailu 2014) stated age of individuals has no any impact on the saving habits whereas result is consistent with (Anang, Dawuda et al. 2015) stated that the age of the participants had an effect on the saving habits. Hailesellasie, Abera et al., (2013) showed that as the higher the old aged population in the nation increases the saving performance in the economy decreases.

The education status of household positively related to household saving. As an education of household increases by one year it will result in an increase in household savings by 22.78 Birr. Education level of household is positively associated with household saving; those who are engaged in lower employment have low educational qualifications where as those with higher education are engaged in higher income occupations (Bernheim and Garrett, 2003).

In this study, both active and inactive member of household is negatively associated to savings of level of the household. The coefficient of the active member of household is negative and insignificant in the analysis of household saving. It can be inferred that as active family members increases by one the household saving decline by 83.12 Birr. Similarly, the coefficient of the inactive member of household is negative and significant at 1 %. This infers that an increment of inactive family members by one will lead to a decline in household saving by 400.87 Birr. The finding is concurring with study by (Leff 1969) the children below 14 and people above 65 years contribute nothing to the saving rather they just consume. Similarly other study undertaken by (Ali, Ahmad et al., 1997) disclosing that dependency ratio has a negative relation with that of saving nature of the households. This shows that, as a household size increases saving level of the household decreases. The finding is also consistent with study conducted by (Nayak, Subhashree, 2013) revealed large family size leads to low savings as the maximum part of the income are spent on the consumption of the family. Small family size leads to more inclination of the family members towards savings.

In this study, total land size holds by household do have significant impact on savings level of household. The total land size is positively related to household savings and significant at 5%. That is, as land size increases by one hectare saving performance of household increases by 222.41 Birr. The land size hold shows the economic ability of household as it acts as an economic unit for any physical asset to be considered. The land reflects the accumulated saving, capital transfer and revaluation of assets.

The result of the current survey discloses that disposable income of household is positively correlated to household saving and significant at 1%. This showed that, as a household income increases the saving level of the household also increases. The result is in accord with previous study by 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. This result is also consistent with the other empirical studies by Horioka and Wan,(2007), Qin and Ndiege, (2013). The interest rate was also found positive and significant in determining household saving at 1%. This means the variable was positively correlated with the household savings. As saving interest increase by 1 % the saving performance of household increases by 843.33 Birr.

Table 4:- Tobit Estimates of Household saving

| Amount saved   | Coef.  | Std. Err. | t     | P>t  | [95% Conf. Interval] |
|----------------|--------|-----------|-------|------|----------------------|
| Gender         | -1348.801* | 495.3744  | -2.72 | 0.007 | -375.0178 -2322.585  |
| Age            | -41.38121 ** | 20.63234  | -2.01 | 0.046 | -81.93928 -8231405   |
| Education      | 22.74882  | 49.91641  | 0.46  | 0.649 | -75.37449 120.8721   |
| Occupation     | 47.1115   | -143.3585 | -0.33 | 0.743 | -328.9189 234.6959   |
| Active         | -83.12141 | 111.1118  | -0.75 | 0.455 | -301.5396 135.2968   |
| Inactive       | -400.8759* | 113.3936  | -3.54 | 0.000 | -623.7796 -177.9722  |
| Total land     | 222.4167  | 112.4396  | 1.98  | 0.049 | 1.388277 443.4452    |
| Livestock      | -21.54032 | 17.58102  | -1.23 | 0.221 | 56.10026 13.01962    |
| Access to Financial institutions in Km | -72.74254 *** | 40.71523  | -1.79 | 0.075 | -152.7786 7.293528  |
| Payment for telephone | -0.4404873 | 4.239456  | -0.10 | 0.917 | -8.774209 7.893235   |
| Household income | 1.323091* | .4245544  | 3.12  | 0.002 | 4885225 2.15766      |
### Conclusion and Recommendations:

**Conclusion**
The study was conducted to explore determinants of rural households saving. The finding of survey revealed gender, age, household’s family size (both active and inactive) and access to financial institution in kilometers was negatively associated with household saving. This indicated that as one of these variables increases household saving decreases. Households’ income, total land size, occupation, interest and education level of respondents were positively associated with rural household saving. This shows an increment in one of these variables led to increment to rural household saving.

**Recommendations**
The household saving status could be improved through several ways. Based on the finding of the study, the following recommendations were drawn:

- The study showed that age of households is negatively related with households saving, thus, the households should save more portion of their disposable income during their productive age.
- Since the distance from financial institution inversely related to households saving the government and other concerned bodies should responsible to build finance institution in the area that convenient to the households.
- The family size also negatively related to households saving, the households size must be managed through using family planning and other strategies.
- Households’ income, interest and education level of the respondents were positively associated with household saving so government should encourage households saving through diversifying their source of income, escalating their educational endeavor both formal and informal and increasing interest of saving.
- Finally, it is recommended that the government and other concerned bodies should provide capacity building training on awareness, culture and attitude of saving to boost the level of rural households’ saving.

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