

# Determinant Of Saving Performance Of Women Headed Households In Bahirdar City.

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**Abstract:** *Saving represents one of the most predictable determinants of personal and economic development. It is a strategic variable in achieving financial security growth affecting both individual and national wellbeing. However saving level in Ethiopia is limited and little known empirically about determinants of saving performance of women headed households. This study was initiated with the objective of identifying major determinant of saving performance of women headed households in Bahir Dar city. For the purpose of the study cross sectional data was used. Interview was used to collect the data from 409 sample households. The study employed both qualitative and quantitative censored tobit economic regression model methods to measure the relationship between women household heads saving and independent variables. The descriptive method of the analysis shows that among total respondents, 64.74 % of women household heads have no saving experience and 35.26% of respondents have involved in saving exercise from their disposable income. Low level of income, low level of financial knowledge and upland expenditure with constant source of income is among main causes of that does not save help women save properly. The quantitative analysis of study shows that occupation; house ownership status, financial literacy level, occupation and income can significantly and positively influence the probability to save of women household heads whereas family size and age is negatively and significantly affect women household heads saving. Hence financial institution especially banks, governments, academicians and policy makers should take their responsibility to encourage women headed household saving which reflect by improving income of households, incentives, use of financial planning for consumption and expenditure, housing status of households, family sizes and stabilize the price of goods and services.*

**Keywords:** women headed Household, saving, Determinant of women headed household saving.



BAHIRDAR DAR UNIVERSITY  
COLLEGE OF BUSINESS AND ECONOMICS  
DEPARTMENT OF ECONOMICS

DETERMINANT OF SAVING PERFORMANCE OF WOMEN HEADED HOUSEHOLDS IN BAHIRDAR CITY.

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JANUARY 2020  
BAHIR DAR, ETHIOPIA

BAHIR DAR UNIVERSITY  
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DETERMINANT OF SAVING PERFORMANCE OF WOMEN HEADED HOUSEHOLDS IN BAHIRDAR CITY

MSc THESIS

BY

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## DECLARATION

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**LIST OF ACRONYMS AND ABBREVIATIONS**

AIH = Absolute Income Hypothesis  
LCH = Life Cycle Hypothesis  
PIH = Permanent Income Hypothesis  
RIH = Relative Income Hypothesis  
MPS = Marginal Propensity to Save  
CSA = Central Statistics Authority  
MoFED = Ministry of Finance and Economic Development  
GDP = Growth Domestic Product  
SSA = Sub Sahara African  
OLS = Ordinary Leas Square  
ARNS= Amhara Reginal National State  
HH- Households.  
WHH- Women Headed Households.  
BOFED - BUREAU of finance and economic survey from

**ABSTRACT**

Saving represents one of the most predictable determinants of personal and economic development. It is a strategic variable in achieving financial security growth affecting both individual and national wellbeing. However saving level in Ethiopia is limited and little known empirically about determinants of saving performance of women headed households. This study was initiated with the objective of identifying major determinant of saving performance of women headed households in Bahir Dar city. For the purpose of the study cross sectional data was used. Interview was used to collect the data from 409 sample households. The study employed both qualitative and quantitative censored tobit economic regression model methods to measure the relationship between women household heads saving and independent variables.

The descriptive method of the analysis shows that among total respondents, 64.74 % of women household heads have no saving experience and 35.26% of respondents have involved in saving exercise from their disposable income. Low level of income, low level of financial knowledge and upland expenditure with constant source of income is among main causes of that does not save help women save properly.

The quantitative analysis of study shows that occupation; house ownership status, financial literacy level, occupation and income can significantly and positively influence the probability to save of women household heads whereas family size and age is negatively and significantly affect women household heads saving.

Hence financial institution especially banks, governments, academicians and policy makers should take their responsibility to encourage women headed household saving which reflect by improving income of households, incentives, use of financial planning for consumption and expenditure, housing status of households, family sizes and stabilize the price of goods and services.

**Key words:** women headed Household, saving, Determinant of women headed household saving.

## CHAPTER ONE

### 1.1 Background of the Study

Saving is a vital feature of any individual, household and government when under the time of emergency and economic shock (Tsega H. & Yemane M. 2015). A high saving culture is important for sustainable development of any economy. There is positive relationship between saving and economic growth (Michael, 2013). Countries having higher level of saving rates and moderate economic growth as well as low burden of foreign debt and domestic investment can be financed by domestic saving. Among the types of savings, household saving, which is done by male and female household heads, is usually the largest component of domestic saving in developing countries (Nayak, 2013). Saving made by individuals and households will be channeled by financial institutions to finance domestic's investments. Those investments will benefit the nation by increasing productivity, creating employment opportunity and increasing their economic growth at large (Tadele M, 2015). But due to low level of domestic saving, developing countries transmit on foreign direct investment as alternative sources of financing domestic investment.

Nowadays, the sex of household heads is becoming one of the most important aspects of policy makers in the world. Statistics show that, the last two decades women have started to depart from their traditional secondary role in the family, very often being at the head of the households (Akyilai M, 2016).

Women are half of the world's population, but their contribution involvement in economic activities and hence their contribution to economic growth is below its potential especially on the financial sector (Wubante, A, 2015). Some of the earlier studies (N, Naryana, sited from Conley & Ryvicker, 2003) show that, male headed household's asset is three times larger than the asset of women headed households. The problem is exacerbating in developing economies, especially in sub-Saharan African countries. Women also use their income to meet a variety of household and personal expenses and thus will be left with little or nothing to save, for instance Widows take over the responsibility of educating their children and attending to other family problems and therefore pay little or no attention to future saving (N,Narayana ,M 2015). This is partly because, women face challenges and obstacles that make it difficult for them to be financially prepared for their present and future life (Tsigereda, 2014). This means where assessed the depth and width of the saving culture of women headed households and its lively effect on economic importance is neglected including in the study area.

In addition to this, saving culture of women headed households is still regarded as poor despite performance improvement of saving rate. Knowing this fact, the country has planned to promote saving habit among citizens so as to mobilize adequate saving in since the last five years, especially by dominated groups like women. But, even if there is some progress on saving mobilization, domestic resource mobilization is still the main problem of the country especially in women headed households. These low levels of saving performance of women contribute to the limited resource mobilization for investment and growth. Therefore, these problems aroused the need to investigate factors that determine women headed households saving decision in Ethiopia especially in Bahir Dar city.

### 1.2 Statement of problem

Understanding the nature of household saving performance is critical in designing policies to promote saving and investment (Tadele m, cited from Muradoglu and Taskin, 1996). Households' saving is important to insure financial security of households and serves as insurance at the time of shocks. But given the differences in the demographic, social, economic environment and other factors of the households, there should be substantial variation in the household saving performance. Although the global household saving is increasing from time to time, the situation is not the same in most African and sub-Sahara countries especially in Ethiopia. Girma et.al. (2013) noted that the serious problem of poor countries is the savings and investment gap.

Because of this gap, these countries faced difficulties to finance investments from domestic saving. As a result, low level of household savings is said to be one of the reasons for slow and stagnant economic growth in the developing countries.

Domestic saving rate is very low in the Sub-Sahara African countries compared to other developing countries and Ethiopia is one of these countries experiencing severe domestic resource gap (Abay, 2011). The ratio of domestic saving to the gross domestic product (GDP) indicates the poor performance saving in Ethiopia. For example, the ratio of domestic saving to gross domestic product (GDP) from 2010 to 2015 on average was 19.3, which indicates the poor performance saving in Ethiopia (MoFED, 2015).which is below the average saving growth rate of the sub-Saharan African countries which is 30% of their GDP. This domestic saving is not enough to meet the financial requirement to cover the full the investment cost and this forced the country to look for foreign aid and foreign direct investment. In this context, polices to promote domestic saving in household sector would increase focus.

The sex of household heads is one of the most important aspects for policy makers as makes clear the socio economic inequality of any country in the world (Forum for street children-Ethiopian 1998). It is also an arguable idea that women headed households have less

Women as they get and spend on more fashions, which are subject to periodic changes making them viable to less house owner ship and high cost of living, spending luxury products (Workneh, 2014). When households are headed by women, it is generally hypothesized that these households are more likely to be economically deprived (Forum for street children-Ethiopia 1998). On the other hand they take all risk of child bearing, hence spending on the families and less costly they are better in household management (Nathridee and Piyarat K, 2015).

Most of the studies conducted on saving in Ethiopia focused on macro level of saving, which does not recognize the real features that reflect the diversity of saving performance. In this regard micro level analysis is better than macro analysis as it focus on household level as a whole. It is necessary to categorize households in different setups such as urban and rural areas and female headed and male headed households.

In fact there are some empirical studies conducted on the determinants of household savings in Ethiopia at micro level including such as, factors affecting individual saving in Dire-Dawa (Gebrekirstos, 2016), analysis of saving habits of employees ( Yegnanew Alem, 2011), saving habit and its determinates in Amhara National Regional State (a, e,h,z.,2017) among others , which are focused on factories that affect the saving performance of households and trade groups and most of them used descriptive statistics methods. From the total population of Ethiopian households 28 percent were headed by women ( CSA, 2009/2010). These gaps make the first move for the researcher to investigate the saving performance of female headed households in Ethiopia in general and in Bahir Dar city in particular.

Using this Ethiopian government says that “poverty reduction in any nation is unthinkable without the proper economic empowerment of women in all activities”. To this end, the government tries to motivate female headed households through its poverty reduction & alleviation schemes by establish women associations and providing training so that they participate in a business of their choice. These women can benefit from the fruits of their effort if they have good financial knowledge and especially good saving performance.

Despite all, no previous studies were conducted on the issue in Bahir Dar city and still many female headed households are suffering from constraints related to low economic empowerment. Therefore, this study tried to investigate the determinants of saving performance of urban female headed households in Bahir Dar city using Tobit model with most important variables by using the subsequent theoretical back ground.

### **1.3 Research question**

#### **1.3.1 Central Research Question**

What are the main determinants of the saving performance of women headed head households in bahirdar city.

#### **1.3.2 Specific Research Question**

- What is the saving habit of female headed households in Bahir Dar city?
- What are main motives of saving of female headed households in Bahir Dar city to save?
- What is the extent of women headed household saving and its utilization in the city

#### **1.3.3 Objectives of the Study**

##### **1.3.4 General objective of the study**

The general objective was analyzing the determinants of saving performance of women headed households in Bahir Dar city.

##### **1.3.5 Specific objective of the study**

The specific objectives of this study were:-

- To investigate the saving habit of female headed households in Bahir Dar city.
- To examine the main motives of saving of female headed households in Bahir Dar city.
- To explore the extent of women headed household saving and its utilization in the city

### **1.4 Significance of the study**

The importance of the study was dual: first, to investigate saving performance of women headed households in Bahir Dar and provide a useful insight to policy makers in order to guide decisions that aim to promote increased women saving, consequently investments, which are key for economic growth (Muradoglu & Taskin, 1996).

There is limited empirical literature regarding women headed household saving in Ethiopia in general and in ARNS in particular so, this paper seeks to add a scientific view regarding the determinant of women headed household saving performance in Bahir Dar and to close the knowledge gap regarding women saving in Ethiopia. Second, it helps for further study.

### **1.5 Scope of the study**

Conducting the study in the entire city i.e. Bahirdar city would have given a better picture of the situation of women in terms of their performance of saving. However, due to time, financial and other resource constraints conducting the study at such a wider scale was difficult, if not impossible. Therefore, the study was delimited to only in nine sub city. Moreover, the major variables that were considered in the study as factors that affect saving performance of women in the study area. The time frame included in the study of this investigation ranges from April 2017 to January, 2018.

### **1.6 Limitation of the study**

It is undeniable that limitation could happen due to controllable or/and uncontrollable factors and even it could come from the purpose and design of the research. However efforts have been made, limitations related to the following are expected:

Due to lack of availability of the women head of household as some of them changing their living address, data received from other households are may change result of the study.

Since nature of research with regard to income and saving is considered to be sensitive, there is also exist errors in the data collecting because of lack of cooperation among respondents and respondents hesitate to give exact amount of saving and income because of conservative attitude.

The study is also limited to Bahir Dar city; it is difficult to generalize for determinant of saving performance women headed households in Ethiopia.

### **1.7 Organization of the study**

This study consisted of five chapters; the first chapter contains background of the study, statement of the problem, research questions, objective of the study, and significance of the study, limitations and organization of the study. The second chapter deals with review of related theoretical literature and empirical literature. Chapter three shows the research methodology that includes description study area, data collection procedures and methods analysis in the research process. And this indicates the methods of data gathering, the instruments that was employ, techniques of sampling, organizing and analyzing method. Chapter four was discusses the finding and result of the study. Finally, chapter five deals with major findings, conclusion and the recommendation of the study.

## **CHAPTER TWO**

### **2. RELATED LITERATURE REVIEW**

#### **2.1 Conceptualization**

Saving is important to all people, especially to groups like women who are traditionally more economically exploited and weak due to existing and historical societal discrimination. In many homes women are responsible for worker in the family; they also often have primary responsibility for the care of children. However, women earn less than men; women have less lifetime earnings and retirement savings in relative to men. On the other side some peoples assume that they are extravagant due to consuming of luxury and expensive goods and services in relative to men's. currently some researchers point out in recent time women to be equalize with men by economically, socially, politically will take 100 years.

From this point of view this chapter is concerned with conceptual definitions of concepts and terms, theoretical analysis, empirical literature review, research gap identified as well as conceptual and theoretical frameworks. On the other hand, empirical review attempts to explain the gaps in previous researches on related subjects and hence try to bridge the gaps in accordance to the objective of the study.

#### **2.2 Concept Definition**

##### **2.2.1 Saving**

According to classical economics,  $S = Y - C$ . where Y is disposable income, C is consumption and S is saving. Hence, saving is the part of one's current income that is not consumed, thus postponed consumption (Deaton, 1992). In today's world, saving is generally the act of putting aside nominal currency for future use. Saving is a flow concept and its magnitude measured with reference to a particular time such as in a day, month, year, etc. Savings the rate at which people save is termed "Marginal propensity to save". It is usually the coefficient of income variable in regression analysis. It shows how much savings rises when unit of income increases. For clarification purpose, the definition of savings in this study considers "cash that is set aside" from monthly income.

##### **2.2.2 Urban Women headed households**

Women headed households are those usually headed females that are by widows or unmarried divorced or separated women with level of economic contribution of female to household her age is greater than eighteen years up to sixty years. (Fuwa, 1999).therefore this definition is used for this study.

##### **2.2.3 Households**

Households are a person or a group of two or more persons leaving together who make common dish or provision for food or other essentials for living (n, narayana,m.k 2015).

##### **2.2.4 Household Saving**

Savings done by or accrued by the individual members in a household consists of household saving. The household saving contributes to a larger share in the developing economy which comprises of the individuals saving performance at a larger scale including the financial as well as the nonfinancial assets (Ibid).

### **2.3 Theoretical Review of Literature**

#### **2.3.1 Theory of Saving**

There are two theoretical sides when it comes to household savings in general; one focuses on personal distribution of income and the other on functional distribution of income (Loayza et al., 2000).

##### **2.3.2 Absolute Income Hypothesis (AIH)**

Most studies that have been done both in the developed countries and in the less developed countries have emphasized the dominant role that income plays as one of the determinants of savings. Keynes (1936) analyze consumption and saving to the level of income through the concept of the Marginal Propensity to consumption (MPC) or (or savings) function. He examines the relationship between income and consumption, and states that the consumption level of a household depends on its absolute level (current level) of income. As income rises, the theory states that, consumption will also rise but not necessarily at the same rate. The idea is that saving is only possible, if someone has more than enough to meet the basic needs. This means that someone can only save what is left over once essentials have been paid for (Ottoo, 2009, cited in Michael, 2013).



### **2.3.3 The Life Cycle Hypothesis (LCH)**

One of the major determinants of savings ratio is the growth of income as suggested by the life-cycle hypothesis of savings. The life-cycle hypothesis was proposed by Ando and Modigliani (1963) and provides a theoretical framework of most determinants of saving performance used in recent empirical studies. This theory presumes that individuals base consumption on a constant percentage of their anticipated life income. An example supporting the hypothesis is that people save for retirement while they are earning a regular income (rather than spending it all when it is earned). This simple theory leads to important and non-obvious predictions about the economy as a whole, that national saving depends on the rate of growth of national income, not its level, and that the level of wealth in the economy bears a simple relation to the length of the retirement span. , the life-cycle hypothesis remains an essential part of economists' thinking (Workineh, 2014). This theory also states that, the life time of an individual is divided into a youth period, working period and a retirement period. Individuals are assumed to be net savers during the working period and net dis-savers during the youth and retirement periods.

### **2.3.4 The Permanent Income Hypothesis (PIH)**

This theory was developed independently by Friedman (1957). It is an extension of the life cycle hypothesis. The theory states that choices made by economic agents regarding their consumption/saving pattern are determined not by current income but also by their measured longer term income expectations. When income is higher than the permanent income somebody considers to be his or her comfortable (and realistic) level of income, money is saved for a period in life where income might be below this personal permanent income level. This is sometimes referred to as consumption smoothing because individuals will save more than the MPS in times of high-income levels and dis-save when income levels are low or during retirement period. Permanent income takes into account the long-time expectation over a planning period and a steady state and the consumption maintained over a planning period given the individual's present wealth (Muradoglu and Taskin, 1996 cited in Agoot, 2014).

### **2.3.5 Relative income hypothesis (RIH)**

The explanation it asserts that a household's consumption depends not only on its current disposable income, but also on current income relative to past levels and relative to the income of other households. According to the model, at any point in time the propensity to save by an individual can be regarded as a rising function of his percentile position in the income distribution. A fraction of individual's income devoted to consumption depends on the level of his or her income relative to the incomes of the neighbors. Again the aggregate savings ratio is independent of absolute level of income over time though it may depend on income distribution. Therefore the division of income between consumption and savings depend on the individual relative rather than absolute income.

The hypothesis also assumes that an individual's consumption performance will be influenced by his/her habitual consumption. If an individual has already attained a certain standard of living and his/her real disposable income falls below his/her previous peak income, he/she will not cut the current consumption but rather will spend more from the disposable income to the extent of de-saving, in an attempt to regain his previous consumption level. On the other hand, if his/her income raised higher than his/her peak income, the hypothesis assumes that he/she will not aspire for a higher standard of living than the one already attained thereby raising the saving ration, Lusardi (1996)

In conclusion of the above theories, it was found that the savings does not depend upon income alone rather on the consumption pattern of the individuals also. The relative and permanent income hypothesis holds that the relationship between consumption and income is proportional whereas the relationship of the life cycle hypothesis is non-proportional. By the above theories it is clear that when the income grows the population is encouraged to save and the no saving occurs with the old generation as due to no or less income.

## **2.4 Empirical review**

### **2.4.1 Determinant of women headed households savings**

Women headed household saving performance is largely influenced by several variables factors that affect, to save. The decision on the part of the women to save in order to meet future needs depends on a number of factors. The factors that are demographic and non demographic factors are discussed in the following.

#### **2.4.1.2 Financial literacy**

Studies shows that financial illiteracy is common that correlated with low savings. However, this requests the policy question of whether interventions intended to increase financial literacy can in fact lead to changes in performance of importance.

Mahdzon and Tabiani (2013) conducted a research in Malaysia, that influence of financial literacy on individual saving on 200 individuals by sample survey by using probit regression model and they concluded that financial literacy and planning is an important determinant of individual saving. The author also investigates that financial literate people are likely to be plan to retirements. This planning for retirement indirectly causes impact on saving performance. They also shows that financial literacy, which is defined as an individual knowledge on interest rate, inflation rate, economic shocks stock, has been founded to positively related to the probability of saving among individual.

### **2.4.1.3 Income**

Different studies using different methods have been conducted in different parts of the world and all have found a positive relationship between income and savings. Based on the findings, some scholars have proposed certain theories.

Studies conducted by Girma et.al (2013), (Rehman et.al, 2011), Kifle (2012), Ahmad and Asghar (2004), have found that saving and income have positive relationship. Ahmad and Asghar (2004) analyzed the saving performance based on socio-economic and demographic factors in Pakistan using micro data. Result of the study shows that, income was found to have positive effect on saving levels in urban areas.

### **2.4.1.4 Occupation**

Occupation has positive relationship with saving. Many studies also assure the relation like, Study conducted by Ahmad and Asghar (2004) in Pakistan by using OLS estimation method shows that for urban households too the coefficient of employment status is positive and significant at the 5 percent level of significance.

### **2.4.1.5 Housing status of urban women household head**

Like income, home ownership has been taken as another determinant of saving performance. Ownership of home might have implication on saving in different ways. In one way home owners will expect to be savers because it is considered that the expenditure on the house rent will be directed to saving. In the other way non home owners are expected to save to have their own home.

Bebczuk et.al (2015) investigates the main patterns and drivers of the household saving rate in Latin America point out in 2010s the study shows that once households become homeowners, they may increase their saving vis-à-vis non-homeowners.

### **2.4.1.5 Age**

Age is crucial factors in determining the rate of savings by women's. The women saving ratio and the relationship between its current consumption and its accumulated assets will depend upon the age. Different age groups are likely to have very different saving performance and these are likely to change over time. According to the life cycle hypothesis, the average propensity to save for the given age group is assumed to be the same for all income levels, which is expected to rise with middle years, and fall again upon retirement. During the middle years income is likely to be high, most of the consumer durables have been acquired and there is the anxiety of a fall in the income upon retirement.

Gedela (2012) investigate the determinants of the saving performance of the tribal and rural households in the district of Visakhapatnam. The data of 120 sample households has been collected from both tribal and rural households by using interview schedule. This study has been used Logistic Regression Model for finding out the determinants of saving performance of households situated in tribal and rural areas. The result reveals that there is a positive relationship between age of the head of the household and households' savings but it is insignificant.

### **2.4.1.6 Family Size**

Family size is another variable which affects savings. Some families, maximum members of family are working but most of the times, only single person is participating actively and rest of the members are dependent (Rehman et.al (2011)). Studies by Touhami et.al(2009) investigated that household size negatively affects savings in the urban case. This result confirms a size effect. When we take into account the number of unemployed members, the results are significant but it is not the case when "employed" members are considered. When a number of dependent persons increase saving decrease.

Study conducted in China by Zhi (2015) also shows that parents with fewer children would choose to save more in middle age to support themselves in old age. As Loayza, et.al (2000) have observed "micro-economic and macro-economic evidences, both at the international and single country level confirm that an increase in the young age and old age which have not their income source tend to lower private saving rates.

### **2.4.1.7 Educational status**

Educational status of women qualifies as a reasonable proxy for expected future income. Within the permanent income formulation, the saving rate should not be responsive to permanent income but to gaps between current and permanent income. Nevertheless, schooling levels may have on their own effect on saving, as educated individuals increase (more patience), and so a clearer increase to save (Bebczuk, et.al 2015).

Since women are generally takes the decision of how much to save, the level of education of the women shows to be the relevant variable. Moreover, education level of women not only determines the level of education but also the amount and pattern of expenditure which in turn determine savings (Nadeem and. Khan, 1992).

Ahmad and Asghar (2004) on their study revealed that education on the household head to save shows that negative relationship. As a result saving is expected to decline as more and more money is spent on educating the future generation of educated parents and preference.

## **2.5 Saving motivation of women headed households**

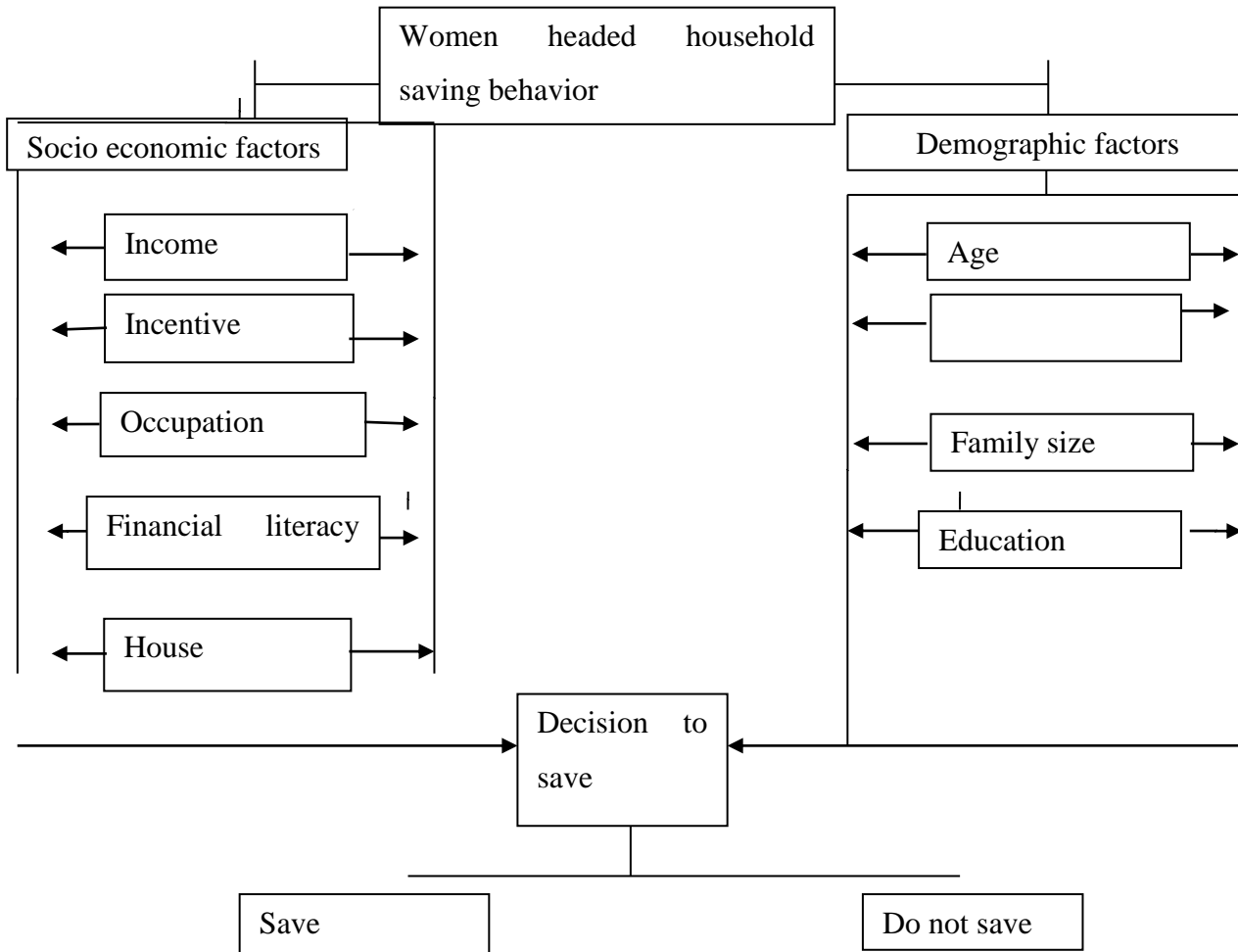
Savings is not only driven by income but also by individual expectation and motivation. People are therefore expected to plan their savings to satisfy their motives for saving. However, there are variations in the motives for savings. According to H.Sturm (undated), there are three motives leading to variation to saving. These are Saving for retirement: that is, the building up of

assets to finance consumption after retirement when current earned income is reduced or even become zero. Precautionary saving: given uncertainty about future development, the women may wish to hold assets to meet possible emergencies such as unemployment or sickness. Saving for bequest: that is, the building up of assets to hand down to subsequent generation. In addition to these, there is also target saving the achievement of tangible assets. Such target saving is most common with respect to consumer durable purchases; it can of course also occur current consumption expenditure such as wedding celebration, vacation spending and education. Target saving can involve the need or the desire to accumulate wealth for the purpose of increasing down payment in the future purchase of an extensive durable goods and reduced value of contracted loan (ibid).

Many researchers conducted different studies using different methodologies on saving motives of people in various countries and have outline different motives. Alemaheyu and Haile (2007) argue that the main motive in poor countries is likely to be for precautionary motive or to finance private investment since availability of credit for such purpose tends to be scarce. Tadelle (2015), also study in jimma zone revealed that the major motive in the study area were for children education, for unexpected expenses and to home purchase. And Michael (2013) the result from his study showed that after saving, the planned motives are not satisfied but priorities are given to unexpected motives. For instance, majority of savings are channeled to unexpected medical expenses, unplanned funeral functions before the planned educational expenses, investment and asset acquisition which formed the primary basis or the savings.

**2.6 Conceptual framework of women headed households**

The study has so far presented some of the various household factors that can affect household savings from both theory and empirical literature. The same factors that affects household’s decision to save, also affects how much they save, if they should save. This is summarized in the conceptual framework presented in figure 2.1 below.



**Figure 2.1 Determinants and Decision of Household Saving, Adopt From Andrew (2016)**

**CHAPTER THREE**

**3. RESEARCH DESIGN AND METHODOLOGY**

This chapter presents an outline of the research design and methodology will employ in the study. To this end, type of the data, sampling design and sample size, data collection method (questionnaire design), data analysis techniques, and model specification and variable measurement were discussed.

**3.1 Description of study area**

The study was conducted in Bahirdar city it is the capital of ARNS. The city is located approximately 578km north west of Addis Ababa, having latitude and longitude of +11°36'N 37°23' and elevation of about 1,800 meters (5,906 fetes) above sea level.



**Figure 3.1. Map of Bahir Dar**

The city administration divided into three administrations; one is the metropolitan satellite cities second rural kebeles which included around the cities and the third the nine sub cities in the center of town. Based on Bahir Dar city administration bureau of finance and economic survey from (BOFED) in 2016/2017 G.C the city have a total population of 341,606 out of this is 281,887 live in nine sub cities which the study conducted. 100,472 households in Bahirdar from this 28,132 women headed household.

**3.2 Research Design**

The study was employed on women headed household saving performance in Bahir Dar city to distinguish what factor that determines the women headed households saving performance. It is a survey research in which women headed response in the form of structured questionnaires for the analysis and to generalize the result from responses which was collected from sample women's who live in the city.

**3.3 Research Approach**

As the objective of this study was to examine Determinant of women headed household saving performance, by looking the research problem this study favors both quantitative and qualitative approach by using stratified sampling techniques.

**3.4 Sampling Technique and Sample Size**

**3.4.1 Sample Size**

Since there is no similar study in determinants of saving performance of women headed household in the country in general it is difficult task to estimate the sample size of the population. Then target populations for the study were women headed households in Bahir Dar City. The total household in city is 100,472 from these women headed households are 28,132. Using the sample size will calculate using the formula recommended Yamane (1967:886) which provides a simplified formula to calculate sample sizes as cited by (Israel 2003).

A simplified formula to calculate sample sizes.

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

Where;

$n$  is sample size

$N$  is total population

$e^2$  is probability of an error

Thus, the sample size for this study can be determined as follows:

$$n = N / (1 + N e^2)$$

$$n = 15,234 / (1 + 15,234 * 0.05^2)$$

$$n = 390 \text{ women headed households.}$$

Since the study requires more attention about saving, saving is somewhat hideaway for others and women's are may not be all are volunteer fill the questionnaire properly and return. Then the researcher estimates 0.05% non response rate. The sample size will move up.

$$390 + 390 * 0.05 = 409$$

With  $N = 15,234$   $e = 5\%$  (at least 95% confidence level), and the non response rate is 5% thus the sample size is 409

### 3.4.2 Sampling Technique

Obviously, if the population to be studied is large and infinite it is very difficult to undertake a census survey. Therefore, were taken samples. To make the samples representative of the total population, simple random probability sampling was used. First, the total population is clustered into 9 sub city based on geographical location according to the city administration bureau. Then; the samples were proportionally allocated to each sub cities Shembet sub city, Fasilo sub-city, Sefene-selam sub-city, Gish-abay sub-city, Shumabo sub-city, Hidar-aserand sub-city Belay zeleke sub-city, Ginbot-haya sub-city, Tana sub-city were selected from nine sub cites randomly.

**Table 3.1 respondent's sample**

No	Sub city in the town	Total no women headed households ( $N_i$ )	Sample size ( $n_i$ )
1	Shembet sub city	1,597	43
2	Fasilo sub-city	1,949	52
3	Sefene-selam sub-city	1,483	40
4	Gish-abay sub-city	1,082	29
5	Shumabo sub-city	1,030	28
6	Hidar-aserand sub-city	1,669	45
7	Belay-zeleke sub-city	2,008	54
8	Ginbot-haya sub-city	2,311	62
9	Tana sub-city	2,104	56
	Total	15,234	409

Researchers own calculation(2018)

### 3.5 Method of Data Collection

The study was mainly conducted using primary data. Basically in any field of research, selection of data collection method depends on the nature and type of research. Accordingly, primary data were collected by using structured questionnaire from the sample of women headed households. Primarily, the questions were prepared in English language and convert to Amharic languages. To collect data from respondents a trained data collectors were used in the data collection instrument. Moreover, secondary data relevant to the study were collected through a review and analysis of documents and related literatures, including, journal articles, conferences papers.

### 3.6 Method of Data Analysis

In this study both simple descriptive and econometric methods of data analysis were used. Accordingly, methods of analysis of this study are categorically state as shown below. To analysis of saving performance of women headed household attitude of saving, motivation of to save and utilization of savings of the individuals were assessed using descriptive ways of analysis making use of well-designed questionnaires through simple statistical tools.

#### 3.6.1 Model specification

The major determinants of the women headed household saving performance was primarily outline out using quantitative way of analysis. Descriptive way of analysis was also used to explain the major challenges facing women headed households saving performance with possible justifications. With regard to the quantitative way of analysis, censored Tobit model of econometric regression was applied.

Specifically, Tobit econometric regression model was used taking the amount of saving of women household heads as dependent variable whereas the major possible factors which are expected to influence the performance of saving of the women was talked as regressors (independent) variables of the mode1.

The justification to use this model was that the dependent variable is expected to be censored type which is partly discrete and partly continuous. It is discrete in terms of the two categories of women headed household – who save and who do not save. It is continuous in terms of the categories of Women's who save with continuously different level of saving. Censored the is negative saving, zero saving and positive saving of women headed households, then tobit can censored the negative savers to zero. On the other side tobit shows the magnitude of in dependant variables with the amount how mach.

### 3.6.1.1 Functional specification of the Tobit regression

Given the existence of women who do not save or with saving rate of less than or equal to zero, the rate of saving can be categorically expressed as:

$y = y^*$  if  $y^* > 0$  or if the saving rate is positive

$y = 0$  if  $y^* \leq 0$  or if the saving rate is zero or negative

So, if a women have zero or negative saving rate,  $y^*, y = 0$ . In essence, this gives us the standard tobit model, which we formalize as follows.

$y_i^* = x_i B + e_i \quad i = 1, 2, \dots, I$

$y_i = y_i^* \quad \text{if } y_i^* > 0$

$y_i = 0 \quad \text{if } y_i^* \leq 0$  (Verbeek, 2004)

Where:  $x_i$  is vector of factors affecting saving performance of women  $i$

$b$  is vector of coefficients of factors affecting the saving performance

$e_i$  is an error term which is assumed to be NID  $(0, \sigma^2)$  and independent of  $x_i$  in detail  $y = a + b_1 \text{age} + b_2 \text{fmsize} + b_3 \text{educ} + b_4 \text{how} + b_5 \text{finlit} + b_6 \text{ocup} + b_7 \text{income} + b_8 \text{incentive} + e$

Where  $Y$  is women headed household save or not save,  $a$  is constant,  $\text{age}$  is age of,  $\text{FM size}$  is family size,  $\text{educ}$  is education,  $\text{how}$  is house owner,  $\text{finlit}$  is financial literacy,  $\text{ocup}$  occupation status,  $\text{income}$  is monthly income,  $\text{incentive}$  is incentives,  $e$  is the error terms that are not included in the model. And from  $b_1$ - $b_8$  are coefficients of respective dependant variables.  $Y$  is dependant variable.

## 3.7 Descriptions and measurement of variable

### 3.7.1 Dependent variable

Household saving is measured as excess of income over consumption expenditure. Transforming a given definition to the women headed household prospective, women headed household saving is difference between disposable income and its consumption. In recent micro economic studies, household saving is commonly measured in terms of interval data or continuous data in respective currencies. Some researches utilized such as Girma et al (2014), Gedela (2012) a continuous variable.

In this study women headed household saving utilized both binary and continuous. Hence saving decision and average monthly saving to save as dependent variable which was measured based on factors that determine women headed households to save. Due to data limitations, women headed household savings was included only financial savings that is savings deposits. Because it is true that total savings of women headed household include both financial and non-financial savings.

### 3.7.2 Demographic Variables

Demographic factors like age women headed household, family size and education are influence the urban women headed households saving either negative or positive effect through their impact on ability to save.

#### 3.7.2.1 Age

In theory of life cycle model shows that their exist relationship between age and savings. That is as age of increases, saving will be decreases in the middle age and household aged saving will decreases. Age is continuous variable which indicating age of respondents.

#### 3.7.2.2 Household Size

It is another demographic variable which affects the women headed household saving. It is continuous variable which consider the amount of persons that exist in the house which does not have their own source of income. This variable has been negative impact on women headed household saving.

#### 3.7.2.3 Education

This variable has indirect positive effect of education on saving through increased income (Aron et.al,2013). It will be measure level of the women include illiterate, primary, secondary, certificate and diploma and degree and above.

### 3.7.3 Socio Economic Variables

#### 3.7.3.1 Homeownership Status

Home ownership might have implication on women headed household saving. According to Tadelles (2015) study shows that households that have their own house have better in saving than non-home owner. Therefore home owner will be positive impact on saving. This variable will be measure as a dummy variable which takes a value 1 if women has own house and, 0 if women does not have own house.

#### 3.7.3.2 Financial literacy

Financial literacy is among the most important factors for women headed household rate of saving. Recent studies evidenced that a positive relationship between financial literacy and saving, that is saving has increased with development of financial literacy.

Hence its measurement value will take the as a dummy when women have financial concept coded 1 and give 0 have not financial concept.

**3.7.3.3 Occupation**

It is categorical variable will describe as level 1(for government employed), level 2 (for private organization employed), level 3 (for self employed), level 4 (labor).

**3.7.3.4 Income**

Income has been considered as the most important factors in determination of saving performance of individuals. More income means, normally, more saving and vice versa (Gedela, 2012).Total income of women headed household is the sum of all monetary income. It is calculated by following income approach to calculate GDP which includes wages of workers, profit of firm, remittance, pension, rent from house and social security payment. Absolute income hypothesis and permanent income hypothesis both indicate positive effect of household income on saving (Rehman et.al 2011). Hence under this study income will be measure in birr.

**3.7.3.5 Incentive**

This factor includes interest rate, loan/credit and others to encourage people towards saving. Under this study this variable will be taken as a dummy variable which are level 1(satisfactory) and 0 (not satisfactory).This factors will have positive influence on household saving. This suggestion is evidenced by Michael (2013) who concludes that encourages people to save.

Independent variable

The following tables show description and measurement of independent variables.

**Table 3.2 Description of independent variable**

Name of the variable	Type of the Variable	Description	Expected relationship with the dependent variable
Amount of saving	Continuous	Continuous	-
Age	Continuous	Continuous	Negative relate
Family size	Continuous	Continuous	Negatively relate
Education	Categorical	1 for illiterate, 2 for primary education, 3 for secondary education, 4 for certificate and diploma and 5 for degree and above	This variable has indirect positive effect of education on saving through increased income (Ahmad and Asghar )
Occupation	Categorical	1 for government employed, 2 for private organization employed , 3 for self employed 4, labor	self-employed households save more than others
Housing status	Dummy	0 rent dwelling and 1 own dwelling	Own dwelling household save more than rent dwelling.
financial literacy	Dummy	1, for who have financial literacy 0 for who have not financial literacy	It has positive impact on women headed household saving
Incentive	Dummy	0 not satisfactory and 1 satisfactory	Positively relate with dependant variable and when women headed households have incentive.

**CHAPTER FOUR**

**4. STUDY RESULTS AND DISCUSSION**

This chapter provides the data analysis and interpretation part of the study. The study first presented the descriptive statistical analysis of variables of interest by summarizing the percent and frequency of categorical variables and minimum, maximum, mean and standard deviation were used for continuous variables and other variables as necessary. In the second part the data are interpreted and analyzed empirically using the censored Tobit model.

**4.1 Descriptive Analysis of the Study**

A total of 409 questionnaires were developed and administered to the respondents out of which 22 questionnaires were not returned while the rest 24 questionnaires were discarded due to missing data while checking for validity. Accordingly, the data from 363 questionnaires were used for data analysis with more than 90% response rate, which was considered to be a good representative.



## 4.2 Profile of the Respondents

**Table 4.1 summary of sample respondents of continuous variables**

Variable	Observation	Mean	Std. Dev.	Min	Max
Amount of saving	363	387.7879	747.1788	0	4500
Age	363	42.10744	9.664655	23	60
Family size	363	2.782369	1.532166	1	8
Income	363	3941.512	2392.651	1000	12500
Expenses	363	3738.658	2077.864	900	12000

Source: own computation (2018)

The summary in table 4.1 shows that the mean age of women household heads is 42.10 with standard deviation 9.66. The lowest age of respondents is 23 years old and the highest is 60 years old. The table also shows that average family size of women headed households is 2.7, which is below the regional average, which is 3.5 in urban areas in ANRS (CSA 2011) while the lowest and the highest family size is 1 and 8 respectively. When it comes to the income of women headed households and their amount of saving, the average income earning per month of the respondents was birr 3941.5 and their average monthly saving was birr 387.7 with standard deviations 2392.6 and 747.1 respectively.

**Table 4.2 Profile of Sample Respondents for Categorical Variable**

Variables	Categorical variables	Frequency	Percentage (%)	cum
Educational status	Illiterate	83	22.87	22.87
	Primary school	99	27.27	50.14
	Secondary school	37	10.19	60.33
	Certificate and diploma	91	25.07	85.4
	Degree and above	53	14.6	100
Occupational status	Government employed	72	19.83	19.83
	Private organization employed	139	38.29	58.13
	Self employed	152	41.87	100

Source own computation (2018)

Table 4.2 shows that about the educational status of 14.6 % ( 53) of the respondents was first degree and above, 25.07(91) of respondents were certificate and diploma graduates, 10.19 % ( 37) had completed their secondary and 27.27 % ( 99) their primary school education while 22.87 % ( 83) were illiterates.

The table also displayed that 19.56(71) women household heads were civil servants, 32.51 (118) were employed in private organizations and 23.97 (87) of respondents were self-employed.

**Table 4.3 Saving Performance of Women Headed Households**

Decision to save	Frequency	Percentage (%)	Cum
Not Having saving habit	235	64.74	64.74
Having positive saving habit	128	35.26	100

Source: own computation (2018)

Table 4.3 presented that 128(35.26%) of the women headed households have saving culture and the remaining 235(64.74%) did not have saving culture. This is indication that policy makers and the government should give due attention to improve the saving culture of women headed households. Among Women headed households who have saving culture (37.5%) saved in banks, (30.47%) saved in credit and saving institutions, 15.63% saved in equb and edir and the rest 10.6% saved in saving and credit associations. Others used other saving methods like house associations. The respondents responded that they preferred different institutions to save their money for safety, flexibility and forced saving.

## 4.3 Motivation of women headed Households Saving

Saving is not only driven by income but also by individual expectation and motivation. Women headed Households are therefore expected to channel their savings to satisfy their motive for saving. However, there was variation in motivation for savings. Women Household heads had planned motives for saving including; emergency, Family education, start up and expansion of existing business, purchase of durable HH goods, ceremonial and holiday celebrations, pension period, purchase or building house and others.

**Table 4.4 Motives that Helped Women Headed Households to Save**

Purpose of saving	Frequency	Percent	cum
Child education expense	13	10.16	10.06
To start and or expand business	27	21.09	31.25
Pension period	24	18.75	50.00
Holidays	16	12.5	62.5
Purchase household durable goods	31	24.22	86.72
Other	17	13.28	100

Source: own computation (2018)

From table 4.4 it can be deduced that purchase of durable household goods was the most important motive for households to save as 31 (24.22 %) of them saved for this purpose, followed by the purpose of starting or expanding existing business 27 (21.09 %), pension period 24 and (18.75%), for holidays 16 (12.5 %). The lowest motive for saving was for chilled education and other purposes with 13 (10.16 % and 17(13.28) respectively.

#### 4.4 Major challenges that hinder women headed households to save

In order to figure out the major challenges that affected the saving performance of women headed households in Bahir Dar City, possible expected factors were stated for sample respondents to specify their judgments and the findings are presented in Table 4 .5 below.

**Table 4.5 Challenges that retard women household heads performance saving.**

Factors that retard household saving	Frequency	Percentage	cum
Low level of income	109	46.38	46.38
Low level of financial knowledge	52	22.13	68.51
Un- planed expenditure	74	31.49	100
Total	235	100	

Source: own computation 2018

Table 4.5 summarized that the major factors that affected the saving performance of women headed households were; low level of income responded by 109 (46.38%) respondents, which contributed the highest challenge followed by unplanned expenditure, responded by 74 (31.49) and lack of financial knowledge as responded by 52(22.13%) respondents.

#### 4.5 Analysis of Saving Performance of Women Household Heads

Tobit regression model was used to estimate factors that determine the average monthly saving of women headed households. The estimated tobit coefficients are marginal effects of explanatory variables on the unobserved latent variable (Verbeek 2004). These coefficients only explain the sign and significance of variables.

**Table 4.6 Empirical Estimation of Tobit Regression Model**

**Tobit amosaving age Fmsize how finlit income incentive illiterate primary school secondaryschool certificateanddiploma govtemp privemp, ll vce(robust)**

Explanatory variable	Coefficient	Robust Std. Err	P –value
Age	-16.74241	6.975656	0.017*
Family size	-136.7465	53.99846	0.012**
Housing status	305.7752	127.4168	0.017**
Financial literacy	606.8552	175.0324	0.001**
Income	.2921779	.0295178	0.000**
Incentive	2062.884	303.2063	0.000**

Illiterate	-305.6022	239.3667	0.203
Primary school	-87.82588	217.957	0.687
Secondary school	-87.02452	249.3473	0.727
Certificate and diploma	196.1644	225.1345	0.384
Degree and above	628.1537*	273.696	0.022
Government employed	-342.7498	190.5823	0.073
Private employed	-101.3902	135.586	0.455
Self employed	233.6614	201.171	0.246
Constant	-2419.095	546.0743	0.000

Source: - own calculation (2018)

Number of obs = 363      F ( 12,351) = 15.85      Prob > chi2 = 0.0000

Log pseudo likelihood = -1089.4434      Pseudo R2 = 0.1331

Note: \*\* = significant at 1%      \* = significant at 5%

Amosaving = -2419.095 -16.74241 age - 136.7465Fmsize + 305.7752 how +606.8552finlit + .2921779income + 2062.884 incentive -305.6022illiterate - 305.6022primaryschool - 87.02452secondary school + 196.1644cirtificateanddiploma +628.1537degreeandabove -342.7498govetemp -101.3902privemp+ 233.6614selfemp

The tobit result in the above table shows that, age and family size were significant at 5% level of significance and are related with amount of saving negatively. Housing status, financial literacy, Income, incentive and degree and above level of education were significant and positively related to amount of saving. On the other hand, primary school, secondary school, employment in government and private sectors were insignificant and negatively related with the amount of saving. The variable self employed was positively related with amount of saving but not significant at 5% level of significance.

#### 4.6 Marginal Effect of Variables on Saving Performance of Women Headed Households

Marginal effect is the effect of the change in independent variables on the conditional mean of the dependant variable. In this study the conditional mean effect of women headed household amount of saving of changes in regressors.

**Table 4.7 Marginal Effect after Tobit Regressions**

Explanatory variable	Coefficient	Robust-Std. Err	P value
Age	-16.74241**	6.97566	0.016
Family size	-136.7465**	53.998	0.011
Housing status	305.7752**	127.42	0.016
Financial literacy	606.8552*	127.42	0.001
Income	.2921779*	.02952	0.000
Incentive	2062.884*	303.21	0.000
Illiterate	-305.6022	239.37	0.202
Primary school	-87.82588	217.96	0.687
Secondary school	-87.02452	217.96	0.727
Certificate and diploma	196.1644	225.13	0.384
Government employed	-342.7498	190.58	0.072
Private employed	-101.3902	135.59	0.455

Source own computation (2018) \* 1% level of significant and \*\* 5% level of significant

Marginal effect is the effect of the change in each independent variable  $x$  on the saving amount of women household heads, other things held constant.

Age is significant at 5% level of significance statically and negatively related to amount of saving of women household heads. That is, as women become old, their probability of saving decreases. When age increased by one year, average monthly saving of women household heads decreased by birr 16.74. The result confirmed the life cycle hypothesis.

Most relevant literatures show that, as family size increases, households saving decreases. The study also showed the negative relationship between average monthly saving of women household heads and family size. This indicates that, if family size increases by one person the average monthly saving of women household heads decrease by 136.74 birr. This result is consistent with the study of Abid and Afridi (2010) who noted that household size has negative relationship with saving of household in Muzaffarabad district. Similarly Rehman et.al (2011) and Touhami et.al (2009) investigated that household size negatively affects household savings.

From the tobit result shown in above table Housing status of women household head, has significant effect on saving capacity of women headed households. Housing status of women household head has a statistical significant effect at 5 % level of significance. Those own dwelling is found to be statistically save birr 305.77 per month than those who are rent dwelling women household heads. This may be because of women household heads that live in rent dwelling is higher expenditure for payment of rents. This study is agreeing with the study of Bebczuk et.al (2015), Abdelkhalik et al (2010), Tadela (2015) and contradicts with the study of Aron et.al (2013).

The study also showed the relationship between financial literacy and saving positive and when women household heads have financial literacy concept average monthly saving of women headed households increases. The tobit model in table 4.7 confirmed that when women households have financial concept for their consumption and expenditure, the average monthly saving of women household heads increased by 606.8 birr. While that of those who do not have financial knowledge for their consumption and expenditure and other did not.

The Tobit result in the above table also shows that, income positively and significantly determined average monthly saving of women headed households. The marginal effect of income was estimated to be .2921 and is highly significant at 1% level of significance. This means that as the income level of women headed households increase by one birr, the average monthly saving of women headed households increases by .2921 birr. The result of this study coincides with several studies which conclude that income is one of the most important determinant factors of household saving capacity. For instance Ahmad and Asghar (2004) analyzed the household saving performance based on socio-economic and demographic factors in Pakistan using micro data. The result of the study shows that, income was found to have positive effect on household saving capacity. Similarly Touhami et.al (2009) also investigated the micro economic determinants of household saving in Morocco. Their study showed that income significantly influences household saving capacity.

Great number of respondents evidenced that the importance of incentives given by financial institutions such as deposit interest rate, credit interest rate, credit accessibility, service delivery and others encouraged them. The above table indicates that, incentives have a significant effect on average monthly saving. That is, satisfactory incentives provided by financial institution such as high deposit interest rate compared to current inflation and access of loan to the depositor depending on saving amount, led to increased saving amount. Hence, no or low deposit interest rate, credit and others are common factors that reduced the saving rate of women headed households. Therefore the amount to save additional money was determined by the amount of financial and other incentives provided by financial institutions. That is the table displays that if incentives given by financial institution were satisfactory, average monthly saving of women household heads would increase by birr 2062.8 than otherwise. This result was supported by Michael (2013), who showed in his study that institutional arrangements such as incentives and subsidies encourage people to save and to focus further on capital accumulation.

#### **4.7 Diagnosis and Model Specification Tests**

In order to cross check the fitness of the model to the data set, different model diagnostic tests were carried out during estimation of the model. STATA-12 software package was used to compute descriptive statistical data and econometric results were computed to identify major determinants of the saving performance of women headed households.

##### **4.7.1 Multicollinearity**

Multicollinearity problem arises when at least one of the independent variables is a linear combination of the other. The existence of multi co-linearity might cause the estimated regression coefficients to have the wrong signs and smaller t-ratios that might lead to wrong conclusions. The problem is essentially due to lack of sufficient information in the sample to allow efficient estimation of individual parameters. Multicollinearity of explanatory variables was tested via VIF (variance inflation factor). The result indicates that the mean value of VIF was 1.49, which is less than 10 and signifying no serious multicollinearity problem. The correlation matrix also indicates that there is no problem of multicollinearity. If the coefficient of multi co-linearity among two explanatory variables is 0.80 or more, there is sever multicollinearity problem (Gujarati, 2003). Correlation among the explanatory variables is less than 0.80 and hence there is no multicollinearity problem. The test result is attached in the annex I & II.

#### **4.7.2 Heteroscedasticity**

It is also a common problem in the analysis of cross-sectional data (Gujarati, 2003). Therefore, to check the existence of heteroscedasticity problem, the regression was conducted using Breusch-pagan test. The result indicates that heteroscedasticity is a problem. So, to control the unequal variance observed in the error term, robust regression was applied. (Annex III)

#### **4.7.3 Model specification test**

Assumptions of model regression realized that the model is correctly specified. When the assumptions of regression analysis are not met, we may have problems, such as biased coefficient estimates and these problems may lead to invalid statistical inferences. Therefore, before using our model to make any statistical inference, we have to check that the model fits sufficiently well and check for influential observations that have impact on the estimates of the coefficients.

The Stata command linktest can be used to detect a specification error. After the regression command, linktest uses the linear predicted value (hat) and linear predicted value squared (hatsq) as the predictors to rebuild the model. The variable hat should be a statistically significant predictor, since it is the predicted value from the model. This will be the case unless the model is completely misspecified. On the other hand, if the model is properly specified, variable hatsqs shouldn't have much predictive power except by chance. Therefore, if hatsq is significant, then the linktest is significant. This usually means that either we have omitted relevant variable(s) or our link function is not correctly specified. In this study, linktest reports that the model is correctly specified. Because linear predicted value (hat) is significant with p-value 0.000 in the model and linear predicted value squared (hatsq) is insignificant with p-value 0.341 at 5% degree of freedom in tobit model (Appendix IV).

## CHAPTER FIVE

### 5. SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.1 Summary and conclusions

This study was conducted to assess factors that determine the saving performance of women headed households in Bahir Dar city. Different characteristics of women household heads were analyzed based on the data collected from the sample respondents. The characteristics were categorized in to two as demographic; which include age, education and family size and socio economic characteristics; which include income, occupation, incentive, financial literacy concept and housing status of women households head.

In this study cross sectional data were collected from 363 sample women household heads from the study area using survey questionnaires.

Data presentation methods like percentage, frequency distribution, mean and standard deviation were used for descriptive analysis. The result of the descriptive analysis shows that from the total respondents, 235(64.7%) of the respondents were not saving while the remaining 128(35.3%) were saving from their monthly earning.

The descriptive analysis of the study also revealed that the average monthly saving was birr 387.7 and the major motives for saving were for the purchase of durable household goods (24.22%), starting or expanding existing business (21.09%), pension period (18.75%), holiday ceremony(12.5%) and for child education (10.16%) respectively.

The major reasons for not saving were explained by the respondents as; low level of income (46.38%), unplanned expenditure (31.49%) and lack of financial knowledge (22.13% ). In addition to descriptive statistics, the study also applied economic model to identify major factors that influence saving performance of women headed households. With regard to this, the analysis was done using censored tobit regression model.

The tobit result of the study shows that from the demographic characteristics, the variables age and family size were found to be significant, while education (through all its dummies) was found to be insignificant to the saving performance of women headed households. On the other hand, the variables in the socio economic characteristics category; income, incentive, housing status and financial knowledge were found to have significant effects on the saving performance of women headed households while occupation (through all its dummies) was found to have a insignificant effect on the women headed household monthly saving rate.

In conclusion, identify the major factors that determine women headed household saving considered as important to mobilize domestic resources. Therefore, the next section forwards the necessary recommendations which are suggested for financial institutions, government and policy makers in designing suitable domestic resource mobilization, identified in this study.

#### 5.2 Recommendation

Based on finding of the study, the following recommendation can be reasonably forwarded for the determinant of saving performance of women headed households.

Even if majority of women headed households have saving account, but most of them have not saving experience and habit. Hence, financial institution with the collaboration of government was done awareness about financial literacy concept to women's about financial planning and management such as financial goals, personal financial plan or schedule for how often, how much, and where to save their money and proper use of financial expenditure. In addition to this, financial institution should have in kind reward system to motivate non saver women headed households.

To increase women headed household performance saving, there is a need to increase the income of women headed households.

Incentive given by financial institution is the most important factors that women headed household performance savings. The policy implication for this is that financial institution especially banks (all private and public banks) provides saving plan to the women headed households with a given amount of money in exchange with better interest rate. In addition to this financial institutions provide other incentives such access of mortgage with low interest rate as collateral of salary and others, consumer loan for business expansion to households' especially low income women headed households.

House ownership status also positive impact to women headed households saving this shows that the government doing to support the women headed households like availability of condominium and kebele houses especially treatment to women headed households.

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**Annex I vif**

. vif

Variable	VIF	1/VIF
primarysch~l	2.36	0.423528
illiterate	2.26	0.441819
certificat~a	2.17	0.460209
secondarys~l	1.64	0.609726
govtemp	1.37	0.732478
selfemp	1.24	0.805637
incentive	1.24	0.806468
finlit	1.20	0.834447
age	1.15	0.871285
income	1.14	0.875705
how	1.10	0.912064
Fmsize	1.09	0.920862
Mean VIF	1.50	

**Anex II Corrliation test of the model**

. corr amosaving age Fmsize how finlit income incentive illiterate primaryschool secondaryschool certificateanddiploma degree  
> eandabove govtemp privemp selfemp  
(obs=363)

	amosav~g	age	Fmsize	how	finlit	income	incent~e	illite~e	primar~l	second~l	certif~a	degree~e
amosaving	1.0000											
age	-0.1905	1.0000										
Fmsize	-0.1289	0.2251	1.0000									
how	0.2250	-0.1096	0.0060	1.0000								
finlit	0.3196	-0.2141	-0.0976	0.1475	1.0000							
income	0.6033	-0.1339	-0.1135	0.1252	0.2271	1.0000						
incentive	0.4502	-0.2105	-0.0697	0.2357	0.3088	0.2271	1.0000					
illiterate	-0.0952	-0.0231	-0.0426	-0.0572	-0.0113	-0.1121	0.0137	1.0000				
primarysch~l	-0.0356	0.0009	-0.0463	-0.0994	-0.0563	-0.0728	-0.0600	-0.3334	1.0000			
secondarys~l	0.0611	-0.0160	0.0658	0.0316	0.0331	0.0236	0.1010	-0.1834	-0.2063	1.0000		
certificat~a	-0.0022	0.0555	0.0532	0.0438	-0.0474	0.0166	-0.0945	-0.3149	-0.3542	-0.1949	1.0000	
degreeanda~e	0.1084	-0.0280	-0.0126	0.1125	0.1142	0.1846	0.0887	-0.2251	-0.2532	-0.1393	-0.2392	1.0000
govtemp	-0.0083	0.1061	0.1069	-0.0106	0.1095	0.0549	-0.0677	-0.1392	-0.1029	-0.0762	0.0630	0.2834
privemp	0.0036	-0.1010	-0.0398	-0.0396	-0.0402	-0.0038	-0.0452	0.0164	0.0521	-0.0031	0.0020	-0.0850
selfemp	0.0032	0.0137	-0.0472	0.0475	-0.0488	-0.0406	0.0992	0.0963	0.0319	0.0647	-0.0529	-0.1454
		govtemp	privemp	selfemp								
govtemp		1.0000										
privemp		-0.3918	1.0000									
selfemp		-0.4222	-0.6686	1.0000								



**Annex III Robust Tobit regression**

```
. tobit amosaving age fmsize how finlit income incentive illiterate primaryschool
> l secondaryschool certificateanddiploma govttemp privemp , ll vce(robust)
```

```
Tobit regression                Number of obs =      363
                                F( 12,   351) =     15.85
                                Prob > F      =     0.0000
Log pseudolikelihood = -1089.4434  Pseudo R2      =     0.1331
```

amosaving	Robust		t	P> t	[95% Conf. Interval]	
	Coef.	Std. Err.				
age	-16.74241	6.975656	-2.40	0.017	-30.46175	-3.023075
fmsize	-136.7465	53.99846	-2.53	0.012	-242.9478	-30.54532
how	305.7752	127.4168	2.40	0.017	55.17868	556.3717
finlit	606.8552	175.0324	3.47	0.001	262.6111	951.0994
income	.2921779	.0295178	9.90	0.000	.2341239	.350232
incentive	2062.884	303.2063	6.80	0.000	1466.554	2659.213
illiterate	-305.6022	239.3667	-1.28	0.203	-776.3755	165.1711
primaryschool	-87.82588	217.957	-0.40	0.687	-516.4919	340.8401
secondarysc~l	-87.02452	249.3473	-0.35	0.727	-577.4272	403.3782
certificate~a	196.1644	225.1345	0.87	0.384	-246.6178	638.9466
govtemp	-342.7498	190.5823	-1.80	0.073	-717.5766	32.07695
privemp	-101.3902	135.586	-0.75	0.455	-368.0533	165.2728
_cons	-2419.095	546.0743	-4.43	0.000	-3493.084	-1345.106
/sigma	826.5855	51.26941			725.7517	927.4194

```
Obs. summary:      235 left-censored observations at amosaving<=0
                   128 uncensored observations
                   0 right-censored observations
```

**Annex iv link test**

```
. likktest
unrecognized command: likktest
r(199);
```

```
. linktest
```

Source	SS	df	MS	Number of obs = 363		
Model	18.6411786	2	9.32058932	F( 2, 360) =	52.25	
Residual	64.2238351	360	.178399542	Prob > F =	0.0000	
Total	82.8650138	362	.228908878	R-squared =	0.2250	
				Adj R-squared =	0.2207	
				Root MSE =	.42237	

saving	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
_hat	.7699584	.2605715	2.95	0.003	.2575248	1.282392
_hatsq	.3131477	.3285233	0.95	0.341	-.3329181	.9592135
_cons	.0262389	.0494933	0.53	0.596	-.0710935	.1235713

**Annex v tobit regression**

```
. tobit amosaving age Fmsize how finlit income incentive illiterate primaryschool secondaryschool certificateanddiploma degr
> eeandabove govtemp privemp selfemp, ll vce(robust)
note: degreeandabove omitted because of collinearity
note: selfemp omitted because of collinearity
```

Tobit regression Number of obs = 363  
F( 12, 351) = 15.85  
Prob > F = 0.0000  
Log pseudolikelihood = -1089.4434 Pseudo R2 = 0.1331

amosaving	Robust		t	P> t	[95% Conf. Interval]	
	Coef.	Std. Err.				
age	-16.74241	6.975656	-2.40	0.017	-30.46175	-3.023075
Fmsize	-136.7465	53.99846	-2.53	0.012	-242.9478	-30.54532
how	305.7752	127.4168	2.40	0.017	55.17868	556.3717
finlit	606.8552	175.0324	3.47	0.001	262.6111	951.0994
income	.2921779	.0295178	9.90	0.000	.2341239	.350232
incentive	2062.884	303.2063	6.80	0.000	1466.554	2659.213
illiterate	-305.6022	239.3667	-1.28	0.203	-776.3755	165.1711
primaryschool	-87.82588	217.957	-0.40	0.687	-516.4919	340.8401
secondaryschool	-87.02452	249.3473	-0.35	0.727	-577.4272	403.3782
certificateanddiploma	196.1644	225.1345	0.87	0.384	-246.6178	638.9466
degreeandabove	0 (omitted)					
govtemp	-342.7498	190.5823	-1.80	0.073	-717.5766	32.07695
privemp	-101.3902	135.586	-0.75	0.455	-368.0533	165.2728
selfemp	0 (omitted)					
_cons	-2419.095	546.0743	-4.43	0.000	-3493.084	-1345.106
/sigma	826.5855	51.26941			725.7517	927.4194

Obs. summary: 235 left-censored observations at amosaving<=0  
128 uncensored observations  
0 right-censored observations

**Annex VI Marginal effect after tobit**

```
. mfx
```

Marginal effects after tobit

y = Linear prediction (predict)  
= -880.20354

variable	dy/dx	Std. Err.	z	P> z	[	95% C.I.	]	X
age	-16.74241	6.97566	-2.40	0.016	-30.4144	-3.07038	42.1074	
Fmsize	-136.7465	53.998	-2.53	0.011	-242.582	-30.9115	2.78237	
how*	305.7752	127.42	2.40	0.016	56.0428	555.508	.413223	
finlit*	606.8552	175.03	3.47	0.001	263.798	949.912	.600551	
income	.2921779	.02952	9.90	0.000	.234324	.350032	3941.51	
incent~e*	2062.884	303.21	6.80	0.000	1468.61	2657.16	.553719	
illite~e*	-305.6022	239.37	-1.28	0.202	-774.752	163.548	.22865	
primar~l*	-87.82588	217.96	-0.40	0.687	-515.014	339.362	.272727	
second~l*	-87.02452	249.35	-0.35	0.727	-575.736	401.687	.101928	
certif~a*	196.1644	225.13	0.87	0.384	-245.091	637.42	.250689	
govtemp*	-342.7498	190.58	-1.80	0.072	-716.284	30.7845	.198347	
privemp*	-101.3902	135.59	-0.75	0.455	-367.134	164.353	.38292	

(\*) dy/dx is for discrete change of dummy variable from 0 to 1

**Annex VII fitstat**

. fitstat

Measures of Fit for tobit of amosaving

Log-Lik Intercept Only:	-1256.662	Log-Lik Full Model:	-1089.443
D(349):	2178.887	LR(12):	334.438
		Prob > LR:	0.000
McFadden's R2:	0.133	McFadden's Adj R2:	0.122
ML (Cox-Snell) R2:	0.602	Cragg-Uhler(Nagelkerke) R2:	0.603
McKelvey & Zavoina's R2:	0.799		
Variance of y*:	3401832.648	Variance of error:	683243.639
AIC:	6.080	AIC*n:	2206.887
BIC:	121.740	BIC':	-263.705
BIC used by Stata:	2261.409	AIC used by Stata:	2206.887

Annex VIII English version of questionnaire

BAHIRDAR UNIVERSITY

College of business economics department of development economics

Survey questionnaire for women headed household saving determinant performance in Bahirdar, (English version)

Dear Respondents,

This questionnaire is designed to gather information about the major factors that determine women household saving performance in Bahirdar. All responses will be used to conduct a study for the partial fulfillment of Master's Thesis in development economics from Bahirdar University. This survey is only for academic purpose. Thanks for your cooperation in advance!

Part 1: Instruction

Please use ✓ mark for Choice Questions and write on the blank spaces on open ended questionnaires.

I. Demographic characteristics of households

1. Age: \_\_\_\_\_

2. How many family members do you have? -----

3. Educational Status?

Illiterate  Primary  Secondary  Certificate and Diploma   
Degree and above

II. Question on socioeconomic variables about saving

4. What is your place of dwellings?

Own house  Rent

6. Do you have awareness of financial literacy and saving performance?

Yes  No

7. If say yes for Question No 2, how do you rate your current financial knowledge

A,Excellent b, Very good c, Good d,Faire e,Poor

8. What your current occupational status?

Government employed

Private organization employed

Self-employed

9. How much your monthly income on average? -----

Do you save money from your monthly earning?

Yes  No

10. From your opinion you believe that I have saving culture?

Yes I have  no I have not.

11. If you say yes for Q.No.10, how much birr do you save on average per month? -----

12. If your answer for question 10 yes, what is the purpose (motive) of your saving (you can give more than one answer)?

Holiday: like Meskel, Christmas, Arefa, New Year, etc

To buy household durable goods

For child education

To build or purchase house

To start or expand business

Retirement (for old age)

Others

13. If your answer for Q. No 10 is No, what are the major reasons for this? -----

14. Where do you prefer to save money?

Bank

credit and saving

ekub and edir

Saving and credit association

home

15. What are the reasons to \_\_\_\_\_ to save in this form of institution-----

16. How do you explain incentives (such as interest rate, credit and others) given by financial institution for motivating saving?

Attractive  Not attractive

17. If say not attractive what are the reason behind of this? -----

18. Do you think inflation or change in the general price level have adverse effect on your saving habit?

Yes  No

19. What are the challenging you to increase your saving amount (you can give more than one answer )

Lack of sufficient income

Unplanned expenditure

Low level of financial knowledge

20. In Bahirdar city to increase and improved the saving performance of women headed house hold what kind of measure and solution will be taken?-----

21. For each of basic expenditure listed below please indicate their average cost

Basic expenditure	Cost
Average birr for consumption per month	
Average birr paid for education and cloth for your family per month	
Average birr paid for house rent per month ,if any	
Average birr paid for miscellaneous per month	

Annex Amaharic verstion IX

ባህርዳርዩኒቨርሲቲ

የኢኮኖሚ ክስትምህርት ክፍል

ሚጃ ማኅበረ ሰብሳቢ

የሚጃ ኮሎ

ሚጃው የተሰበሰበበት ቀን

የተከበራችሁ የጥናት ተግባር ይህ ማኅበረ ሰብሳቢ የተዘጋጀው ባህርዳር ከተማ የሚገኝ ፕላን ማረጋገጫ ላይ ያለውን የቁጠባ ባህሪ ለማረጋገጥ እንደሚጠበቅ ማረጋገጫ ላይ ማኅበረ ሰብሳቢ የሚጠቀሙትን ግሪዮች መሙላት ይጠበቃል።

የጥናት ስራ ላይ ለማሳካት የሚጠበቅ የሚገኝ ፕላን ማረጋገጫ በማጥናት ክፍሉ ላይ የሚጠቀሙትን ግሪዮች መሙላት ይጠበቃል።

የእናንተ ገንዘብ ስራ ላይ የሚጠቀሙትን ግሪዮች ለማረጋገጥ የሚጠበቅ የሚገኝ ፕላን ማረጋገጫ ላይ ያለውን ግሪዮች መሙላት ይጠበቃል።

ለምሳሌ ለገንዘብ ስራ ላይ የሚጠቀሙትን ግሪዮች ለማረጋገጥ የሚጠበቅ የሚገኝ ፕላን ማረጋገጫ ላይ ያለውን ግሪዮች መሙላት ይጠበቃል።

ማረጋገጫ: - እባክዎ ማረጋገጫውን ለማረጋገጥ የሚጠበቅ የሚገኝ ፕላን ማረጋገጫ ላይ ያለውን ግሪዮች መሙላት ይጠበቃል።

ክፍል አንድ:

የተገኘውን ግሪዮች አጠቃላይ ሁኔታ

- 1. አድራሻ \_\_\_\_\_
- 2. ክርስቶስ ጋር ምን ያህል የቤተሰብ ጠቅላይ ይኖራል (በርስዎን ቢያስተዳድሩ)
- 3. የትምህርት ሁኔታ:
  - ያልተማረ
  - የመጀመሪያ ደረጃ
  - ሁለተኛ ደረጃ
  - ድገት
  - ደግሞ ከዚያ በላይ

ክፍል ሁለት: - ማህበራዊና ኢኮኖሚያዊ ሁኔታ

- 4. የሚኖሩበት መኖሪያ ቤት
  - በከፊት
  - በረሀብ
- 5. ስለ ገንዘብ አጠቃቀም የአለውት ግንዛቤ?
  - ግንዛቤ አለኝ
  - ግንዛቤ የለኝም
- 6. ማህበረሰብ ግንዛቤ አለኝ ከሆነ አሁን ያለው የገንዘብ አጠቃቀም እውቀት ደረጃን እንደት ይለኩታል
  - እጅግ በጣም ጥሩ
  - በጣም ጥሩ
  - ጥሩ
  - በቂ
  - ዝቅተኛ
- 7. የተስማሙት የስራ ማኅበረሰብ
  - የሚገኝበት
  - የግል ማኅበረሰብ
  - የራስ ድር
- 8. ወርሃዊ የገንዘብ ስራ ላይ ስንት ጊዜ ይሰሩ? \_\_\_\_\_
- 9. ከሚገኙት የገንዘብ ስራ ላይ የሚጠቀሙትን ግሪዮች መሙላት ይጠበቃል?
  - እቆጥባለሁ
  - አልቆጥብም
- 10. ማህበረሰብ "እቆጥባለሁ" ከሆነ በአጠቃላይ የሚጠቀሙትን ግሪዮች መሙላት ይጠበቃል? \_\_\_\_\_
- 11. የቁጠባ ባህሪ አለኝ ብለው ያስባሉ \_\_\_\_\_
- 12. ለጥያቄ ቁጥር 10 ማህበረሰብ "እቆጥባለሁ" ከሆነ; የቁጠባ ዓላማ ምን ድን ነው? (ከአንድ በላይ ማህበረሰብ መጠቀስ ይቻላል)
  - ለደንገተኛ ግዜ ወጪ
  - ለቤተሰብ ገንዘብ ስራ
  - ለመጀመሪያ ደረጃ ስራ
  - በጠፈራ ስራ ላይ
  - ለባዕዳዊ ስራ: ለምሳሌ ለሰነድ ስራ, ለልደት, ለዓረፋ, ለዘመን ማሰቃጫ, ወ.ዘ.ተ
  - የቤት ወስን ስራ ላይ
  - ቤት ለማሰቃጫ ስራ ላይ
  - ሌላ ካለ ይግለጹ \_\_\_\_\_
- 15. ለጥያቄ ቁጥር 10 ማህበረሰብ "አልቆጥብም" ከሆነ እንዳይቆጥቡ ደረጃ ምን ድን ነው?
- 16. ገንዘብ ስራ ከየትኛው ስራ ላይ ይቆጥባሉ?

- ባንክ
  - ብድረና ቁጠታ ተቋም
  - እቅብ ወይም ጸደቅ
  - ቤት
  - ሌላ ካለይ ግለፁ -----
17. በጥያቄ ቁጥር 16 ያለውን ተቆምላለሁን? ምክንያቱን ይጥቀሱ.....
18. በገንዘብ ተቆማቸው የሚጠበቅ ስራዎች (ለምሳሌ: ብድር፣ የወለድ ማህበረሰብ ወ.ዘ.ተ) እንዴት ይገልጹታል?
- አጥጋቢ
  - አጥጋቢ አይደለም
19. ማህበረሰብ አጥጋቢ አይደለም ምክንያቱን ይጥቀሱ፤ -----
20. አሁን ያለው የጋራ ጥያቄዎችን ተቆጣጣሪ ለሆኑት ለሌሎች ለመሰጠት ይረዳሉ?
- አዎ
  - የለም
21. ለቁጠባ ህልውና ለመቆጣጠር ስራዎችን ያቀረጡ ስራዎች (ከአንድ በላይ ማህበረሰብ ይጠቀሱ)
- ዝቅተኛ የገቢ ማህበረሰብ
  - የግንዛቤ እውቀት
  - ያልታወቀ ወይም
22. በባህር ዳር ከተማ ለሌሎች የቁጠባ ባህሪ ለማድረግ እና ለማሻሻል ምን ማድረግ አለበት ብለው ይመክራሉ? -----
23. እባክዎን ከዚህ በታች ለተዘረዘሩት የውጤት ስራዎች ተኮርኮሮ ስራዎችን ይጠቀሱ

የስራው ዓይነት	ወጪ (በብር)
አጠቃላይ የሥራ ስራዎች	
አጠቃላይ የሥራ ስራዎች ለተለያዩ ኮሎኖች	
አጠቃላይ የሥራ ስራዎች (ካለ)	
ሌሎች የሥራ ስራዎች (ለማሳኛ፣ ለትራንስፖርት፣ ወ.ዘ.ተ)	
በጣም ወደ ሌሎች ነገሮች ምን ያክል ያወጣሉ	