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Determinants of Urban Household Saving in Bahr Dar City

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DETERMINANTS OF URBAN HOUSEHOLD SAVING IN BAHR DAR CITY

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Declaration

I declare that this thesis "determinant of urban household saving in Bahir Dar city" is my original work and that all sources of materials used for this thesis have been properly acknowledged and referenced and I have produced it with the guidance and suggestion of my Research Advisor.

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LIST OF ACRONYMS

RIH   Relative Income Hypothesis

LCH   Life Cycle Hypothesis

PIH   Permanent Income Hypothesis

RIH   Relative Income Hypothesis

GDP   Growth Domestic Product

MOFED   Ministry of Finance and Economic Development

LM   Lagrange Multiplier

Abstract

The general objective of this study was to examine determinant of household saving in Bahir Dar city. Cross-sectional primary data was collected using structured questionnaire from 398 households from six sub-cities of Bahir Dar city. Stratified random sampling was used in order to draw representative sample from the target population (households).

Tobit regression model was used to analysis the data. Based on the Tobit model, higher expenditure on consumption and low level and uncertain sources of income reported as major challenge of saving. The empirical analysis of the study found that age, marital status, income, housing ownership, use of financial planning and incentives are positive and significant determinants of average household saving. If the income of the household increased by 1000-birr, average household saving increased by 276.53 birr and married household save more 189.56 birr than un married. Availability of incentive also causes an increase of household saving by 183.05 birr. While age square, family size and education of the household head are significantly negative, sex and occupation of the household head found to be insignificant. And a one person increases in the family causes decrease of household saving by 123.24 birr on average. The study, therefore, recommended for government policies to be geared towards family planning, job creation and income generating activities and financial institutions should take a large work of providing saving incentives, new and diversified saving products.

Key words: average household saving, determinants of household saving, Bahir Dar

1 CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Saving plays an important role in influencing economic growth and development. It provides financial resource through capital accumulation and helps to meet investment cost. The formation of capital, therefore, can be considered as a key financial and economic variable which is a fundamental deriving force for economic growth and development. Michael, (2013) noted that saving and economic growth have positive relationship and as an important indicator of economic growth saving mobilization has become a frequent recommendation in economic growth.

National savings are often seen as instrumental in achieving high economic growth at a country level (Kudaisi, 2013). And the reasoning is simple enough - higher savings in a country breeds improved investments, and investments in turn give rise to industrial growth, employment opportunities, stable prices and economic development.

Among others, household saving which is done by families and individuals is usually the largest component of domestic saving in developing countries (Nayak, 2013). Saving plays an important role for meeting precautionary motive or emergency confronted by an individual and household.

Saving also serves as a means for financial mobilization to start up new business or expand the existing business. According to Stenga (2010) saving is used as a way in increasing capital accumulation to meet household basic needs, meeting precautionary demand for money balance, acquisition or improvement of homes, settlement of debt and promoting investment.

Saving is one of the most important types of household 's economic activities. Its significance can be seen from the point of view of both microeconomics as well as macroeconomics. First of all, household savings ensure stable level of consumption for households at microeconomic level during time of income reduction, for example, due to job loss, disability or retirement. Undoubtedly, savings provide safety for a household in sense of future uncertainty. Secondly, aggregated household savings at macroeconomic level can be used as a source of investments (Zhuk, 2015).

During the failure of insurance and credit market household savings are significant determinants of uncertain circumstance in developing country. Attanasio & Szekély,(2000), found that without

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saving households have no or few mechanisms to smooth out unexpected variation in their income. Since household savings are one of the means to accumulate assets in the absence of credit and insurance market, the capacity to save becomes one of the vehicles of the social mobility and enhancing future economic earning possibilities. Additionally, when household saving starts to rise, perhaps due to an increase income, it leads to finance investment and leads to creation of more opportunities in economy.

In developing countries domestic saving remains at low level due to low and limited level of house hold saving. On average sub-Sahara Africa saves less than 15% while East Asia saves more than 30% growth national disposable income (Ayenew, 2014).

As of other poor countries Ethiopia experienced poor saving culture. According to (Sebhatu, 2012), low level of income and adverse shocks cause low level of household saving. Even if there is saving mobilization strategies the level of saving is at its infancy stage in Ethiopia. The effect of low level of household saving causes low productivity, inability to meet food requirement and financing of children education and household health expenditure.

According to Abay, (2010) Gross Domestic Saving/Gross Domestic Product ratio of Ethiopia from 1997 to 2002 was 6.6% which was lower than low income sub-Sahara Africa which is 7.1%. And the domestic saving of Ethiopia in 2007, 2008, 2009 and 2010 was 5.6%, 0.6%, 2.1% and 0.3% respectively while the domestic saving of the low-income sub-Sahara Africa was 9.6%, 7.3%, 7.8% and 8.6% respectively in the same years. The domestic saving in Ethiopia has been quite low and the reason for low saving is the fact that the infancy level of financial sectors.

Many literatures documented about household saving and its determinants and it is suggested that household saving is not uniform across countries and regions. Economic environments are one of the differences between developed and developing nations to influence household saving behavior(Michael, 2013). A study by Agrawal et al., (2009) found that country and regional studies have their own importance on determinants of household saving. Therefore, in many researches it is found that the determinants of household saving include income, age structure, sex of household, household size, marital status, dependency ratio, occupation and wealth are among few others. Most of these variables are commonly used in modeling the determinants of household saving.

1.2   Statement of the problem

In the world urban household saving is growing in most developing countries. For example, in china, Horioka & Wan, (2007) found that household saving has been high and growing over time. But the situation deviates for most of African and sub -Sahara countries. According to Rogg, (2006) saving and investment gap is a very serious challenge for developing nations. In the economy of poor countries domestic saving is too limited to finance investment. Thus, low level of household saving said to be the cause for low performance of economic growth in developing countries. As a result, developing countries need to finance their investment by government borrowing either from domestic or abroad financial sources. But, since it could increase country's debt overhang and debt burden, government borrowing cannot be the long-term solution.

Like other sub- Saharan African countries Ethiopia is experiencing domestic saving gap. According to MoFED (2012) the average gross saving rate as percentage of gross domestic product (GDP) of Ethiopia is about 21%. Thus, the ratio of domestic saving to GDP shows that Ethiopia is with poor performance of domestic saving. Infancy level of domestic saving enforces the country to engage in abroad financing which in turn to debt burden and debt overhang. Given domestic saving gap and short comings of abroad financing¸ external indebtedness and debt overhang, the country left with one alternative that is domestic saving mobilization. Household saving is the major source of domestic saving mobilization. Thus, it is necessary to investigate what factors determine household saving mobilization in Ethiopia. As cited in Saliya, (2018), Bizuneh (2011) studied the determinants of household saving behavior in Nekemte town, and the result reported that income, demography and academic level of the household are the positive and major determinants of household saving.

Despite it is important to have a study on determinates of local household saving in places such as Bahir Dar, the available studies are few and some of them are undertaken some years back. Majority study on saving in Ethiopia is at macro level which does not identify the real features and diversity of saving behavior. According to Abdelkhalek et al., (2009) it is found that micro level analysis is the best rather than macro analysis in order to identify the real problems and forwarding appropriate policy recommendations.

In Ethiopia there are some empirical studies on determinants of household saving such as (Hailesellasie et al., 2013), (Teshome et al., 2013), (Zeleke, 2019), but these studies found to focus on factors that determine household saving in rural areas and deployed descriptive analysis.

Other study also conducted by (Fenta et al., 2017), in Amhara national regional state to assess the saving habits of the household and its determinants. But this was not specifically in Bahir Dar city rather it incorporated other eleven zonal cities of the region including with Bahir Dar city. There for, this study is undertaken to fill this gap and establish econometric model to analysis household saving behavior in Bahir Dar city. We undertake this study following (Abdelkhalek et al., 2009) views which noted that in a developing economy saving behavior can be very different between rural and urban areas. Accordingly, urban area population have different income group with different sources of income, cost of living and live with different social characteristics like education level. Within all this justification this study is identified to investigate the determinants of urban household saving in Bahir Dar city by raising the following research questions.

- What are the pattern and trend (level) of household saving in Bahir Dar city?
- What are the motives (purpose) of households to save money?
- What are the determinant factors affecting urban household saving level in the city?

1.3 Objective of the study

The general objective of this study is to examine the household saving level and purpose; and its major determinants in Bahir Dar city.

1.3.1 Specific objectives

1. To examine the pattern and trend (level) of household saving in Bahir Dar city.
2. To examine the motives (purpose) of households to save money.
3. To understand and determine factors affecting urban household saving level in the city.

1.4 Significance of the study

Like other developing countries, Ethiopia needs to reduce the reliance of abroad financing of investment through narrowing the gap between domestic saving and investment. Thus, this study focused on the determinants of household saving behavior in Bahir Dar city and it will help policy

makers to pass the necessary decisions on urban resources (saving) mobilization. Furthermore, this study can be used as a literature in further study on urban household saving behavior.

1.5   Scope and delimitation of the Study

The study is confined to specific geographical area, topic coverage and respondents in order to efficiently use limited resources. Accordingly, the study is delimited to Bahir Dar city, the capital of Amhara national regional state. This study is also delimited in investigating the determinants of urban household saving using sample respondents.

1.6   Organization of the study

The rest of the chapters are organized as follows: Chapter two presents a review of the theoretical and empirical literature and conceptual framework based the concern of the study. Chapter three describes the research methodology including a brief description of the study area, data collection procedures and analytical techniques. Chapter four presents the results of the study and the discussion. Finally, a summary of the major findings, conclusion and recommendations are presented in chapter five.

2 CHAPTER TWO: REVIEW OF THEORTICAL LITREATURE AND EMPIRICAL EVIDENCES

The literature in this research has two parts: theoretical and empirical literature. Theoretical literature contains different models developed on saving and empirical literature concentrate on different studies that focused on factors affecting household saving behavior.

2.1 Theoretical Review of Literature

2.1.1 Definition and concept of savings

From the view of classical economics income (y) is the sum of consumption (c) and saving (s), $(Y = C + S)$. Therefore, $S = Y-C$, thus, saving is the part of current income which is not consumed or it is postponed consumption (Hagemann, 2005). Saving could not be only the act of putting nominal currency for the future since physical products such as land; car and etc. are other methods of saving. Mansfield et al., (1977), identified two key terms: "saving" and "savings". Saving is a flow concept and its magnitude is measured with reference to a particular time such as in a day, month, year, etc... On the other hand, savings is a stock variable. Savings refers to accumulated income, which is not spent and exists at a particular point in time. The rate at which people save part of their income is termed as "Marginal propensity to save". Marginal propensity to save measures how much savings rises when unit of income increases.

2.1.2 Types of Savings

The type of saving can be classified in sectorial basis. According to (Nayak, 2013), saving can be classified in three broad categories, namely, household saving, private saving and public saving. This classification of saving discussed as follows.

2.1.2.1 Household Saving

Household saving is saving made by all individual members live in one roof. It is the collective saving made by all household members. Household saving comprise individual saving behavior and both financial and non-financial assets which is not spent are household saving. Household saving contribute a large share in economic development.

2.1.2.2 Private saving

Saving made by privately owned institutions and corporations called private saving. According to Nayak, (2013) private corporate sector saving comprises of non-government non-financial companies, commercial banks and insurance companies working in private sector, co-operative banks, credit societies and non-credit societies and non-banking financial companies in the private sector.

2.1.2.3 Public Saving

The public sector's savings are constituted into (i) government savings, and (ii) savings generated by the public sector undertakings in the form of internal resources. One process of estimating public sector saving is to scrutinize the relationship between public savings and the consolidated returns shortage of government which is an alternative measure of government savings (Nayak, 2013).

2.1.3 Theory of Saving

Many researchers have tried to investigate savings behavior from different perspective and thoughts. Saving can be made to abstaining from doing things that would entail present consumption in order to provide for larger consumption in the future (Samuelson and Samuelson 1980) and other economists like (Modigliani & Ando, 1957), explain savings from income and age perspective (cited in Michael, 2013). Behavioral economists and economic psychologists on the other hand see self-control, motives and other individual characteristics as the factors that influence savings. Sorenson (2000) found that household made accumulated saving through consumption smoothing.

2.1.3.1 Absolute Income Hypothesis (AIH)

Most studies have been done either in developed or developing countries in order to understand the role of income in determining level of saving. Keynes (1936) analyzed the relationship between consumption and income. Prior to Keynes consumption had been viewed as the amount of income remaining after saving. Keynes found the modern consumption theory from his fundamental psychological law of consumption. Keynes argued that households their utility by consuming more of goods and services so that people will not alter their way of living and consumption is a common sense and intuition. Economic agents increase their consumptions as their income rise, but not by

as much the increase in income. And consumption is determined by absolute (current) income. The idea is that if someone has more than enough to meet the basic needs saving is the only possible. This means that someone can only save what is left over once essentials have been paid for ((Santos Alimi, 2013), Ottoo, 2009, cited in (Michael, 2013))). Thus, according to Keynes saving would increase as increase in absolute income.

2.1.3.2 The Life Cycle Hypothesis (LCH)

Modigliani and Bromberg's (1954 and 1980) life cycle hypothesis was designed to reconcile the discrepancy between cross-sectional findings and the findings of time-series analysis and it was a meant to capture the effect of liquid asset on consumption. Unlike absolute income hypothesis, life cycle hypothesis assumes that all individual consumes a constant percentage of their life income. This theory assumes that individual or households maximize their utility driving from their life time consumption. Even if income may not be continuous, consumption assumed to be continuous and average propensity to consume is high during old and young age. This is because the old people run their life on their life savings and the young people run their life by borrowing. The middle age people inclined to have higher income and saving with lower consumption. There for, according to this theory saving is primarily done to finance consumption during the retirement period (Kankaanranta, 2006, cited in Santos Alimi, 2013)

2.1.3.3 Permanent Income Hypothesis (PIH)

Permanent income hypothesis was developed by Milton Friedman (1957). Friedman extended the life time hypothesis by assuming income as present and future. This theory states that a person's consumption and saving are determined not just by their current income but also by their expected income in the future and permanent income is expected long term average income. Consumers maximize their utility by consuming less from transitory change of income than from permanent alteration to income. Consumers with large transitory income save more and their saving is the present discounted value of their expected future income. In this theory, if propensity to consume out of current income and permanent income does not different it could be due to that income follows a random walk with drift. Consumption and saving depends on consumers' expectation of the permanence of their income. If the future income is uncertain the precautionary motive makes the consumer to engage buffer stock saving in the shorter horizon than the horizon requirement in the retirement saving. Consumers must know and predict the future permanence of their income.

Predicting the impact of a change in income on saving requires knowledge of the degree of uncertainty in the future income. Consumer with future income uncertainty should save more out of current income (Campbell, 1987, Carroll, 1997, Samwick, 1997, cited in Liberda & Peczkowski, 2006)

2.1.3.4 Relative Income Hypothesis (RIH)

Relative income hypothesis stats that consumers satisfaction or utility derived from a given consumption level depends on the relative magnitude in the society rather than its absolute level.

The relative income hypothesis attributed to James Duesenberry. James Duesenberry, in his seminal work, income, saving and the theory if consumer behavior (1949), introduced the relative income hypothesis in order to realize the difference between cross- sectional and time series properties of consumption data. Duesenberry proposed that individual consumption function depend on the current income of other people. People imitate or emulate the consumption standards maintained by their neighbors and the household or individual consumption determined by income and expenditure pattern of their neighbor. The percentage of income saved by family will tend to be unique, invariant, and increasing function of its percentile position in the income distribution of the society. The percentage saving of individual or household follows aggregate saving ratio and it is independent of the absolute income level of the individual or households. According to this hypothesis, people with relatively low-income attempt to keep up with the joneses. Therefore, people consume more and save less if they are with relatively low income. Duesenberry described the imitative nature of the consumers as demonstration effect. And, accordingly, the cross-sectional positive correlation between saving ratio and income level is an outcome of relative consumption concern or the effect of emulation. In the long run the effect of relative concern tends to cancel out in the aggregation and constancy of aggregate saving rate will arise (Alvarez-Cuadrado & Long, 2008).

Thus, from the above theory saving is determined by various factors like wealth, income, economic growth, the distribution of income in the society and demographic parameters.

 The relationship between consumption and income is proportional in relative and permanent income hypothesis and life cycle hypothesis reveals that the relation between consumption and

income is non-proportional. Moreover, as income grows people encouraged saving more and at the old age saving occurs to be less due to low level of retirement income.

2.2 Empirical Review

2.2.1 Determinants of Household Savings

The behavior of household to save could be influenced by many factors like households' perception or attitude to save, ability, willingness to save and motive or purpose and opportunity to save. Factors that influence households' ability to save, willingness to save and opportunity to save considered as determinants of household saving. Therefore, factors that motivate or prevent the household to save considered as determinants of household saving.

2.2.1.1 Income of Household head

Different studies in the world have been done in the area of saving and most of the studies found that income is the most basic determinant of saving. Studies conducted in different parts of the world found that income and saving have positive relationship. Some scholars in this area proposed some theoretical frame work between income and saving.

According to Keynesian theory of saving (absolute income hypothesis) and Friedman permanent income hypothesis it was postulated that income and saving occur to have a positive relationship. Friedman permanent income hypothesis consider income with permanent and transitory components. This theory revealed that households tend to consume permanent income and their transitory income channeled to saving with higher marginal propensity to save.

Studies conducted by other scholars found that income and saving have positive relationship. Ceritoglu, 2014) found that rise in the first approximation of income leads to increase in household saving in Turkey. Other scholars in Ethiopia like (Teshome et al., 2013) and (Sebhatu, 2012) found a positive relationship between income and household saving. Saliya (2018) undertake a survey study in mekelle city to understand the determinists of urban household saving and it is found that as income of the household increase, the probability to save also rise.

This study concludes that the total income of the household showed a positive and significant relationship to household saving.

Other scholars like Iqbal et al., (2018), in Pakistan and Chamon, Marcos & Prasad, (2005) in china found a positive relationship between income and household saving. In Pakistan it is found that a unit rise in income resulted to a twenty percent increase in saving. There for, a single unit increase in households' income cause a twenty percent marginal propensity to save. In china the saving behavior of household found to be close to life cycle theory of saving, young household save more as income determined saving in line with age. Alessie & Teppa (2014) in Dutch undertake a panel data evidence on household saving and habit formation and it is found that as income increase household saving increase due to precautionary motive. Thus, all empirical findings discussed on the above, even they deploy different methods, found a positive relationship between income and household saving.

2.2.1.2 Incentives

Today many banks give special attention to deposit mobilization. These banks encourage people to save money and they attach some rewards as incentive so that people attracted to engage in saving.

According to Michael (2013) banks and financial institutions encourage people to save by giving a considerable incentives and rewards. Contractual savers receive guaranteed loan in construction and farming investments and savers receive a multi-purpose insurance policy against risks of natural death, accident, inability to consequent disease and assistance of social service fund during difficult and unforeseen conditions. For instance, Nasser Social Bank in Egypt provide contractual saving plan with saver to regularly deposit a given sum of money in exchange for an interest payment or other certain financial services to mobilize household saving. Institutional arrangements such as incentives and subsidies encourage saving and capital accumulation.

Saez (2007) analyzed the responses of tax filers to financial incentives and subsidies for retirement saving contribution. He takes in to account the impact of variation in information and the way of presenting the incentive in affecting the response of tax filers. And it is found that economic incentives have a significant effect on saving behavior. Tax filers largely affected by economically equivalent subsidies rather than cash back. This study evidenced that variation in information and the characteristics of presenting the incentives have a large effect on behavioral responses of savers.

A study by Zou et al., (2015) assessed the impact of facilitators on youth saving in Ghana and Kenya. This study came up with that youth saving is positively influenced by encouragements from stake holders (parents, schools and financial and administrative institutions) in youth saving projects. Active support network around youths found to be psychological incentive and re-enforce youth savers to engage in saving and it is important to promote financial inclusion.

2.2.1.3 Housing status of the household

In addition to income wealth is one of the determinants of household saving behavior. Due to difficulty in getting data on wealth of the household, housing status has been taken as a proxy for wealth of the household. Housing status has two implications in determining household saving. In one-way house owners expected to save more since their expenditure on house rent can be directly diverted to their saving and in another way households who have no their own house expected to save more aiming to purchase or build their own house.

Wealth is one of the basic economic units that affect the saving behavior of households. High wealth expected to positively affect the probability and amount of household saving (Ahmad et al., 2006).

As compared to developed nations households in developing countries are less wealthy and due to difference in wealth there is a difference in level of consumption and behavior of saving. Households in developing nations save less due to low level of wealth than developed nations. Therefore, wealth is positively related with household saving (Asare et al., 2018).

Bebczuk et al., (2015) undertake a study in Latin America to understand the determinants of household saving behavior. In investigating the pattern and drivers of household saving, they assembled official survey of 10 selected Latin American countries. This study found that households who have their own home (house) save more by diverting their rent expenditure to their saving and the study documented that home ownership associated with higher saving.

The impact of wealth on household saving also studied in German by (Belke et al., 2012). This study conducted to understand weather wealthier households save more. They used the pooled cross-sectional data of German consumption survey to investigate the relationship between wealth and household saving behavior. The pooled model result indicates negative impact for housing

asset equity and positive effect for deposit. The empirical result imply that as housing asset holding increase household need to lower further asset accumulation and engage in saving agreement. Therefore, as wealth increase, household tend to increase their saving.

In Ethiopia assessment of saving culture among house hold has been taken in Addis Ababa, Hawassa and Mekelle by (Hailesellasie et al., 2013). They found a negative relationship between house ownership and household saving. The study found that households who have not their own home save more than home owners.

2.2.1.4 Use of Financial Planning for Consumption

Households must decide how to allocate their income over time to maintain stable wellbeing. Analyzing households saving behavior with the concept of household financial planning and management induce a direct and practical implication for the need of financial management education and saving can be realized when households implement relevant financial plan. Households with long term financial planning horizon found to save more than similar households with short term financial planning horizon. Moreover, households saving goal for retirement, emergency, and purchase of house hold durable goods positively associated with household saving (Lee et al., 2000).

Lusardi (2014) undertake a study to understand the role of literacy, information and financial education program. It is found that financial planning is an important determinant of household wealth accumulation and distribution. Planner households found to have more wealth than non-planners. Lack of information and lack of financial literacy affect ability of households to save and comfort retirement. Lack of planning has been also linked with financial ignorance and inability to plan (procrastination) prevents households from saving.

Financial literacy cause households to spend their money shrewder and encourage saving. Financial literate people are likely to plan their expenditure and their literacy contribute achieve financial goals such as buying house and better in retirement. Financial literacy has positive impact on household saving through affecting economic growth and financial development (Bayar et al., 2017).

2.2.1.5 Occupation of household head

The amount of income of the household mostly depends on occupational status. Households with occupation of high income are likely to save more than those of low-level occupation. People working in the formal sector are more likely to engage in saving than the informally employed. The formal and financial sector occupations are high paying jobs and employees of such institutions engage in saving than the others (Michael, 2013).

Other study by Zwane et al., (2016), employed a panel data investigation to understand the determinants of household saving in South Africa. The result of this study reveals that household saving strongly driven by employment status of the household head. The estimation result of this study found that employment status of the household exerts positive impact on household saving.

Saqib et al., (2016) investigated the impact of household head occupation on household saving. They undertake the study in Pakistan the district of Chitral and the effect of employment status on household saving was analyzed by using employment status of the household head as qualitative variable in considering household head as employed and self-employed. The finding of this study reported that there is significant relationship between occupation and household saving. Households having employment as the sources of income have more saving than self-employed households. Therefore, they conclude that employed households likely to save more due to constant flow of their income.

In Ethiopia a study was conducted by Fenta et al., (2017) in Amhara national regional state to assess the saving habits of the household and its determinants. This study deployed cross-sectional household data from eleven zonal cities of the region including Bahir Dar city. The logistic analysis of this study found that saving habit of business men household higher than the saving habit of government employee household. Due to uncertain nature of their income, merchant households have higher interest to save than government employees who their income has certain nature. Therefore, employment status of the household significantly affects saving habit of the households.

2.2.1.6 Demographic Factors and Household Saving

Demographic factors like family size, age of the household head, sex of the household, education status of the household head and marital status of the household head affect saving through

influencing ability and or willingness to save. Some of demographic factors have positive effect on household saving and some others have negative effect.

2.2.1.6.1 Age of household head

Age of the household head is one of important variables that determine household saving. Consumption and saving behaviors change over time and different age groups likely to have different propensity to consume and saving. For instance, according to life time income hypothesis even if income may not be continuous, consumption assumed to be continuous and average propensity to consume is high during old and young age. This is because the old people run their life on their life savings and the young people run their life by borrowing. The middle age people inclined to have higher income and saving with lower consumption. Therefore, saving is likely small in old and retirement (Kankaanranta, 2006, cited in Santos Alimi, 2013).

According to Liberda & Peczkowski, (2006) age structure of the household by household head affects income uncertainty and young households are likely to have high income and saving. The young generation able to engage in the most productive and modern sector of the economy and they out-pass the old generation in the level and growth of income and saving in short time.

A study by Saqib et al., (2016) found a positive relationship between household saving ages of the households head in Pakistan, Chitral District. A multiple regression was deployed to explore the relationship between household saving and socio-economic factors and the age of the household head found to affect household saving positively and significantly. The positive coefficient of the regression showed that as the age of household head increase the saving tendency of the household increase.

Other study in German by Belke et al., (2012), found that the marginal effect of age of the household head likely to be u-shaped over life cycle. The effect of an additional year of age is lower around the age of 40-42 (saving decrease, but not in monotonic way) and at the highest age level living one additional year have higher effect on household saving. Generally, household saving increases over their retirement.

In Ethiopia a study has been conducted by Hailesellasie et al., (2013) to assess the saving culture of the households in three selected cities, Addis Ababa, Hawassa, and Mekelle. The study deployed

non proportional quota sampling technique and the Chi-Square value of household age shows that age is a significant factor in determining household saving behavior. Accordingly, as the age of the households increase the saving tendency of household will decrease. Therefore, this is due to the fact that young households able to work more than old households and, hence, they likely to get more money and to save more.

2.2.1.6.2 Family Size

Family size of a household is among one of important determinants of household saving. In a family there might be working and dependent members that affect the behavior of household saving. In urban area large family size affect household saving negatively. An additional member in the household significantly reduces household saving (Abdelkhalek et al., 2009).

According to a study by İpek & Sekmen (2016) nuclear family without children have higher saving and saving rat decrease with increase of number children. Extended families have higher saving rate than nuclear family because of those extended families can have more employers. If number of family below average household size, the household likely to have high saving due to low dependency ratio.

Average household size reflects the influence that the number of co-residents has on household saving. Households with a child may be less concerned to retirement saving than households without child. Average household size negatively associated with urban household saving. As urban household size decline the saving rate of household rise (Nabar, 2011).

Other study was conducted by Mumin et al., (2013) in Ghana to analysis to decision of household saving. This study deployed a cross-sectional data collected through the utilization of questionnaire and stratified random sampling technique. The result of this study shows that high dependency ration in the household affect household saving negatively and significantly. Due to an increase in the net dependents of the household the probability of household head to save reduce by 0.038. Therefore, high dependency ratio erodes the residual income of the household and adversely affects the tendency of household to save.

Another study by Harris et al., (2002)found that number of children negatively associated with household saving in Australia. The presence of children will reduce Australian households'

propensity to save because of that increase in expenditure required with children. The coefficient of the estimates of this study shows negative and significant effect of the number of children on household saving. This indicates that the presence of children has a detrimental effect on the probability of saving, and the more children in a household, the more difficulty a household has saving anything.

2.2.1.6.3 Sex of Household Head

Gender is identified as an important variable in the saving household behavior. In analysis of determinants if household saving in Australia, Harris et al., (2002), found that positive and significant coefficient on men variable reflect that men have higher saving in the form of superannuation than women. Male respondent knows more about the financial position of the household (e.g. the size of superannuation contributions) than the female in the situation when they are partners.

In Morocco, other than higher income level, if the interaction between income and gender has been take in to account, Moroccan women likely to save more than men. But, in the case of higher income level saving is higher if the household head is men and in this case the assumption that women in developing countries would save more than men is therefore questioned in the case of urban area (Abdelkhalek et al., 2009).

A study conducted by Mumin et al., (2013) investigated that gender of the household head negatively associated with household saving. It is statistically significant at 5 percent significance level that gender of the household head negatively affects household heads' motivation of saving for this study. Female household heads save more than male household heads. It has a marginal effect of 0.427 suggesting that the probability of household heads saving falls by 0.427 when the gender of the head changes from male to female. Another study has been investigated by Paxton (2009) to understand the impact of gender of household head on household saving in Mexico. This study used an instrumental variable model and the estimate of the model shows that gender is significant determinant of liquid saving. Hence, this study revealed that male headed households had higher total liquid saving.

In Ethiopia a survey has been conducted by Saliya (2018)to investigate determinants of urban households saving in mekelle. The binary logistic regression analysis of this study revealed that

gender of the household head exerts negative and significant influence on household saving. Households headed by males had a negative impact on household saving and households headed by females had more probability of saving than their male counterparts.

2.2.1.6.4 Educational status of household head

Education is main determinant of higher earnings and savings as well. Education was also found significant determinant for urban households and had negative coefficient. Education of the household head found to be that, as education increases, it reduces the household savings among urban households whereas no relationship was found among rural households (Saqib et al., 2016).

Higher education levels imply that people to have a better understanding of their personal financial matters, so they will be better able to make financial decisions and have more ability to plan for their future. There is evidence to show that more educated people can manage their money in terms of insuring, investing, saving and budgeting (Hogarth, 2002, cited in Mahdzan & Tabiani, 2013).

As cited in Mumin et al., (2013), Annamaria, (2000) investigate household saving behavior and explain differences in patterns of accumulation in United States of America. And a regression analysis of this study found that the educational status of the household has considerable effect on savings. The result indicated that household heads with higher education had higher savings.

According to Mumin et al., (2013) educational status of the household head positively affects the decision of saving and it is statistically significant at 1 per cent significance level. This has a marginal effect of 0.086 suggesting that an additional year spent in school increases the probability of a household head saving by 0.086. The logistic regression result of this study shows that educational status of the household head is important in determining household saving since educated household heads are able to get employed in better jobs and also appreciate the need to save at least towards retirement. Therefore, higher educational status of the household head is a driving factor for household saving, with increase in educational status of household heads, household saving increase.

In Ethiopia, mekelle, a survey by Saliya (2018) found that education level of the household head showed a negative relationship with household saving, but it was not statistically significant.

Higher levels of education lead to less saving and this may be the consequence of households with higher education expecting higher and/or stable income streams in the future.

2.2.1.6.5 Marital Status of Household Head

Marital status is also another important determinant of household saving rates. Households with married households head likely to save less than unmarried. Marital status dummy variable was found as statistically significant to influence the behavior of household saving. It is considered that the married individuals have higher saving rates as a result of having their higher young and elderly dependency ratio compared to single individuals (İpek & Sekmen, 2016).

According to study by Paxton, (2009) in Mexico the marital status of household head has its influence on household saving. For instance, key difference between the women who are married and those who are completely on their own is that the married women may receive remittances (since remittance might increase the availability of liquid fund for saving) or support and therefore, marital status may be a significant determinant of savings. The marriage variable in female-headed houses accounts for the difference between households that have a male who has migrated and households that have no male either from divorce, separation, or death.

Marital Status of household head is an important factor that has very significant effect on household savings. When household head is un-married, he has no responsibility regarding family. He has less expenditures and more money to save for future needs. But after marriage, he has to look after his family, children, relatives, and have more domestic expenditures than past (Saqib et al., 2016).

According to Hailesellasie et al., (2013), in Ethiopia, Addis Ababa, mekelle and Hawassa, saving behavior of widowed and married household found to be better than unmarried household.

2.2.2 Household saving motives

Economists identify two distinct motives, precautionary and life-cycle motive, for saving. In precautionary motive if future income is uncertain and risk aversive people abstain from consuming their income completely and they lower their consumption. As incomes increase the desire of people to be protected from now larger income shocks will also increase. In the second category of motive, life-cycle motive, People typically plan to retire; in order to finance their

spending in retirement they need to save up out of their earnings while they work. Young people aspire to living standards in retirement higher than those enjoyed by current old people, so their saving has to exceed to the de-cumulation of wealth carried out by old people; the faster the rate of growth the higher the required rate of saving (Weale, 2009).

Households usually have more than one motive of saving. As cited in Zhuk, (2015), Warneryd, (1999), in the study of psychology of saving, identified four motives, saving as habit, precautionary, leave bequest and saving for profit, motives of households.

Keynes (1936) identified eight motives of saving that encourage households to save. Accordingly households deliberately engage in saving due to negative events in the future, to ensure stable expenditure during retirement, to receive interest, to be able to increase expenditure, to have feeling of independence, leave bequest, to participate in potential business projects and to satisfy greediness (Zhuk, 2015).

Fisher & Anong (2012) conducted a study to examine the relationship between saving motives and saving habit by using three psychological classifications of households as households save regularly (discretionary), save irregularly (residual), or do not save. The descriptive result of this study shows that with respect to motives, those who held a motive to save for retirement were most likely to be discretionary regular savers or residual irregular saver and the regression result revealed that emergency and retirement saving motives are important predictors of saving behavior. Therefore, precautionary and retirement motives of the household are likely to increase household saving either regularly or irregularly.

Moreover, retirement motive found to be a difference for regular and irregular savers. A long-term planning horizon and higher income increased the propensity for regular savers as compared with irregular savers and not savers.

People have many different reasons for saving money either, either long run or short run motives. A study by Satsios & Bassim (2018) investigated the effects of control variable on the motives of Pomak household saving. Their study found that the precautionary saving motives (future uncertainties / emergency / safety and education / love / family) are considered as the most important saving motives, while the calculation and improvement motives (invest in financial products and purchase durable goods) are considered the least important.

2.2.3   Conceptual framework

In the previous part of the study theoretical and empirical literatures has been presented in order to understand determinant factors of household saving. The conceptual framework in the following figure summarized how the determinant factors affect the level of households saving.
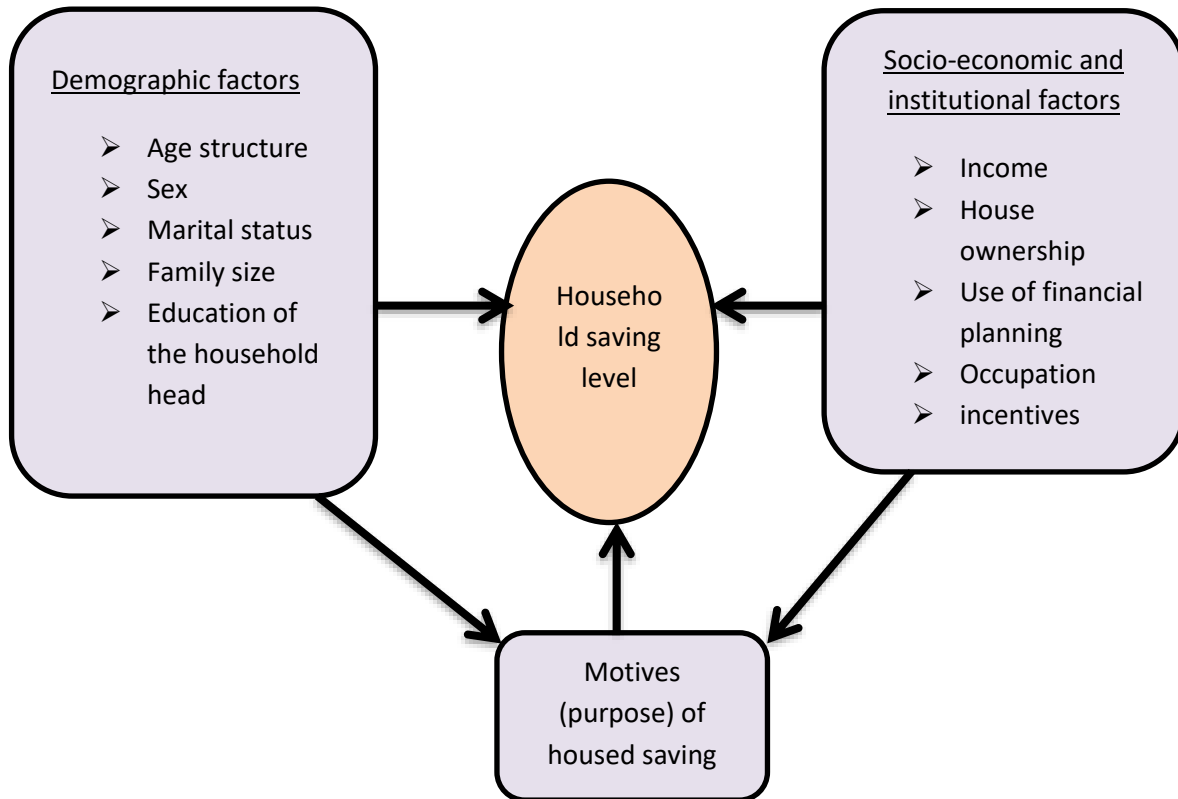
Figure 2-1. Conceptual frameworks on determinant factors of household saving level

Source: adopted from Michael, (2013) and Saliya, (2018)

3 CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

This chapter contains the study design, the method of data analysis that adopted in study, the sampling technique and sample size determination. It also includes model specification, techniques of data collection, and variables with measurement and statistical methods that used to analyses the data.

3.1 Description of study area

This study is conducted at Bahir-Dar city, the capital of Amhara national regional state since 1991. Bahir Dar is located at the exit of the Abbay River from Lake Tana at an altitude of 1,820 meters above sea level. The city is located approximately 578 km north-northwest of Addis Ababa with the latitude and longitude of 11°33'15" and 11°36'53" north latitude and 37°21'11" and 37°25'49" east longitude coordinates (Kibret & Tulu, 2014).

Based on Bahir Dar city administration mayor's office (2020) total population of the city is about 269,531 live in 62,682 household of whom 125,206 are men and 144,325 are women.

Bahir Dar is not only one of the largest towns in Ethiopia, but also one of the fastest growing and its social, cultural and economic activities growing fast. The city is one of the leading tourist destinations in Ethiopia, with a variety of attractions in the nearby Lake Tana and Blue Nile River and it is the center of Amhara national regional administration. It is also high commercial and investment center of the Amhara regional states and market center for the surrounding areas. Therefore, resource mobilization in city is given to attention for the city to facilitate such economic activities (Kibret & Tulu, 2014).

3.2 Research Designee

This research is designed in order to understand the determinant factors of urban household average monthly saving in Bahir Dar city. The study utilized instruments of structured questionnaire in order to collect the necessary households' information. And the response of participant urban households has been analyzed using research tools.

3.3 Research Approach

The objective of this study is to examine determinant of urban household saving in Bahir Dar city. Accordingly, this study employed quantitative research approaches based on the data collected from urban household. And the nature of data for this study is primary data collected from urban households using questionnaires.

3.4 Sampling Technique and Sample Size

3.4.1 Sample Size

The target population for this study is households in Bahir Dar city. The total population (household) for this study is 62,682 and the sample size of the study determined by using the simplified formula of Yamane (1967:886). Based on Yamane (1967:886, as cited in Israel, 2003), the sample size for this study determined as follows.

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

Where, n is sample size

N is population

e^2 is probability of an error

The sample size for this study can be determined as follows:

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

$$n = \frac{62,682}{1+62,682(0.05)^2}$$

$$= 398 \text{ household heads}$$

3.4.2 Sampling Technique

In study if the target population is very large and infinite it is difficult to undertake a census survey, rather taking sample is preferable and necessary. Sampling technique is a method by which the samples (representatives) can be drawn from the target population. In this study simple random

probability sampling was used in order to draw representative sample from the target population (households).

Based on the geographical structure of Bahir Dar city, initially, the population has been stratified in to 6 sub cities. In order to allocate a proportional representative for each sub cities the sample was allocated using systematic probability sampling method.

Table 3.1 proportional allocation of sample size

No	Sub city	Total households (N_i)	Sample size (n_i)
1	Atse Tewodros sub city	8,325	53
2	Dagimawi Menelik sub city	8,720	55
3	Fasilo sub city	9,995	64
4	Gish Abay sub city	11,395	72
5	Tana sub city	14,086	89
6	Belay Zeleke sub city	10,161	65
	Total	62,682	398

Source: own computation

3.5 Method of data collection

This study was conducted based on primary data collected from the sample of target population. Since the nature of data for this for this study is primary, the data was collected from the sample households using structured questionnaire. The questionnaire prepared both in English and Amharic language and it contains open ended and close ended questions based on household saving determinants.

3.6 Method of Data Analysis

This study was employed both descriptive and econometric analysis. Descriptive statistics such as mean, standard deviation, frequency and others were used to analysis the data. Regarding the econometric model, this study employed a Tobit model econometrics analysis.

Since the data for this study is a binary choice and censored type Tobit method of analysis has been utilized to understand determinants of average monthly saving of the sampled households.

According to Verbeek, (2004), in a study if a type of variable is with the value of zero or positive (yes or no), discrete and or continuous variables and if this type of variable has to be explained linear regression model is inappropriate and if the distribution of the endogenous variable is continuous with a probability mass at one or more discrete points, the use of Tobit models is recommended. In our study saving participation has the nature of binary outcome, which households either save or not participate in saving. On the other hand, the saving level of those saver households will have a saving level above zero value. In this case some sort of censorship is observed and we propose Tobit model for this nature of our data.

The framework of Tobit model was used to identify determinants of household saving capacity.

If the dependent variable is expected to be censored at the lower limit of zero, the Tobit model is preferable (Verbeek, 2004). So, if a household has zero or negative saving (censored observations), this gives us the standard Tobit model.

The standard Tobit formalized as follows:

$$Y_i^* = \beta' x_i + \mu_i \qquad i = 1, 2\ldots,$$

$$y_i = \begin{cases} y_i^* & if \ y_i^* > 0 \\ 0 & if \ y_i^* \leq 0 \end{cases}$$

y_i = Observed household saving

y_i^* = Latent variable (not observed)

β = Vector of unknown parameter

X_i = Vector of household characteristics (households' age, sex, family size, marital status, educational level, occupation, income, incentive, use of financial planning for consumption, housing status).

μ_i = Disturbance term, which is assumed to be normally distributed with zero mean and constant variance

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According to Verbeek, (2004), if all negative values of a data has to be mapped to zero (from below at zero), the model is censored regression model.

The model describes two things. One is the probability that $y_i = 0$ (given x_i), given by

$$p\{ y_i = 0\} = p\{y_i^* \leq 0\} = p\{\mu_i \leq x_i'\beta\}$$

$$= p\left\{\frac{\mu_i}{\sigma} \leq \frac{-x_i'\beta}{\sigma}\right\} = \Phi\left\{\frac{-x_i'\beta}{\sigma}\right\} = 1 - \Phi\left\{\frac{-x_i'\beta}{\sigma}\right\}$$

The other is the truncated normal distribution of y_i given it is positive is as follows:

$$E\{y_i|y_i > 0\} = x_i\beta + E\{\mu_i|\mu_i > -x_i'\beta\}$$

$$= x_i'\beta + \sigma \frac{\phi\left(x_i'\beta/\sigma\right)}{\Phi\left(x_i'\beta/\sigma\right)}$$

The model parameter estimation is the maximized Tobit likelihood function of the following form.

$$\log L_1 (\beta,\sigma^2) = \sum_{i\epsilon I_0} \log p\{y_i = 0\} + \sum_{i\epsilon I_1} [\log f (y_i|y_i > 0) + \log p\{y_i > 0\}]$$

$$= \sum_{i\epsilon I_0} \log p\{y_i = 0\} + \sum_{i\epsilon I_1} \log f (y_i)$$

Where f (.) is generic notation for a density function and the last equality follows from the definition of a conditional density. The index sets I_0 and I_1 are defined as the sets of those indxes corresponding to the zero and the positive observations, respectively.

That is, $I_0 = \{i = 1 \ldots N: y_i = 0\}$

Thus, to analyze the effect of explanatory variable on average monthly saving of household the following techniques of censored model was employed.

The marginal effect of an explanatory variable on the expected value of the dependent variable

$$\frac{\partial E(Y_i)}{\partial X_i} = f(Z)\beta_i$$

Where, f (·) is the density function of the standard normal distribution in Tobit model

From this we can get marginal effect of a change in X_i upon the expected outcome is given by the model's coefficient multiplied by the probability of having a positive outcome.

In specification of a Tobit model violation of distributional assumption, particularly non-normality and heteroscedasticity are a concern. We can test for these alternatives, as well as for omitted variables, within the Lagrange multiplier framework (Verbeek, 2004).

3.7   Description and Measurement of Variables

3.7.1   Dependent variable

The dependent variable for this study is urban household saving in Ethiopian birr, which is a measure of residual level of income after consumption expenditure of the household. It is the part of household's disposable income proceed to the stream of household saving or it is a measure of the difference between household's disposable income and household's consumption expenditure on goods and services. In study household saving can be measured in terms of binary and continuous data nature.

A recent study by Mumin et al., (2013) utilized binary and continuous data of household saving and in Ethiopia, Saliya (2018) utilized binary and continuous household data to study the determinants of urban household saving in Mekelle.

In this study household saving studied in terms of both in binary (if household participate in saving the dependent variable holds 1: 0 otherwise) saving and continuous nature of the household data. The average level of monthly household saving taken as outcome variable and it is measured by determinants of household saving. Due to limitation of data the study incorporates only the liquid or financial part of household saving.

3.7.2 Independent variable

The description and measurement of independent variables show in the following tables

Table 3.2 description of independent variable

Name of the variable	Types of variable	Description	Expected relationship with dependent variable
Age	continuous	continuous	
Sex	Dummy	0 for female 1 for male	Females are expected to save more than males (Mumin et al., 2013).
Marital status	Dummy	0 for single 1 for married	Marriage is expected to increase rate of saving (İpek & Sekmen, 2016) and (Hailesellasie et al., 2013).
Family size	continuous	continuous	increase of family size expected to decrease saving of household (Abdelkhalek et al., 2009).
Education	categorical	1 for illiterate, 2 for primary education, 3 for secondary education, 4 for certificate and diploma and 5 for degree and above	educational status of the household head positively affects the decision of saving (Mumin et al., 2013).
occupation	categorical	1 for government employed 2 for private organization employed 3 for self employed	
Average monthly income	continuous	continuous	Income has positive impact on household saving (Teshome et al., 2013)and Saliya, (2018).
Housing status	Dummy	0 for rental 1 for own house	Households who have own house expected to save more than rental dwellers (Bebczuk et al., 2015).

Use of financial plan for consumption	Dummy	0 for whom not use financial plan 1for whom use financial plan	Use of financial plan for consumption expected to have positive impact on household saving (Bayar et al., 2017).
incentive	Dummy	0 if incentive is not attractive 1 if incentive is attractive	Link of incentives for household saving expected to encourage household saving (Saez, 2007).

4   CHAPTER FOUR: STUDY RESULTS AND DISCUSSION

This chapter presented the analysis and interpretation of the study based on the collected primary data using both descriptive and econometric analysis. In the first part of the analysis descriptive statistics has been utilized. The categorical variables discussed based on percent and frequency analysis of the data and the continuous variable summarized and discussed using maximum, minimum, average (mean) and standard deviation values of the data. In econometric part of the study the primary data has been analyzed and interpreted based on the utilization of econometric model, the empirical result of Tobit (censored) model has been presented.

4.1   Descriptive analysis of the study

The study undertaken on sample size of 398 households in the study area and the collected data of sample respondents has been carefully and properly presented to data processing and analysis of the study.

4.1.1   Profile of the respondent

Table 4.1 Profile of respondents for continuous variables

Variable	Observations	Mean	Std. Dev.	Coefficient	Max	Min
Age	398	33.09296	9.188971	93.49382*	70	19
Family size	398	3.301508	1.643106	-194.6758*	7	1
Average monthly Income	398	3787.377	2579.379	.4368144*	16000	700
Average monthly Saving	398	818.2965	1238.945		8000	0

Source: own computation, 2020

The above table (table 4.1) summarizes the profile of 398 sample respondent for continuous variable. The table shows that for sample respondents the average age of the household head is 33.09 with standard deviation of 9.19. The age structure of the observation falls between 19 and 70, the lowest age category is 19 and the highest age of the respondent is 70. The average family size of the sampled household is about 3.3 with standard deviation of 1.64 and this figure is lower than the average family size of the region since based on Bahir Dar city administration mayor's office (2020) the average family size of urban area is 4.3. The lowest family size of the respondents

is 1and the largest family size is 7. The minimum level of income in the sampled household is 700 birr while the maximum is 16,000 birr and average monthly income of the sampled household is about 3,787 birr with its standard deviation of 2579.34. The table also shows that the summary of household saving. The average monthly saving is 818.30 birr with standard deviation of 1238.95.

Table 4.2 Profile of respondents for categorical variables

Variable	Category	Frequency	Percentage	Observation
Sex	Male	270	68	398
	Female	128	32	
Marital status	Married	291	73	398
	Single	107	27	
Education	Illiterate	11	2.76	398
	Primary education	53	13.32	
	Secondary education	101	25.38	
	Certificate and diploma	103	25.88	
	Degree and above	130	32.66	
Occupation	Government employed	145	36.43	398
	Private organization employed	72	18.09	
	Self employed	181	45.48	

 Source: own computation, 2020

The above table summarizes the profiles of sampled household for categorical variables and when we see the sex category of the respondents out of 398 observations 270 respondents or 68 percent are male and the rest 128 (32 percent) of the respondents are households headed by female. This shows that in sampled households the higher proportion of the households headed by male. When we see the other categorical variable, marital status, more proportion of the sampled households is leading by married household head and 291respondents or 73 percent were married and 107

household heads or 27 percent of the respondent were single. Educational status of the household head also one of the variables to explain urban household saving. From the above table 11 respondents (2.76%) were illiterate and 13.32 percent of the respondents or 53 household heads have primary education. About 101 household heads (25.38%) were schooling secondary education and the other 103(25.88%) household heads were certificate and diploma holders. The remaining respondents, 130 (32.66%) of the sampled household head were degree and above.

When we see occupational status of the household head, as categorical variable, from the sample respondents 145(36.43%) were government employed. About 72(18.09 percent) of the respondents were employed in private organization and the remaining 181 respondents or 45.48 percent of the sampled household head engaged in self-employment.

4.1.2 Patterns of Household Saving

Table 4.3 Pattern of household saving decision

Decision to save	Number of respondents	Percentage	Average monthly saving	Standard deviation
Participate in saving	275	69.1	1184.3	1337.54
Did not Participate in saving	123	30.9	0	0
Aggregate monthly saving			818.2965	1238.95

Source: own computation, 2020

The decision of households in order to engage in saving from their monthly income is summarized in the above table. The statistical analysis, one-way analysis of variance shows that there is statistical difference between households to engage in saving and their difference is significance at one percent level of significance. Accordingly, based on table 4.3 among 398 observations of the urban household majority of the respondents reported that they have saving account. About 275 respondents (69.1 percent of the household head) have their saving account; they save from their monthly income. Households who have saving account have average monthly saving of birr1184.3 with standard deviation of 1337.54. The remaining respondents of 123, the sampled household of 30.9 percent reported that they have no saving account and they did no save money from their monthly income. These respondents explained that the main reason for that they do no

save and confronted with is low level of their monthly income and higher expenditure on consumption. The aggregate monthly saving of the sampled household is about 818.29 birr.

Table 4.4 Patter of household saving decision based on sex and marital status

Decision to save	Sex			Marital status		
	Female	Male	Total	Single	Married	Total
Save	82 20.60%	193 48.49%	275 69.10%	45 11.31%	230 57.79%	275 69.10
Do not save	46 11.56%	77 19.35%	123 30.90%	62 15.58%	61 15.33%	123 30.90%
Total	128 32.16%	270 67.84%	398 100%	107 26.88%	291 73.12%	398 100%
Pearson chi2(1) = 2.2382 Pr = 0.135			Pearson chi2(1) = 50.1068 Pr = 0.000			

Source: own computation, 2020

 The above table (table 4.4) summarizes the pattern of households saving decision based on sex and marital status categories. If we consider number of respondents who participate in saving, about 275 respondents (69.1%) have positive saving and of which 193 respondents (48.49%) were males and 82(20.60%) of respondents were females. From 123 respondents (30.90%), who did not have participate in saving, about 46 respondents (11.56%) were females and the rest 77 respondents (19.35%), who do not have positive saving, were male respondents. And based on Pearson chi2 (1) (Pr=0.135) result there is no statistical difference between being male or female respondents to decide whether to save or not. On the other hand, considering the marital statuses of the respondent from 275 (69.10%) respondents who participate in saving, about 230 (57.79%) were married household head and 45(11.31%) were single respondents. And from 123(30.90%) of respondents, who do not have saving account, 62(15.58) respondents were single and 61(15.33%) respondents were married household heads and Pearson chi2 (1) (pr=0) shows that there is

statistical difference between male and female to whether to save or not to save. From the saving group if we compare the saving participation of male and female, male (193) respondents are more than females (82). Within the group, from 128 female respondent majorities are participated in saving (82 > 46) and from 270 male respondent majorities are participated in saving (193 > 77). In the same fashion when we see comparison based on marital status, the majorities of single respondent did not participate in saving (62 > 45) and from the married respondent majorities participate in saving (230 > 61). And majorities of respondents participate in saving are married household head (230 > 45).

In the decision of saving sex and marital status also determine the amount of saving of a household. The following table summarizes the pattern of amount of saving based on sex and marital status.

Table 4.5 Pattern of amount of saving based on sex

Sex	Mean	Stand. deviation	Frequency
Female	650.24219	991.83912	128
Male	897.96667	1334.5904	270
Total	818.29648	1238.9448	398

Bartlett's test for equal variances: chi2 (1) = 13.9739   Prob>chi2 = 0.000.

Source: own computation, 2020

Based on the above table out of average monthly saving of the whole respondents (818.3 birr) about 650.24 birr is average monthly saving by females and 897.96 is average monthly saving by male and being male or female is statistical significance to determine amount of saving. Hence, prob>chi2=0.000 shows the statistical difference of sex for amount of saving. When we compare the saving level of male and female respondents, male respondents are likely to save more than females (897.96 birr > 650.24 birr).

Table 4.6 Pattern of amount of saving based on marital status

Marital status	Mean	Stand. deviation	Frequency
Single	294.20561	582.39103	107
Married	1011.0034	1356.0075	291
Total	818.29648	1238.9448	398

Bartlett's test for equal variances: chi2 (1) = 81.3636 Prob>chi2 = 0.000

Source: own computation, 2020

Based on table 4.6 out of average monthly saving of the sample respondent (818.3 birr) about 294.21 birr is average monthly saving of single respondents with standard deviation of 582.39 and about 1,011.29 birr is the average monthly saving contribution of married respondents with standard deviation of 1356.00. Hence, there is statistical difference in marital status in determining amount of saving and this can be traced by prob>chi2=0.000. If we compare the amount of saving between married and single group, on average, the saving amount of married household (1,011.00 birr) is more than the saving amount by single household (294.21 birr).

The study also assessed the interest of the sampled households in choosing financial institution to save their money. Respondents reported their choice of financial institution including the reason to choose their interested financial institution. Households save their money both in formal and informal financial institution. Accordingly, bank, credit and saving institution, Ekub and Idir are financial institutions that households most commonly and frequently used to deposit their money. And households also save their monthly income at their own home. Respondents also explained their major driving reason to choose financial institutions, flexibility of operation, transaction cost and accessibility, security and credit accesses are the major reasons to choose financial institutions. While bank is the most rigid financial institution, home, ekub and idir, and credit and saving institutions are reported as more accessible and flexible in operation. The following table summarizes the decision of respondents to use financial institution.

Table 4.7 Household decisions to use financial institutions

Financial institutions	Frequency	Percent	Cumulative frequency
Bank	178	64.73	64.73
Credit and saving institution	46	16.73	81.45
Ekub and idir	29	10.55	92.00
Home	22	8.00	100
Total	275	100	

Source: own computation, 2020

The above table (4.7) summarizes the financial institution choice of sample respondents who have participation in saving. About 178(64.73%) of the households, the majorities of the respondents, reported that they use bank to save their money and 46(16.73%) respondents used to save their money at credit and saving institutions. About 29 respondents (10.55%) used to save money at ekub and idir while only 22 households, 8% of the sample respondents kept their money at their home.

4.1.3 Trends of Household Saving

One part of the objective of this study is to examine the trends of household saving. In this section the situation of the household saving, how look like the household saving with in the last three consecutive years, has been assessed. The following table (table 4.8) summarizes the trends of household saving, the data of households who have saving account summarized to see whether the trend or situation of household saving exhibit increasing, decreasing or unchanged over the last three consecutive years.

Based on table 4.8 on the above out of 275 respondents, who have participated in saving, 80(29.09%) respondents reported that their saving is at increasing over the past consecutive three years. The other 68 (24.73) respondents explained that their saving is decreasing since the last consecutive three years and the remaining 127(46.18%) of the respondents found their saving remain the same over the specified years. Accordingly, the majority of the respondents reported that the trend of their saving is not changed. Respondents asked to reason out the downward trend

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of their saving and they explained that market fluctuation and low level and uncertain sources of income are the major reasons to downward trend of household saving.

Table 4.8 Trends of household saving

Trends of saving	Frequency	Percent	Cumulative frequency
Increase	80	29.09	29.09
Decrease	68	24.73	53.82
Remain the same	127	46.18	100.00
Total	275	100	

Source: own computation, 2020

4.1.4 Motives (Purpose) of Household Saving

Households save their money for two distinct reasons, precautionary and life cycle motives. In precautionary motives (saving for emergency) households save from their monthly earnings to safe themselves from unexpected risks and uncertainties in the future. In life-cycle motive People typically plan to retire, start new business or expand the existing one, purchase of house and household assets, and households plan to save for family education and celebrities and ceremonies. Hence, this motive of saving is aimed to achieve predetermined interests and objectives. Based on the multiple option responses of the question the motivations of household to save are summarized in the following table.

As summarized on the above table majority of respondents (236, 85.82%) channeled their monthly saving for emergency purpose and about 113 (41.09%) save for family schooling. About 126 respondents (45.82%) planned their saving to start up new business or to expand the existing one. The very few households (25, 9.09%) reported that they save for their retirement and 122 households, 44.36% of the households who have positive saving interested to save for celebrities and ceremonies, 74 (26.91%) respondents save from their monthly earning for the acquisition of household assets and about 116 respondents (42.18%) planned to save to purchase or build their own house.

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Table 4.9 Motives (purpose) of household saving

Purpose of saving	Frequency	Percent
Emergency	236	85.82
Family education	113	41.09
To start or expand business	126	45.82
Retirement	25	9.09
Ceremony and holiday	122	44.36
To purchase household asset	74	26.91
To purchase or build house	116	42.18

Source: own computation, 2020

4.1.5 Challenges of Household Saving

In this part of descriptive analysis, the major challenging factors that households confronted with in decision of saving has been presented. In addressing multiple response questions, sampled households came up with different bottleneck challenges that influence their saving.

As summarized on the above table (table 4.10) higher consumption expenditure is reported as the main challenging factor for household saving in the study area. About 314(78.89%) respondents said that higher consumption expenditure is their challenge to save from their monthly earnings. For 265 respondents, 66.58 percent of the households, low level of monthly income is perceived as the major influencing factor of their saving. The other 160 (40.20%) households found that lack of financial planning and management is the major bottle neck for their monthly saving and the remaining 153 households, 38.44 percent of the sample respondents reported lack of financial literacy or knowledge retard their monthly saving.

Table 4.10 Challenges of household saving

Challenging factors of household saving	Frequency	Percentage
Low income	265	66.58
Higher consumption expenses	314	78.89

Lack of financial planning	160	40.20
Lack of financial literacy	153	38.44

Source: own computation, 2020

4.2 Determinants of household saving (results of econometric model)

In the previous part of this study the descriptive analysis has been presented and discussed the decision of household saving. The data and profile of respondents summarized to assess the pattern and trends of household saving. The motivation and challenges of household saving were also examined. In this section of the study econometric analysis of the data has been presented. The Tobit estimation method was adopted to understand the determinant factors of household saving in the study area.

4.2.1 Diagnosis Tests of the Tobit Model

The diagnosis tests of the model are tools used to detect whether the Tobit model is with different shortcomings or not. The STATA -13 software package was utilized to compute the diagnosis of the model and the Tobit estimations.

4.2.1.1 Multicollinearity

The term multicollinearity is used to describe the problem when an approximate linear relationship among the explanatory variables leads to unreliable regression estimates. This approximate relationship is not restricted to two variables but can involve more or even all regressors. The use of too many dummy variables (which are either zero or one) and lack of sufficient information in the sample to allow efficient estimation of individual parameters is a typical cause for exact multicollinearity. This may lead to unreliable estimates with high standard errors and of unexpected sign or magnitude (Verbeek, 2004).

Multicollinearity detected using variance inflation factor (vif) and the correlation matrix. The computed result of variance inflation factor is 8.39 which is below 10, this indicate there is no multicollinearity problem. And the coefficients among two explanatory variables in the correlation matrix are below 8, this indicates that multicollinearity is not a problem in the Tobit specification.

4.2.1.2   The Tobit Specification Tests

Based on the assumptions of econometric model, if the model is not specified correctly it will lead to biased estimation and fabulous result. The Tobit model in this study is tested for heteroscedasticity, normality and specification using bootstrap replication of Lagrange multiplier.

In specification of a Tobit model violation of distributional assumption, particularly non-normality and heteroscedasticity are a concern. We can test for these alternatives, as well as for omitted variables, within the Lagrange multiplier framework (Verbeek, 2004).

The bootstrap bctobit computes the LM-statistic for testing the Tobit specification, against the alternative of a model that is non-linear in the regressors and contains an error term that can be heteroscedastic and non-normally distributed. The test is carried out by taking a Box-Cox transformation of the dependent variable [y^ (lambda)-1]/lambad and testing whether the parameter lambda=1. A rejection of the null suggests that the Tobit specification is unsuitable, as an alternative value for lambda would be required to return the linearity, homoscedasticity and normality assumptions that are necessary for consistent estimation and reliable results.

(*http://fmwww.bc.edu/repec/bocode/b/bctobit.html*)

Based on appendix I, c, the result LM 41.744 is insignificant and this shows that the Tobit model found with the above specification problems and to control these problems the robust model was adopted.

4.2.1.3   Goodness of Fit Test

Goodness of fit test is a test to check whether the econometric model fit with the data of the sampled observation or not. In this Tobit model the significance of pseudo R-square was detected using the p-value and degree of freedom (n). In the Tobit estimation the pseudo R-square value is 0.1101 and the p-value associated with 15 degree of freedom is 0.000. This indicates that pseudo R-square is significance at 1 percent level. Therefore, over the entire Tobit model is significant and fit with the data of the sampled observation.

4.2.2   Empirical Estimation of Tobit Model on Determinants of Household Saving

The empirical estimation of Tobit model used to understand the determinant factors of household saving in the study area. The model presented the average marginal effect of the determinants of

household saving on their average monthly saving. The result of coefficients and marginal effects of the whole model is presented in appendix III a and b respectively. The result of Tobit estimation summarized in the below table (table 4.11).

Table 4.11 Coefficients and average marginal effects of Tobit model
Average monthly household saving is the dependent variable

Explanatory variables	Coefficients	Average marginal effects	P- values
Age	93.49382*	59.18889	0.004
Age^2	-1.290502*	-.8169886	0.002
Sex	101.3924	64.18932	0.197
Marital status	299.4277*	189.5611	0.002
Family size	-194.6758*	-123.245	0.000
Income	.4368144*	.2765376	0.000
Housing status	311.0267*	196.9042	0.001
Use Financial planning	283.7237*	179.6192	0.000
Incentive	289.1519*	183.0558	0.001
Primary schooling	-798.8468*	-505.7324	0.000
Secondary schooling	-494.3306**	-312.9499	0.017
Certificate and diploma	-585.935 *	-370.9426	0.007
Degree and above	-491.0766**	-310.8898	0.028
Privet organization employed	-83.17802	-52.65818	0.448
Self employed	26.68155	16.8915	0.799

Log pseudo likelihood = -2244.4878   Number of obs. = 398

F (15, 383) = 39.75   Prob > F = 0.0000   Pseudo R2 = 0.1101

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

The above table (table 4.11) summarizes the econometric result of the study. Explanatory variables presented with the coefficients and their respective average marginal effects. The average marginal effects of the variables measured the intensity of variables to affect and determine the dependent variable, average monthly saving of the households in this case. Among demographic factors age, age square, marital status and family size are significance at one percent level while sex of the household head is insignificant, income, housing status, use of financial planning and incentives are also significant at 1 percent level of significance. Primary schooling and certificate and diploma are significance at 1% while secondary schooling and degree and above are significant at 5% level. And employment in privet organization and self-employment are not significant.

The Tobit estimation result revealed that income is positive and significant determinant of households' average monthly saving. The average marginal effect of monthly income is 0.2765 and significant at 1 percent level. This indicate that if the average monthly income of the household increased by 1000 birr the average monthly saving of the households will increased by 276.5 birr, from any increase of 1000 birr monthly income 276.5 birr goes to saving stream. This result is in line with different previous studies. Alessie & Teppa, (2014), in Dutch undertake a panel data evidence on household saving and habit formation and it is found that as income increase household saving increase due to precautionary motive. Other study by Iqbal et al., (2018), in Pakistan found that a unit rise in income resulted to a twenty percent increase in saving. There for, a single unit increase in households' income cause a twenty percent marginal propensity to save. Saliya (2018) undertake a survey study in mekelle city to understand the determinists of urban household saving and it is found that as income of the household increase, the probability to save also rise. There for, income is significant and positive determinant of household saving.

Incentive is one of the determinant factors of household saving. Now a days many banks and other financial institutions engaged in a large work of resources (deposit) mobilization and they give due attention for prize linked saving mobilization so as to attract depositors. This is an incentive which attracts households to save from their monthly income. According to Saez (2007) financial incentives and subsidies have great contribution in promoting saving. He takes in to account the impact of variation in information and the way of presenting the incentive in affecting the saving response. And it is found that economic incentives, variation in information and the characteristics

of presenting the incentives have a large effect on behavioral responses of savers. As shown in table 4.11the result in this study found that incentive is positive and significant determinant of household saving. It is significance at 1 % level that the availability of attractive incentives increases the households' average monthly saving by 183.05 birr as compared with no attractive incentive. Hence, provision of loan, payment of deposit interest and other attractive environments positively influence household saving. Therefore, household saving can be determined by how financial institutions behave in providing incentives so as to attract depositors.

As a proxy of wealth housing status of the household is determinant factor of their monthly saving. Thus, based on the Tobit result of this study housing status of the household is found to be positive and significant determinant household of saving. The average monthly saving of household who have own dwelling house is more than the average monthly saving of rental dwellers by 196.90 birr and this is significance at 1% level of significance. This result can be traced by(Ahmad et al., 2006) and Asare et al., (2018). According to Ahmad et al., (2006) wealth is one of the basic economic units that affect the saving behavior of households. High wealth expected to positively affect the probability and amount of household saving. As compared to developed nations, households in developing countries are less wealthy and due to difference in wealth there is a difference in behavior of saving. Households in developing nations save less due to low level of wealth than developed nations. Therefore, wealth is positively related with household saving (Asare et al., 2018).

As Households must decide how to allocate their income over time to maintain stable wellbeing, the use of financial planning for consumption expenditure is determinant factor of household saving. The result of the Tobit estimation shows that the use of financial planning is positive and significant determinant of average monthly saving of sampled households. As compared with their counter reference group, average monthly saving of households who have financial planning is more by 179.62 birr and this is significant at 1% level. This result can be traced by the study of Lee et al., (2000). Households with long term financial planning horizon found to save more than similar households with short term financial planning horizon. Moreover, households saving goal for retirement, emergency, and purchase of household durable goods positively associated with household saving.

The result of Tobit framework also revealed that family size is a negative factor of household saving. If number of family increase by one person, the average monthly saving of the household is likely to decline by 123.25 birr and this result is significance at one percent level. This result is consistent with Nabar, (2011). Average household size reflects the influence that the number of co-residents has on household saving. Households with a child may be less concerned to retirement saving than households without child. Average household size negatively associated with urban household saving. As urban household size decline the saving rate of household rise (Nabar, 2011).

Age structure of the household head is important variable in determining households' average monthly saving. As shown from the table 4.11 the Tobit estimation revealed that as age of the household head increased by one year the average monthly saving in the household increased by 59.18 birr and it is significance at 1% level. When we see the square of the age it is negatively influence the average monthly saving. This implies that at the old age a one-year increase of the age of household head cause to 81.69 % decline of average monthly saving. This is due to the fact that young households able to work more than old households and, hence, they likely to get more money and to save more. The result is consistent with life cycle theory and Liberda & Peczkowski (2006), Belke et al., (2012), and Saqib et al., (2016).

The result of the Tobit model reported that education is negatively associated with household average monthly saving. The above table 4.11 shows that as compared to the reference group, illiteracy, both level of schoolings with their coefficients and respective average marginal affects reflects a negative influence on average monthly household saving. This result is statistically significant and similar with the study by Saqib et al., (2016). Education was also found significant determinant for urban households and had negative coefficient. In Ethiopia, Mekelle, a survey by Saliya (2018) found that education level of the household head showed a negative relationship with household saving, but it was not statistically significant. Higher levels of education lead to less saving and this may be the consequence of households with higher education expecting higher and/or stable income streams in the future and educated household head expected to have higher expense on family education than illiterate households.

Marital status of household head is another important variable to determine the intensity of household saving. Based on the table 4.11 marital status of the household head influence household saving by 189.56 marginal effects and this is significant at 1% level. This indicates that the average

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monthly saving of household with married head is better than its reference category, single household head, by 189.56 birr. The reason might be due that married households might have multiple streams of income and advantage in economies of scale in living cost. For instance, married household might have the cost advantage of house rent and household materials and as expenditure decrease it will be streamed to household saving.

5 CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The result found that married households are more likely to participate and save more money than single household head. The reason can be due that married households might have advantages in economies of scale in living cost.

Over the last three consecutive years the saving trend of majorities of the households did not show improvement and or declined otherwise. Low level of income and high level of consumption expense found as the major bottleneck to the trend of household saving. The study also assessed the motive (purpose) of saving and from the saving group majorities of the respondents save money for emergency purpose and the other least of respondents save for retirement purpose. Hence, in the study area the major motive of households to save money is precautionary motive. High level of consumption expenditure, followed by low level of income, reported as the major challenge of household saving and shortcomings in financial planning and financial literacy are challenging factors of household saving.

Besides to descriptive analysis, determinant factors of household saving analyzed using the Tobit framework of the study. Determinant factors of household saving found to be demographic, economic and institutional. Among demographic factors age, age square, marital status, education and family size are significance determinants of household saving, significant at one percent level. Income, housing status, use of financial planning are among economic factors of household saving and incentive is also the institutional factor that determine household saving. Family size, age square and education of the household head affect average monthly saving of the household negatively and significantly and other significant variables are positive factors. Occupation and sex of the household head found to be in significance.

In conclusion, since household saving have a large share in national saving and economic development, deposit (resource) mobilization has to give due emphasis and proper intervention of the stack holders is recommended.

5.2 Recommendation

Based on the findings of the study the following recommendations are forwarded aiming that it helps the intervention in determinants of urban household saving.

❖ The result found that in the sampled observation there are some group of households who have no saving account and majority of households who have saving account also reported that the trend of their saving could not show improvement. To overcome this gap the stack holders, have to take initiation of intervention through income generating strategies and training about financial planning and management.

❖ In the Tobit estimation the positive sign of income recall that government, non-governmental organizations and other stack holders have to take part in job creation and income generating activities so as to increase earning capacity of households. Hence, low level of income reported as challenges of household average monthly saving.

❖ Banks and other financial institutions should take a large work of prize linked incentive and present new products in line with the motives or purpose of household saving. For instance, in commercial bank of Ethiopia saving products presented as deposit account for schooling, account for women, muday banking account, retirement account, and provident fund account. Incentive and product diversification and branding can attract households to save.

❖ In the descriptive analysis higher consumption expenditure is reported as the main challenging factor to household saving in the study area and the Tobit result shows negative sign of family size in determining average monthly saving. Higher expenditure on consumption of goods and services can be attributed to large family size and or the hike of market price of goods and services. Hence, concerned stack holders ought to be undertake proper intervention in family planning and guidance and stabilizing the market of the economy.

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Appendix

Appendix I Tests of the Tobit Model

Appendix I, a, Multicollinearity test

```
. vif
```

Variable	VIF	1/VIF
Age	40.69	0.024578
Agesq	36.49	0.027403
Famsize	3.00	0.332910
Educ	1.85	0.541897
Occup	1.81	0.553427
Housing	1.69	0.593003
Income	1.63	0.613410
Marst	1.57	0.637281
Incentive	1.35	0.740292
Finplann	1.12	0.892518
Sex	1.09	0.913283
Mean VIF	8.39	

Appendix I, b, Multicollinearity test

```
. . corr Age Agesq Sex Marst Famsize Income Educ Occup Housing Finplann Incentive
(obs=398)
```

	Age	Agesq	Sex	Marst	Famsize	Income	Educ	Occup
Age	1.0000							
Agesq	0.9837	1.0000						
Sex	0.2027	0.1904	1.0000					
Marst	0.3946	0.3408	-0.0535	1.0000				
Famsize	0.7384	0.7002	0.1232	0.5327	1.0000			
Income	0.2944	0.2517	0.1031	0.3255	0.3943	1.0000		
Educ	-0.3025	-0.3236	-0.0255	-0.0628	-0.2699	-0.0418	1.0000	
Occup	0.1635	0.1659	0.0871	0.0798	0.1822	0.2679	-0.6006	1.0000
Housing	0.4936	0.4757	0.0904	0.3043	0.5636	0.3422	-0.2520	0.2707
Finplann	0.0620	0.0593	0.0365	0.1822	0.1386	0.1949	-0.0430	0.0619
Incentive	0.1633	0.1236	0.0665	0.1911	0.2350	0.4619	0.0292	0.0625

	Housing	Finplann	Incent~e
Housing	1.0000		
Finplann	0.2430	1.0000	
Incentive	0.2909	0.1845	1.0000

Appendix I, c, Tobit specification test

```
. bctobit
Bootstrap replications (499)
 ——|—— 1 ——|—— 2 ——|—— 3 ——|—— 4 ——|—— 5
................................................    50
..............x.................................   100
..............................................x   150
................................................   200
................................................   250
................................................   300
................................................   350
................................................   400
.............................................x...  450

................................................
LM test of Tobit specification
              Bootstrap critical values
    lm        %10       %5         %1
  41.744    3.05055  4.7487769 8.5912094
```

Appendix II ordinary least square regression

```
. regress Amuntsa Age  Agesq Sex Marst Famsize Income Housing Finplann Incentive primary secon
> dary certfctanddiploma degreeandabove prvtemployed selfemployd
```

Source	SS	df	MS		
Model	493260786	15	32884052.4	Number of obs = 398	
Residual	116127955	382	303999.882	F(15, 382) = 108.17	
				Prob > F = 0.0000	
				R-squared = 0.8094	
				Adj R-squared = 0.8020	
Total	609388741	397	1534984.23	Root MSE = 551.36	

Amuntsa	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Age	54.92973	19.39483	2.83	0.005	16.79574	93.06373
Agesq	-.7770938	.2359039	-3.29	0.001	-1.240926	-.3132611
Sex	43.42653	63.58779	0.68	0.495	-81.59936	168.4524
Marst	63.10445	79.2096	0.80	0.426	-92.63694	218.8458
Famsize	-159.5697	29.51824	-5.41	0.000	-217.6083	-101.5312
Income	.4174576	.0137943	30.26	0.000	.3903353	.4445799
Housing	251.5293	76.64538	3.28	0.001	100.8296	402.2289
Finplann	143.9376	62.31905	2.31	0.021	21.40632	266.4689
Incentive	196.2806	66.71673	2.94	0.003	65.10256	327.4586
primary	-472.656	200.2885	-2.36	0.019	-866.462	-78.85002
secondary	-265.7517	198.2208	-1.34	0.181	-655.4922	123.9888
certfctanddiploma	-404.6641	207.0511	-1.95	0.051	-811.7666	2.438317
degreeandabove	-415.019	210.2908	-1.97	0.049	-828.4913	-1.546668
prvtemployed	-96.80893	86.34172	-1.12	0.263	-266.5734	72.95559
selfemployd	-71.66541	83.83122	-0.85	0.393	-236.4938	93.163
_cons	-1007.788	380.1676	-2.65	0.008	-1755.271	-260.305

Appendix III Tobit regression and marginal effect

Appendix III, a, Tobit coefficients

```
. tobit Amuntsa Age  Agesq Sex Marst Famsize Income Housing Finplann Incentive primary seconda
> ry certfctanddiploma degreeandabove prvtemployed selfemployd , ll vce(robust)
```

Tobit regression

		Number of obs	=	398
		F(15, 383) =		39.75
		Prob > F	=	0.0000
Log pseudolikelihood = -2244.4878		Pseudo R2	=	0.1101

Amuntsa	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
Age	93.49382	33.53175	2.79	0.006	27.56446	159.4232
Agesq	-1.290502	.4226741	-3.05	0.002	-2.121554	-.45945
Sex	101.3924	79.01555	1.28	0.200	-53.96615	256.751
Marst	299.4277	100.1029	2.99	0.003	102.6077	496.2476
Famsize	-194.6758	41.50494	-4.69	0.000	-276.2819	-113.0697
Income	.4368144	.0250668	17.43	0.000	.3875287	.4861002
Housing	311.0267	94.43578	3.29	0.001	125.3492	496.7042
Finplann	283.7237	80.04909	3.54	0.000	126.333	441.1144
Incentive	289.1519	89.75913	3.22	0.001	112.6696	465.6343
primary	-798.8468	232.4932	-3.44	0.001	-1255.97	-341.724
secondary	-494.3306	208.8893	-2.37	0.018	-905.0441	-83.61717
certfctanddiploma	-585.935	220.5505	-2.66	0.008	-1019.576	-152.2936
degreeandabove	-491.0766	225.3063	-2.18	0.030	-934.0687	-48.0844
prvtemployed	-83.17802	109.7158	-0.76	0.449	-298.8988	132.5427
selfemployd	26.68155	104.87	0.25	0.799	-179.5115	232.8746
_cons	-2034.011	616.7458	-3.30	0.001	-3246.643	-821.3798
/sigma	655.8649	38.81326			579.5512	732.1787

```
  Obs. summary:      123  left-censored observations at Amuntsa<=0
                     275      uncensored observations
                       0 right-censored observations
```

Appendix III, b, Tobit marginal effects

```
. margins, dydx( Age Agesq Sex Marst Famsize Income Housing Finplann Incentive primary seconda
> ry certfctanddiploma degreeandabove prvtemployed selfemployd ) predict(ystar(0,.))
```

Average marginal effects   Number of obs   =   398
Model VCE   : Robust

Expression   : E(Amuntsa*|Amuntsa>0), predict(ystar(0,.))
dy/dx w.r.t. : Age Agesq Sex Marst Famsize Income Housing Finplann Incentive primary
                secondary certfctanddiploma degreeandabove prvtemployed selfemployd

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf. Interval]	
Age	59.18889	20.71919	2.86	0.004	18.58001	99.79776
Agesq	-.8169886	.2606059	-3.13	0.002	-1.327767	-.3062104
Sex	64.18932	49.70302	1.29	0.197	-33.22681	161.6055
Marst	189.5611	62.49774	3.03	0.002	67.06777	312.0544
Famsize	-123.245	25.56633	-4.82	0.000	-173.3541	-73.13589
Income	.2765376	.0150272	18.40	0.000	.2470848	.3059905
Housing	196.9042	58.48277	3.37	0.001	82.28005	311.5283
Finplann	179.6192	50.07383	3.59	0.000	81.47634	277.7621
Incentive	183.0558	56.88889	3.22	0.001	71.55558	294.5559
primary	-505.7324	143.5153	-3.52	0.000	-787.0173	-224.4475
secondary	-312.9499	130.5521	-2.40	0.017	-568.8272	-57.07251
certfctanddiploma	-370.9426	138.145	-2.69	0.007	-641.7017	-100.1834
degreeandabove	-310.8898	141.769	-2.19	0.028	-588.752	-33.02762
prvtemployed	-52.65818	69.4398	-0.76	0.448	-188.7577	83.44132
selfemployd	16.8915	66.37459	0.25	0.799	-113.2003	146.9833

Bahir Dar University

COLLEGE of Economics and Business

Department of development economics

Survey questionnaire for determinant of household saving in Bahir Dar city

This is an interview questionnaire prepared to undertake a study entitled Determinants of urban household saving in in Bahir Dar city. The research conducted is purely for academic purpose and all the information given are confidential.

Dear Respondents:

I am post graduate student in the department of economics. Currently, I am undertaking this research in partial fulfillment for M.sc in development economics given by Bahir Dar University. You are selected to be one of the participants in this study and I request you to give your genuine answer voluntarily. I assure you that no personal identity will be published or transferred to third party.

Part 1: Instruction

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

Part 2: Interview Questionnaires for Household

I. **Demographic characteristics of households**

1. Sex:

   A. Male ☐   **B**. Female ☐

2. Age: _____

3. Marital Status:

   A. Married ☐   B. Unmarried ☐

4. Educational Status?

   A. Illiterate ☐   **B.** Primary ☐   **C**. Secondary ☐

   C. certificate and Diploma ☐   **D.** Degree and above ☐

5. How many family members do you have? _____

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II.Question on socioeconomic variables about saving

1. What is your place of dwellings?

   A. Own house [____]   **B**. Rent [____]

2. Do you use a written planning for financial consumption and expenditure?

   A. Yes [____]   **B.** No [____]

3. If say No for Question No 2, what are the reasons? --

   ----

4. What your current occupational status?

A. Government employed [____]   **B.** Privet organization employed [____]   **C.** Self employed [____]

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

6. Do you save money from your monthly earning?

   A. yes [____]   **B.** No [____]

7. If you say yes for Q.No.6, how much birr do you save on average per month? ------------------

8. If your answer for question 6 yes, what is the purpose (goal) of your saving (you can

give more than one answer)?

   A. Emergencies purpose [____]

   B. To buy household asset [____]

   C. To build or purchase house [____]

   D. Retirement (for old age) [____]

   E. For families' education [____]

   F. To start or expand business [____]

   G. For holiday: Meskel, Christmas, Arefa, New Year, etc [____]

   H. . Others (specify)_____

9. If your answer for Q. No 6 yes, how do explain your monthly saving since for last 3 years?

   A. Increase [____]   **B.** Decrease [____]   **C.** Remaining the same [____]

10. If you say decrease or remaining the same for Q. No 8, what are the reasons for this? ----------

    ----

----

11. If your answer for Q. No. 6 is No, what are the major reasons for this? ---------------------------

----

----

12. Where do you prefer to save money?

A. Bank ☐ **B.** Credit and saving association ☐ **C.** Ekub and Edir ☐ **D.** Home ☐

13. What are the reasons to make to save in this form of institution? ---------------------------------

----

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

   A. Attractive ☐   **B.** Not attractive ☐

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

----

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

   A. Lack of sufficient income ☐

   B. High spending as compared to my income ☐

   C. Absence of planning ☐

   D. Lack of awareness ☐

   E. Others (specify) _____

ባህር ዳር ዩኒቨርስቲ

ኢኮኖሚክስ ትምህረት ክፍል

መረጃ መሰብሰቢያ ቅፅ

የተከበራችሁ የጥናቱ ተሳታፉዎች ይህ መጠይቅ የተዘጋጀው በባህር-ዳር ከተማ ነዋሪዎች ላይ ያለውን የቁጠባ ባህል ምን እንደሚመስል መረጃ ለማሰብሰብና የማስተር ድግሪ የመመረቂያ ፁሁፌን ለማዘጋጀት ነው ::የጥናቱ ዋና አላማ ደግሞ የከተማ ነዋሪው የቁጠባ ባህል ምን እንደሚመስል በማጥናት ክፍተቱን ለይቶ የመፍትሔ አቅጣጫ ለማስቀመጥ ነው:: የእናንተ ገንቢ ሀሳብ ከዚህ የዘለለ ለሌላ ዓላማ እንደማልጠቀምበትና ሚስጥሩ የተጠበቀ መሆኑን እገለጽሁ በመጠየቁ ላይ ስም መጥቀስ አያስፈልግም::

ለምታደርጉልኝ ትብብር ሁሉ በቅድሚያ አመሰግናለሁ

ማስተዋሻ:- አባካዎ መልስዎትን እንዳስፈላጊነቱ በተቀመጠው ሳጥን ላይ ✓ በማድረግ እንዲሁም በክፍት ቦታው ላይ አጭርና ግልፅ ሀሳብዎትን ያስቀምጡ ::

ክፍል አንድ:- የተሳታፊዎች አጠቃላይ ሁኔታ

1. ፆታ
   ሀ. ወንድ ☐   ለ. ሴት ☐

2. ዕድሜ -----------------------

3. የጋብቻ ሁኔታ :-
   ሀ. ያገባ ☐   ለ. ያላገባ ☐

4. የትምህርት ሁኔታ :-
   ሀ. ያልተማረ ☐   ለ. ከ1-8 ☐   ሐ. ከ9-12 ☐
   መ. ሰርተፍኬትና ድፕልማ ☐   ሠ. ድግሪና ከዚያ በላይ ☐

5. ከርስዎ ጋር ምን ያህል የቤተሰብ ብዛት ይኖራል(በርስዎ ገቢ የሚተዳደሩ)? ---

ክፍልሁለት:- ማህበራዊና ኢኮኖሚያዊ ሁኔታ

1. የተሰማሩበት የስራ መስክ
   ሀ. የመንግስት ሥራ ☐   ለ. የግል መስሪያ ቤት ☐   ሐ. የራስ ድርጅት ☐

2. የሚኖሩበት መኖሪያ ቤት
   የኪራይ ቤት ☐   በራስ ቤት ☐

3. ወርሃዊ የገቢ መጠን በአማካኝ ምን ያህል ይሆናል? ---

4. በፁሁፌ በተገለፀው የገንዘብ እንቅስቃሴ ይጠቀማሉ?
   ሀ. እጠቀማለሁ ☐   ለ. አልጠቀምም ☐

5. መልስዎ "አልጠቀምም" ከሆነ በእቅድ ያለመጠቀምዎ ምክንያት ምን ሊሆን ይችላል?-----------------------------

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6. ከሚያገኙት የገቢ መጠን ቁጠባ ይቆጥባሉ?

    ሀ. እቆጥባለሁ ☐   **ለ.** አልቆጥብም ☐

7. ለጥያቄ ቁጥር 6 መልስዎ "እቆጥባለሁ"" ከሆነ በአማካኝ በወር ምን ያህል ይቆጥባሉ? ----------------------------

8. ለጥያቄ ቁጥር 6 መልስዎ "እቆጥባለሁ" ከሆነ; የቁጠባ አላማዎ ምንድን ነው?(ከአንድ በላይ መልስ መጥቀስ ይችላሉ)

    ሀ. ለድንገተኛ ጊዜ ወጪ ☐

    ለ. ለቤተሰብ ለትምህርት ወጪ ☐

    ሐ. ንግድ ለመጀመር ወይም ለማስፋፋት ☐

    መ በጡረታ ግዜ ለሚሆን ወጪ ☐

    ሠ. የቤት ውስጥ እቃዎችን ለመግዛት ☐

    ረ. ቤት ለመስራት ወይም ለመግዛት ☐

    ሰ. ለባዕላት ወጪዎች:ለምሳሌ ለመስቀል, ለልደት,ለዓረፋ,ለዘመን መለዎጫ ,ወ.ዘ.ተ ☐

    ሸ. ሌላ ካለ ይግለፁ _____

9. ለጥያቄ ቁጥር 6 መልስዎ "እቆጥባለሁ" ከሆነ የመቆጠብ አቅም ከባለፉት ሃስት አመታት ጋር ያለው ሁኔታ ምን ይመስላል?

    ሀ. እየጨምረ መጥቷል ☐   **ለ.** እየቀነሰ መጥቷል ☐   **ሐ.** ተመሳሳይ ነው ☐

10. ለጥያቄ ቁጥር 9 መልስዎ "እየቀነሰ መጥቷል" ወይም "ተመሳሳይ ነው" ካሉ ለዚህ መንስኤ ናቸው የሚሊአቸውን ምክንያቶችን ይጥቀሱ፤---
----

11. ለጥያቄ ቁጥር 6 መልስዎ "አልቆጥብም" ከሆነ እንዳይቆጥቡ ያደረግዎት ምክንያት ምንድን ነው? ----------------------
----

12. ገንዘብዎትን ከየትኛው ቦታ ይቆጥባሉ?

    ሀ. ባንክ ☐   **ለ.** ብድረና ቁጠባ ተቋም ☐   **ሐ.** እቁብ ወይም እድር ☐   **መ.** ቤት ☐

    ሠ. ሌላ ካለ ይግለፁ---

13. ይህን ተቋም ለምን መረጡ? ምክንያቱን ይጥቀሱ፤---
----

14. በገንዘብ ተቋማት ቁጠባን ለማበረታታት የሚሰጡ ማበረታቻዎች (ለምሳሌ ብድር፤የወለድ መጠን ወ.ዘ.ተ) እንዴት ይገልፁታል?

ሀ. አጥጋቢ ⬚   ለ. አጥጋቢ ያልሆነ ⬚

15. መልስዎ አጥጋቢ አይደለም ከሆነ ምክንያቶችን ይጥቀሱ፤ --

16. ለቁጠባ ባህሌ አለመዳበር መሰርታዊ ምክንያቶች ምንድን ናቸው?(ከአንድ በላይ መልስ መጥቀስ ይቸላል)

ሀ. ዝቅተኛ የገቢ መጠን ⬚

ለ. የወጪ መጠን ከገቢ መጠን መብለጥ ⬚

ሐ. በእቅድ ያለመመራት ⬚

መ. የግንዘቤ እጥረት ⬚

ሠ. ሌላ ከሆነ ይግለፁ ---