DETERMINANTS OF HOUSEHOLD SAVING IN ASELLA TOWN OF OROMIA REGION, ETHIOPIA

MEDANIT SISAY

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ADDIS ABABA, ETHIOPIA

School of graduate studies
Institute of agriculture and development studies department of development economics

Determinants of household saving in Asella Town of Oromia region, Ethiopia

Medanit Sisay Tesfaye

A thesis submitted to St. Mary's University for partial fulfilment of Masters of Art Degree in Development Economics

Advisor: Wondmagegn Chekol (PHD)

Addis Ababa, Ethiopia
June, 2023

DECLARATION

I, the signatories, declare that this study entitled *"**Determinants of Household saving in Asella town of Oromia Region, Ethiopia**"* is my own work. I have undertaken the research work independently with the guidance and support of the research advisor. This study has not been submitted for any degree or diploma program in this or any other institutions and that all sources of materials used for the thesis have been duly acknowledged.

Declared by

Name: Medanit Sisay

Signature: _____

Date: June, 2023

Place: Addis Ababa, Ethiopia

ENDORSEMENT

This is to certify that Medanit Sisay Tesfaye has done the study on the topic *"**Determinants of Household saving in Asella town of Oromia Region, Ethiopia*** This study is authentic and has not been done before by any other researcher.

Advisor: Wondmagegn Chekol (PHD)

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DETERMINANTS OF HOUSEHOLD SAVING IN ASELA TOWN OF OROMIA, ETHIOPIA

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Gotamesay Bekele (PhD)	07/07/2023
External Examiner	**Signature**
Sisay Debebe (PhD)	07, 2023
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ACRONYMS

EPRDF	Ethiopian People's Revolutionary Democratic Front
GC	Gregorian calendar
GDI	Gross Domestic Investment
GDP	Domestic Product
GDS	Gross Domestic Saving
GTP	Growth and Transformation Plan
MLE	Maximum Likelihood Estimator
MoFED	Ministry of Finance and Economic Development
OECD	Organization for Economic Co-operation and Development
PPS	Probability Proportion to Size
SSA	Sub Saharan African
UNDP	United Nations Development Program

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ABSTRACT

Saving is an important factor in households' welfare in developing countries. However, most studies have focused on urban areas and at the macroeconomic level. Domestic savings in Ethiopia are subject by Household savings that are not sufficiently routed into productive use and also there is a saving and investment gap. The objective of the study was to identify the determinants of the household saving behaviour in Asella Town Oromia, Ethiopia. It employed descriptive statistics and double hurdle model to analyse the data collected from a sample of 380 households in the study area. Primary data collected using a random sampling method employing self-administered using structured questionnaires. The descriptive result Showed that about 52% of sampled household not involved in saving. About 48% of sampled households involved in saving. The overall saving performance of the household is poor. The findings revealed that there is positive and significant causal relationship between amount of saving and income, personal saving habit, level of education, additional income generating activity and home ownership are statistically significant at 5% level have positive influences on respondent's decision to save.. Variables such as family size, expenditure & age were statistically significant at 5% level and found to have negative influences on respondent's decision to save. Numbers of dependent statistically significant at 1% level has negative influences on respondent's decision to save. The findings implied the need for designing strategies that could improve the saving behaviour, mobilization and diversification of saving by household. Furthermore, the need for government and other concerned organs involvement in building the capacity and incentives that in terms of households increasing saving behaviour; based on the findings the study offers some recommendation for the intervention to improve households saving these includes promoting family planning and education to reduce family size, encouraging income generating activity for dependants increase financial education for households, empowering women through credit access and leadership development, promoting personal saving and building affordable housing in short term and designing long term polices related to housing program additionally, awareness creation and training on expenditure should be provided to the society to promote better consumption budgeting.

Key words: Savings, determinant, Ikub, Double, Hurdle model, Asella, Oromia, Ethiopia

CHAPTER ONE; INTRODUCTION

1. INTRODUCTION

1.1. Background of the study

Saving rates around the world vary widely; on average East Asia saves more than 30% while SSA saves less than 15% (Loayza et al., 2000). The level of domestic saving in Ethiopia is very low hence; it is experiencing a severe resource gap. According to Tsega birhan (2010), Gross Domestic Saving/Gross Domestic Product ratio of Ethiopia from 1997 to 2002 was 6.6% which was lower than from the low income SSA which is 7.1%. However, the problem becomes severe recently. Reveal that gross domestic product, real interest rate, annual broad money growth rate and government final consumption expenditure have statistically significant effect on gross domestic saving in Ethiopia in the short run. However, gross domestic saving have a negative impact on growth in the long run if there is weakness on mobilizing saving into productive sectors (Joshi, et.al 2019).

In many developing economies predominantly Africa, saving and investment are necessary engines for capital formation hence economic growth. It has been argued that saving constitutes the basis for capital formation and capital formation constitutes a critical factor of economic growth. Available statistics however indicate low saving mobilization base and investment in this part of the world (Kinde, 2018)

The recent rate of saving is too low by Ethiopia's own standard and relative to other developing countries. Though gross domestic saving rate in the sub-Saharan countries have better somewhat in current years, from 11.55% of GDP in 2016 to 15.23% in 2020, it is still very far below the average rate of Middle East and North Africa in 2019 of 32.83%. According to World Bank Group data, domestic saving for Ethiopia improved from 17.25% in 2011 to 22.28% in 2019. (World Bank (2020).

A study conducted in Ethiopia using data from World Bank's 'African Development Indicators', justified that a small percentage change in GDP would result in a higher amount of percentage change in domestic saving . The ratio of internal saving to gross domestic product (GDP) over the period from 1965 to 2013 specified that Ethiopian

saving routine is very poor (Beshir, 2017). This has also made an economy progressively dependent on foreign financing sources, with high exposure to external shocks, and postponing the essential reforms to create good investment to the private sector and put an economy on a maintainable track of growth and financing (Abu, 2004) as cited in (Saliya, 2018). Therefore, low saving routine of the country is due to numerous determinants of saving (Saliya A. Y., 2018).

Gross domestic savings (% of GDP) in Ethiopia was reported at 18.95 % in 2021, according to the World Bank collection of development indicators, compiled from officially recognized sources. Those countries that have advanced level of saving rates flourished in reducing the burden of foreign liability and hence domestic investments can be funded by domestic saving especially from household sectors saving (Mengesha, 2015). As per (Belay.T, 2016) the ratio of investment to GDP, the ratio of domestic saving to the GDP and the ratio of debt & aid to GDP of Ethiopia over the period of 2005 to 2013 is upsurge in foreign debt and aid is by far higher than that of the increase in local saving. This is shows that foreign liability affects capital accumulation and hence growth in developing countries.

Another study in Ethiopia indicated that saving behaviors' of the society was poor although the performance advancement of saving rate. According to National Bank of Ethiopia survey study, Ethiopian's saving culture is still regarded as poor despite the performance improvement from 11.1% in 2006 to 19 % in 2021 G.C. Currently in Ethiopia from the total population only six millions household saves money in financial institutions on average 875 Birr per year (Douglas et al, 2014). Saving mobilization and development of saving practices of a certain society have an impact on capital accumulation and thus on economic growth of a country in general and on the financial well-being of the individuals in particular (Mengesh, 2015).

The aforementioned evidences for poor activities/performance of domestic saving mobilization; existence of huge gap between saving and investment as well as very small presence of empirical studies on household saving in Ethiopia is demands for research to search the determinants of household saving by using cross-sectional data and unique methods of data analysis which is very useful for policy design. Therefore, the main aim

of this study will assess the determinants which affect the household saving in Asella town of Oromia Region, Ethiopia.

1.2. Statement of the Problem

Mobilization of growing saving by households could raise a substantial amount of resources for investments that could embolden economic growth. Surely, domestic saving in Africa is dominated by household saving that is not adequately directed into productive/creative use (UNDP, 2007). The poor growth performance and very high occurrence of poverty in most of the less developed countries, has made mobilizing internal saving to be the focus of researchers, mainly development economists (Kudaisi, 2013).

The ratios of investment to the GDP, internal saving to GDP and the debt & aid to the GDP of Ethiopia over the period of 2005 to 2013 show that increase in foreign debt and aid is by far higher than that of the increase in domestic saving (Belay, 2016). This explains that foreign debt affects capital buildup and hence growth in developing countries. Without an internal capability of a country to accrue domestic saving, the long run perspectives of repayment look feeble. Though external finance sources are important, it cannot be a reliable source of income as they are restrictive in nature and subject to repayment. No single loan or aid is unconditional. On top of this, household saving hooks the lion's share from domestic saving of a country and is very central to provide an insurance against the economic and social shocks although it is highly very vulnerable to an individual specific shock in developing countries. Plus, household saving are extremely dependent on the will, ability and facilities to saves (Belay, 2016). Reports showed that nearly six million households save money in financial institutions with average of 875 birr per year in Ethiopia. Saving rate as percent of GDP rate is 9.5 percent which is very low as compared to that of China, Bangladesh and South Africa.

The assessment of household saving in Ethiopia revealed that about 36% of the household did not save with only 7% of regular saving habit (Aron & Nigus, 2013.). Accordingly, understanding why and how households save and what determines their saving behavior at micro level can help to identify and formulate suitable policies that increase the amount of resources available for economic development at micro and macro

level. Thus, the factors that affect household saving are an important subject of analysis or have to be a policy-relevant research topic.

The literatures on determinants of saving, (Saliya, 2018, Belay, 2016 and (Borko, 2018) employ single method of econometrics models and binary logistic models with small samples on urban household saving behavior and investigated that the current rate of saving is very poor by Ethiopia's standard and relative to other developing countries. Other researchers such as (Girma T., 2013) and (Obayelu, 2012)in their studies used the single equation of econometric analysis, Tobit model, to analyze the determinants of household to saving.

However, this model description has its own demerits; initially it is actually used in cases where the dependent variable is not observed for some sample households due to cutting and not due to individual choice. (Lawrence, et.al.2009.)and (Alebachew, 2018), using single OLS methods, investigated the determinants of household saving in rural areas of Kenya and northern Ethiopia, respectively, which have its own drawback for analyzing Limited dependent variables (LDV). Furthermore, these two studies did not incorporate many important variables such as gender, marital status, inflation and distance from financial institutions and fixed asset such as landholding status.

The majority of the studies mentioned above used a single approach of analyzing data to examine the determinants of household saving in developing countries specifically in Ethiopia. This study was used Double Hurdle Model in a double-hurdle model the determinants of households' decision to save and the extent (amount of) household saving are estimated independently. After reviewing available research papers on determinants of household saving in areas, it is found that there are no papers which have focused on determinants of household saving in Asella town, using Double Hurdle Model.

It is also found that some of the researches focused on households saving were used only monetary income and which household is save or and completely ignored the relevance of the extent (amount of) household saving form as a significant part of their budget. Therefore, the study fill the gap of the previous study (add value to the literature) by

employing Double Hurdle Model, using cross-sectional data to the study. Thus, this study goes to fill this knowledge gap to know the reason of not saving and if saving occurs then what are the central issues make it determinants and the likelihood to make it succeed in the future, which are basic for saving of Asella town as the case study. In this model the determinants of households' extent and decision to save by household estimated individually.

1.3. Objective of the study

1.3.1. General objective

The general objective of this study is to analyze determinants of Households saving in Asella town, Oromia region, Ethiopia.

1.3.2. Specific objectives

- To see the status of households' saving in study area.
- To identify the main factor of households saving in the study area.
- To investigate the main challenge, constraint and motives of households saving in the study area.

1.4. Significance of the study

This study was examining the determinants of households saving in Asella town. Identify the challenge for increasing the households saving in study area. It improving mobilization of household saving could free up significant amounts of resources for investments that could promote economic growth. Before this time never done in this study area so, it helps to Understanding why and how households save, what determines their saving particularly that of the poorer households can help identify appropriate policies that increase the amount of resources available for development.

1.5. Research Questions

The study was mainly concentrate on the following questions:

1. What is the status of households' saving in study area?
2. What are main factor of households saving in the study area.

3. What are main challenge, constraint and motives of households saving in the study area?

1.6. Scope and Limitations of the Study

1.6.1. Scope of the Study

This research focus on addressing determinants of household saving pursued by female and male head households in Asella town of Oromia Regional State. The study mainly relies on the perception, constraints and opportunities of household heads to assess the determinants of household saving. The research also restricted to identifying the major determinants of households saving adopted by the households in the study area, where as the determinant factors for using a specific saving strategy by households was not fully cover in the analysis part of the research. Moreover, the study focus only on the microeconomic variables that govern saving and ignores the macroeconomic determinants of saving (i.e national level determinants of saving). This research deals with the determinants of household saving under urban socioeconomic conditions. The study was limited to Asella town of Oromia Regional State Asella town residents. Hence results from this study may be representative for urban parts (like Asella town) of the country. The study aims to provide a better understanding of the variables that determinate household saving and used cross-sectional household survey to collect the relevant information for the study.

1.6.2. Limitations of the Study

The study was also limited, because specifically it selected only three (3) kebeles out of eight (8) Kebeles in the town due to time and budget constraints. Also encounter a number of shortcomings for the course of the study. The other constraint also lack of willingness of most of the surveyed respondents to disclose real information about their saving, income and expenditures which also render some limitations to the findings of the research so, the study improve such limitation by using systematic and indirect question preparation to gate true response. It relies on other secondary sources as government officials of the town, and other informants. Despite all these challenges, the study done to best capture reliable information explaining the purpose of the study.

1.7. Organization of the Thesis

The research structured in to five chapters whose sequence is as follows. Chapter one present an introduction that is related to Background, problem statement, objectives, research questions, limitations, scopes and the needs of the study. Chapter two presented literature review that is related with the determinants of household saving in Ethiopia. Chapter three explore the research methods adopted by the study; Chapter four presented study findings and their subsequent interpretations. Finally, chapters five summarized the entire study, make conclusions for each objective and derive policy recommendations from the thesis findings as well as areas for future research

CHAPTER TWO; LITERATURE REVIEW

2. LITERATURE REVIEW

The present chapter would contained the review of various related studies and the theoretical frame work. Saving has been considered as one of the factors affecting growth to lead the developing countries to the path of development. Saving is an important factor of households' welfare in developing countries. For this reason saving occupies a central place in modern macro theory. Consequently the subject had been widely discussed in the literature survey. These chapters would reviews briefly the various developments in saving theories for better understanding.

2.1. Theoretical Literature review

2.1.1. Definition and concepts of saving

Saving refers to the fraction of income not instantly consumed but kept for future investment, consumption or for unforeseen contingencies in the future. It is important in improving the well-being of individuals and serve as a security at the times of shocks for the households. Saving is being seen as a method of diminishing the risk resulting from the inability to predict the future and thus acting as precaution. According to Popovici (2012) unexpected events in the life-cycle of individuals make saving an important element in fulfilling the financial gap. Household savings could be intended to address household expenditure but rural households are constrained due to seasonality of cash flows, work culture and income; as a result of which saving is seasonal and irregular, too. Saving mobilization is also critical for individual welfare in that, at individual level it helps households' smoothed their consumption and finance productive investments in human and business capital (Karlan et al, 2013).

Saving has a multidimensional benefit both for the saver himself, and for the nation at large. Individuals get benefited from saving in case of emergency funds, retirement benefits, payment for house, buying new car, entitlements of sinking funds, and education. Also states that savings not only allow for growth in income and increases in consumption, but also for the smoothing of consumption in the presence of various uncertainties. Saving behavior can only be understood fully after the sources of

uncertainty facing decision-makers and their opportunities for responding to them are specified (Melaku G. , 2017).

It is also among those very important variables to the economic growth of any country; developing or developed. The saving culture of a nation determines its growth. Evidences show that countries with high rate of household saving have high potential to growth. Economically grown countries are found to have good culture of saving. An increase in national saving has a substantial effect on investment. National saving is the sum of the weighted average of the three principal sectors of the economy: private household, business and general government. However despite this fact the vast majority of studies on saving behavior concentrate household saving because of the high importance of household saving in the determination of national saving (Touhami A. A., 2009) .

(Girma, 2013) As noted that saving constitutes the basis for capital formation, investment and economic growth. A sufficiently strong saving performance is an important precondition for achieving economic growth, macroeconomic balance, and financial and price instability (Ando, 1963). To lead the underdeveloped countries to the path of development, rate of savings must be enhanced. However the fact is, in many poor countries including Ethiopia there is a wide gap between national investment need and the amount of national saving that goes to finance investment (Girma et al, 2013).

If a nation doesn't have enough national saving to finance its investment it took national/domestic government borrowing and/or foreign loan and grants. But this will lead to huge debt burden and can't sustainably lead the country to grow economically. East African saving rate is one of the lowest among African regions and being part of East African countries the saving rate in Ethiopia is low. Very little is known empirically about its pattern and determinants (Girma et al., 2013).

Low income individuals are denied access to the basic service, information and resource which help them to build asset and save. For the institutional theorists institutional level factors most important which encourage individual and households save more or less. The main hypothesis of the institutional theory is that institutional factors like access,

information, incentives and expectation determine the household or individual saving than any other (Gina A. C., 2012).

2.1.2. Classical, Keynesian and neoclassical determinants of household saving

In general, according to Delafrooz and Laily (2012) summarized that saving is crucial to a growing economy because it makes resources available for the production of physical capital, for the research and development needed to fuel economic growth, and enhance our standard of living. Coupling this important role of saving with the anxiety of policymakers, it is not surprising that legislators have backed tax reforms aimed at eliminating perceived anti-saving biases in the code Based on the definition of saving as a behavior or a practice different author's use the term saving behavior, saving propensity, saving practice, saving likelihood and saving habit interchangeably. For instance, (Fisher et al, 2012) used the term saving likelihood to indicate savers the intensity where people are willing to save some portion of income; used the term propensity to save to refer the intensity of setting aside a portion of income as saving, or an inclination to save, use saving habit to express the regularity of saving over periods.

Classical economic theory postulates that households save a portion of their disposable income according to their preference for private profit a gradual increase of income over time and their time preference (Smith, 1789). In order to maximize their total profit, households save in time t in order to consume more in $t + 1$. The main determinant of their saving behavior is the real interest rate. Given a rising real interest rate, the opportunity cost of current consumption rises and households save more (Smith, 1789; Ricardo, 1821). As household savings depend positively on the real interest rate it holds that S=S(r),

Where S represents household savings, r represents the real rate of interest, and $\frac{ds}{dr}$ >0 so that S is an increasing function of r. Keynesian economic theory suggests that a household's propensity to save depends on one or multiple saving motives. Keynes (1936) identifies eight motives, including the classical preference for private profit (improvement motive) and time preference (inter temporal substitution motive). Moreover, households safeguard themselves against expected labor income decreases after retirement (life-cycle motive), or unexpected future income losses (Precautionary

motive). They may strive for (financial) independence (independence motive) or participation in potential business projects (enterprise motive), leave bequests (bequest motive), or save out of greed (avarice motive). Keynes (1936) assumes that saving motives change only slowly so that the propensity to save is relatively stable over time. Keynes (1936) suggests that a household's ability to save depends positively on the level of current disposable income. Thus, the impact of saving ability and saving motive on total household savings can be approximated by the linear relationship

$$S_t = a + bY_t + \varepsilon$$

Where a<0, 0<b<1 and ε is the residual. S_t Represents the saving level in period *t*, and Y_t represents the disposable income in the same period. The negative intercept indicates that households dis save when their level of disposable income is zero. The marginal propensity to save (b) represents a household's motivation to save, indicating that an increasing income corresponds to increasing household savings. The average propensity to save ($\frac{a}{Yt}$ + b) indicates that household savings rise with the level of disposable income.

A household's preference for liquidity affects the way that households save (Keynes, 1936).Households with a high preference for liquidity hoard cash, those with a low preference deposits their savings at a bank. The liquidity preference depends on the degree of precaution and preference for private profit (Keynes, 1936). At times of great economic uncertainty, precautious households may have a high liquidity preference. At times of economic certainty, rising real interest rates encourage households to deposit their savings at a bank due to the interest profit. Thus, Keynes (1936) acknowledges that household savings also depend on the real rate of interest as households strive for private profit (improvement motive).

Neoclassical economic models treat household savings exogenously or endogenously. In the Solow growth model, households save a portion of their disposable income according to an exogenously imposed, fixed saving rate s (Solow, 1956 and 1957; Swan, 1956). Lacking a behavioral component to household savings, the model does not permit conclusions regarding a household's savings motives and ability. Economic policies, such as tax policies, are the only possible determinant of *S*. If policy makers know that there is

a saving rate S* (0< S*<1) that maximizes steady-state consumption (golden rule savings), they may introduce tax incentives for household savings at S* to maximize savings and investment.

In neoclassical models that indigenize household savings, households face inter temporal optimization problem. Households save to maximize their lifetime utility, subject to their constraints (Ramsey, 1928; Cass, 1965; Koopmans, 1965). Their savings preferences correspond to the life-cycle and permanent income hypotheses (Modigliani and Brumberg, 1954; Friedman, 1957). Both resemble Keynes' (1936) life-cycle motive of saving, according to which households bridge income differences over their life-cycles. In contrast to Keynes, however, the hypotheses postulate that households also consider their expected life-time income growth for their savings decisions.

When households know their point of retirement, they save according to their finite lifecycle so that consumption is stable, but not smooth (Modigliani and Brumberg, 1954). Assuming a constant real interest rate, individual household savings depend on the current life stage, the initial wealth endowment, and lifetime income. Households borrow when young (given their initially low income), repay their debts and save during their working age, but dis save and run down their assets after retirement (Ando and Modigliani, 1963). Thus, population growth pushes the aggregate saving rate up if there are relatively more working-age households than retired households in society. However, households may also save to leave bequests, so that retired households may still have a high saving rate (Modigliani, 1970, 1986). An initially low wealth endowment also affects the household saving rate positively as households save more to accumulate wealth for their retirement (Ando and Modigliani, 1963).

The effect of lifetime income on household savings is twofold since total household income consists of two observable components: labor income and the value of assets. On the one hand, household savings depend positively on the life-time labor income, defined as the current level and the expected growth rate of labor income (Ando and Modigliani, 1963). A household's labor income rises with growing labor productivity. Owing to the wage bargaining involved in this increase, the household anticipates the rising income and expects future consumption to rise along with it. In order to accommodate for this, household savings increase (Ando and Modigliani, 1963). On the other hand, household

savings depend on the value of assets. Similar to an initially low level of wealth endowment, a currently low asset value encourages households to increase their savings for retirement (Ando and Modigliani, 1963). However, the effect of lifetime income on household saving is ambiguous if the real interest rate changes. For example, a falling interest rate decreases the opportunity cost of current consumption relative to future consumption so that current saving is less profitable than future saving. Thus, households would want to save less at a given labor income (substitution effect). In contrast, the present discounted value of expected future consumption rises, making future consumption more expensive and encouraging households to save more (income effect). An interest-rate decrease also changes the present discounted value of assets. Accordingly, future income, such as pension earnings or capital income, rises, encouraging households to currently save less (wealth effect) (Ando and Modigliani, 1963; Elmendorf, 1996).

In contrast to the life-cycle hypothesis, the permanent income hypothesis suggests that households save according to an infinite life-cycle (Friedman, 1957). Since they do not know their time of death, households wish to smooth their consumption pattern in a stable manner over time. Assuming a constant real interest rate, they consume according to their average lifetime income, which is based on the moving average of their previous income (permanent income). One-off income fluctuations (transitory income), such as bonus payments, are saved (Friedman, 1957). Changes in the real interest rate alter the permanent part of household lifetime income and thus do not affect household saving behavior (Friedman, 1957).

In the presence of uncertainty, neoclassical models predict that household savings diverge from the predictions of the life-cycle as well as permanent income hypotheses, and that households save out of precaution. If inflation in an economy is unstable, rational households become uncertain about their job security and future income. This induces precautionary household saving against unexpected income losses (Leland, 1968).
Precautious households do not borrow when faced with income uncertainty (Carroll, 1997).

2.2. Empirical Literature review

Econometric research on the determinants of household saving based on micro data drawn from the less developed countries has lagged far behind the pace set in advanced nations. It would appear that there has been limited hypothesis testing in the least developed countries beyond macro formulations of the consumption function. Furthermore, very little of the development literature attempts to isolate the impact of structural change on aggregate personal saving, since few studies provide meaningful disaggregation (Kelley, and Williamson, 2010) This state of affairs seems paradoxical, given the currency of W. A. Lewis's remark that the central problem in development theory is to explain an increase in domestic saving from 4 or 5% of national income to 12 or 15 %.

Schultz (2005) analyzed the demographic determinants of saving in a group of Asian countries by using econometric methods and found that dependence ratio has a significant negative effect on saving across counties. Kibet et.al (2009) analyzed determinants of saving by smallholder farmers and entrepreneurs in Keyna by using multiple regressions analysis. One of his findings indicated that interest rate on deposits has some positive influence on the saving of farmers. Increase in interest rates is expected to motivate farmers to save since it implies that they get better returns on their saving. According to Woldemichael (2010) access to deposit services in financial institutions enables the poor to efficiently manage their financial resources. It helps in consumption smoothing during economic shocks and provide an opportunity to accumulate large sums of money for future investment and household outlays.

Family structure and composition is another important factor at influencing saving of households. Families with higher number of active working members involved in economic activities save much more than others (Popovici, 2012). The sex parameter of the household head indicated that male headed households are more likely to save money more as they are more frequently involved in different occupations (Nayak, 2013). According to Raba (2013) growth in income, degree of financial depth, and saving interest rate have significant positive impact on savings mobilization whereas age,

dependency ratio and real interest rate have significant negative impact on savings in Ethiopia.

Michael (2013) conducted study using multivariate regression analysis (binary logistic and Ordinary regression least method) and found that savings habit of households are versatile and are influenced by demographic and economic factors based largely on income. The findings showed that the main predictors of the probability of an individual to have savings account were income, locality, and national health insurance registration, place of accommodation, sex, age and education. On the other hand, the main determinants of the level of savings were namely income, locality, and sector of employment, national health insurance registration, age, education, household size and marital status. The rate of interest determines the saving rate of the individuals on a view to encourage people towards saving (Nayak, 2013). Workineh (2013) empirically investigated the significance of some macroeconomic variables in determining domestic saving in Ethiopia by using times series data from 1970/71 to 2010/11.The results shows that growth rate of income play a stronger positive role in determining both the short run and long run behavior of domestic saving in Ethiopia. The saving decision may depends on income, wealth, real interest rate and other potential factors such as individuals habit, such as preferences for spending now, or postpone their consumption, so that they can have a greater consumption in the future period (Ahmad, 2013).

Girma et al. (2013) applied single equation Tobit model on household survey data to analyses determinants of household saving in Ethiopia. Their finding indicated that education of household head, land holding size and annual income of the household affected household saving positively. The result further added that households mainly use the informal saving institutions as the result of which their savings is hardly traced in the national accounting system.

Niguse (2013) conduct Assessment of Saving Culture; Household composition, individual characteristics, demographic, economic and social features of households affect saving pattern and behavior of households in a given society. The variations in such factors lead to variations in national saving rate over time. In Ethiopia reports indicated that about six million households save money in financial institutions with

average of 875 Birr per year. The saving rate as percentage of GDP is 9.5 which are very low as compared to that of China, Bangladesh and South Africa (Niguse et al, 2013)

According to Raba (2013) growth in income, degree of financial depth, and saving interest rate have significant positive impact on savings mobilization whereas age, dependency ratio and real interest rate have significant negative impact on savings in Ethiopia. Obi-Egbedi et al. (2014) analyzed determinants of saving using multiple regression analysis and they found out that education, occupation, income of household head and household size affect rural household savings significantly.

Egwu and Nwibo (2014) investigated the determinants of saving capacity of rural women farmers in Ebonyi State of Nigeria using multi-regression analysis. They found that lack of access to productive resources and low returns to agricultural production has been identified as a bane to the saving capacity of the rural women.

In Ethiopia, for centuries, partly due to inaccessibility of commercial bank branches, absence of postal saving services and lack of strong cooperative movement, deposit services to the poor has been largely dominated by widely accepted and practiced informal mechanisms such as 'Iqub', 'Iddir', buying livestock and jewelry and hiding cash at home. The aim of the financial institutions during the GTP period has been establishing an accessible, efficient and competitive financial system. In relation to this, emphasis has been given to strengthening modern payment and settlement system, developing access to financial services, supporting the bank system with modern technology and extending the information exchange system to microfinance institutions, among others (MoFED, 2014).

Obi-Egbedi et al. (2014) analyzed determinants of saving using multiple regression analysis and they found out that education, occupation, income of household head and household size affect rural household savings significantly.

The mean saving of middle age, early and old age household heads is about Birr 360.6, 206.2 and 244.6 per month respectively and also the mean saving of illiterate household heads is Birr 58.57 whereas household heads with primary education, secondary education and tertiary education on average saves Birr 261.8, Birr 269.93 and 546.65 per

month respectively. Hence, as the educational level increases saving also increase (Halefom, 2015).

Most people in Ethiopia make little or no use of the formal savings and lending institutions. Some use informal institutions that occur within the informal sector of the economy. We know that saving in the informal institutions did not yield interest for the depositors and so could not help for mobilizing resource. As a result it is not used for investment to yield income and, of course, most of the time depositors have expected to pay for saving service to their changing financial needs. In developing countries we observe a variety of informal institutions that enable transactions which are particular to the poor (Birhanu, 2015).

Amsalu Bedemo (2015) conducts most people in Ethiopia make little or no use of the formal savings and lending institutions. Some use informal institutions that occur within the informal sector of the economy. We know that saving in the informal institutions did not yield interest for the depositors and so could not help for mobilizing resource. As a result it is not used for investment to yield income and, of course, most of the time depositors have expected to pay for saving service to their changing financial needs. In developing countries we observe a variety of informal institutions that enable transactions which are particular to the poor.

Formal financial institutions that were engaged in saving and credit/loan service deliveries for both rural and urban communities include private and government banks and Micro finance Intuitions. Such institutions are formal in that they possess modern accounting and reporting systems that could help evaluate their performances every time. The banks have been considered as main type of formal institutions that have involved in saving mobilization in Africa. However, the main problems of such institutions to handle the poorer households' saving needs and mobilizing issues particularly that of the poor in rural areas of developing countries is constrained by limited access to the rural poor, lack of trust due to awareness problems by households and inadequacy of formal institutions (Birhanu, 2015).

The saving mobilization and development of saving habits of a given society will have an impact on capital accumulation and thus on economic growth of a country in general and on the financial well-being of the individuals in particular. Countries having higher level of saving rates have managed to reduce the burden of foreign debt and thus domestic investments will be financed by domestic saving especially household sectors (Toddle, 2015).

Tarekegn and Geremew, (2017) examine major determinants of households saving behavior in East Gojjam Zone, Ethiopia used binary logit regression model. Results of the study indicate that the desire of household to save was significantly determined by the personal saving habits of the household head; existence of financial planning; and annual income of the household. Household head with positive personal saving habits has more probability to save than household head with negative personal saving habits.

Abate, (2020) examine household behavior and determinant of saving in financial institution in Derra oromia region. Results of the study indicate that by used the logit model it identified that the variables such as age of household head, main occupation of the household and knowing interest rate of formal financial institution, income of the household and family size were significant determinants of saving status of the household.

The empirical literature review revealed that there are different factors that affect household savings. Most of these empirical studies focus on aggregate national savings using macro data and most micro studies applying single equation tobit model however some empirical studies applying double hurdle model but not enough good while this research filled the previous literatures gap by employing different methodological approaches (double hurdle model) to analyse the households' decision to save and to identify the determinants of household saving in the study area. Besides, there is no study conducted on microeconomic level on the analysis of household saving in Asella town and therefore, this paper attempted objectively to identify major micro level determinants of savings at household level focusing on the effects of the socio-economic characteristics of the households on saving behaviors.

2.2.1. Determinants of household saving

Determinants of household saving based on micro data drawn from the less developed countries has lagged far behind the pace set in advanced nations. It would appear that there has been limited hypothesis testing in the LDC's beyond macro formulations of the consumption function. Furthermore, very little of the development literature attempts to isolate the impact of structural change on aggregate personal saving, since few studies provide meaningful disaggregation (Kelley and Williamson, 2009). This state of affairs seems paradoxical, given the currency of W. A. Lewis's remark that the central problem in development theory is to explain an increase in domestic saving from 4 or 5% of national income to 12 or 15 percent (Lewis, 1954). Besides, few studies assess the determinants of saving at the individual level generally due to the lack of data. Using recent econometric techniques, Carpenter and Jensen (2002) and Kulikov, et al. (2007) identify how household characteristics affect saving behavior, in Pakistan and Estonia respectively.

Carpenter and Jensen (2002) focus on the role of institutions which collect saving and stress on the role of formal (banks) and informal institutions (savings committees). They found that “increased income leads to a greater desire to participate in some form of savings institutions but as income increases more individuals shift to the formal sector”. They also found evidence that the urban rural differences in bank use is negligible which suggests that formal finance is not primarily restricted to urban households in Pakistan. As opposed to Carpenter and Jensen (2002) who focus on the savings supply side, where as Kulikov et al. (2007) analyze the saving determinants on the demand side. Making a distinction between regular and temporary household income allows the authors to put forward the role of income variability and the different forms of household assets (financial and non-financial) in a transition economy (Estonia). Their analysis is based on data from household budget surveys.

As in many empirical studies, they found that the saving rates depend more on the transitory income than regular income. Among the other variables, the labor market status or the non-financial assets ownership (real estate for instance) and credit access have not

significant effect on the household saving behavior; the durable goods possession (in particular cars) has a negative impact on the saving rate. Among the few researches done in developing countries; Klause et al. (1992) studied households saving in developing countries and found that income and wealth variables affect saving strongly. Touhami et al. (2009) also investigate the micro-econometric determinants of households saving in Morocco. They concluded as income significantly explains the cross-sectional variation of the saving behavior of households in Morocco. Similarly, Girma et al. (2013) identified determinants of rural household savings in East Hararghe Zone, Oromia Regional State Ethiopia. Nine determinant explanatory variables of rural household savings were identified which include: household head education level, livestock holdings, access to credit service, income, investment, training participation, contact with extension, forms of savings and saving motives.

2.2.2. Gap analysis of the study

The majority of the studies used a single approach of analyzing data to examine the determinants of household saving in developing countries specifically in Ethiopia. It is also found that some of the study focused on households saving were used only monetary income and which household is save or and completely ignored the relevance of the extent (amount of) household saving form as a significant part of their budget. The empirical literature review revealed that there are different factors that affect household savings. Most of these empirical studies focus on aggregate national savings using macro data.

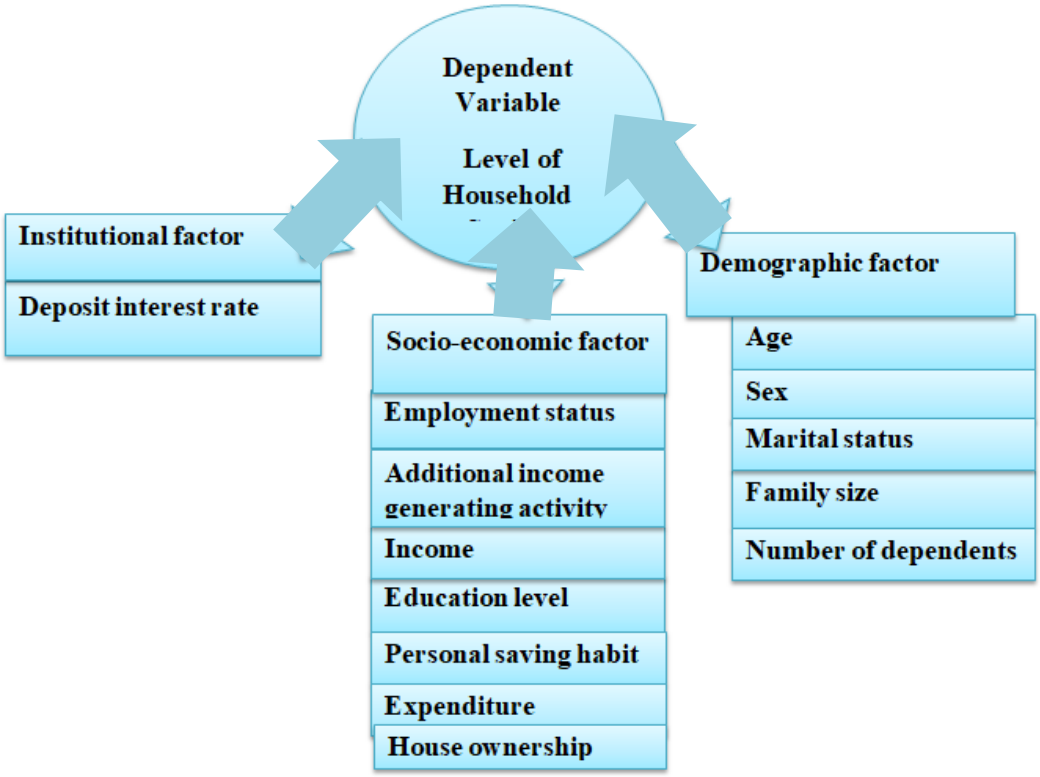
After reviewing available research papers on determinants of household saving in areas (Asella twon), it is found that there are no papers which have focused on determinants of household saving in Asella town, using Double Hurdle Model. Also there is no study conducted on microeconomic level on the determinants of household saving in Asella town and limited studies are found in the country. This study was used Double Hurdle Model in a double-hurdle model the determinants of households' decision to save and the extent (amount of) household saving are estimated independently.

Therefore, the study attempt objectively to identify major micro level determinants of savings at household level focusing on the effects of the socio-economic characteristics

of the households on saving behaviors, motive, challenge, constraint, saving place preferences and their saving extent.

2.3. Conceptual Framework of the study

The framework is adopted and modified by review some theoretical and empirical studies and also it explain the relationship of the independent variables (family size, number of dependant ,income and Educational level, Age, Sex, Marital Status and Deposit Rate, Employment status, Expenditure, Personal saving habit, additional income generating activity and home ownership and dependent variable (saving behaviour).



Source: Own Design (2023)

Figure 2. 1 Conceptual framework on determinants of household saving level

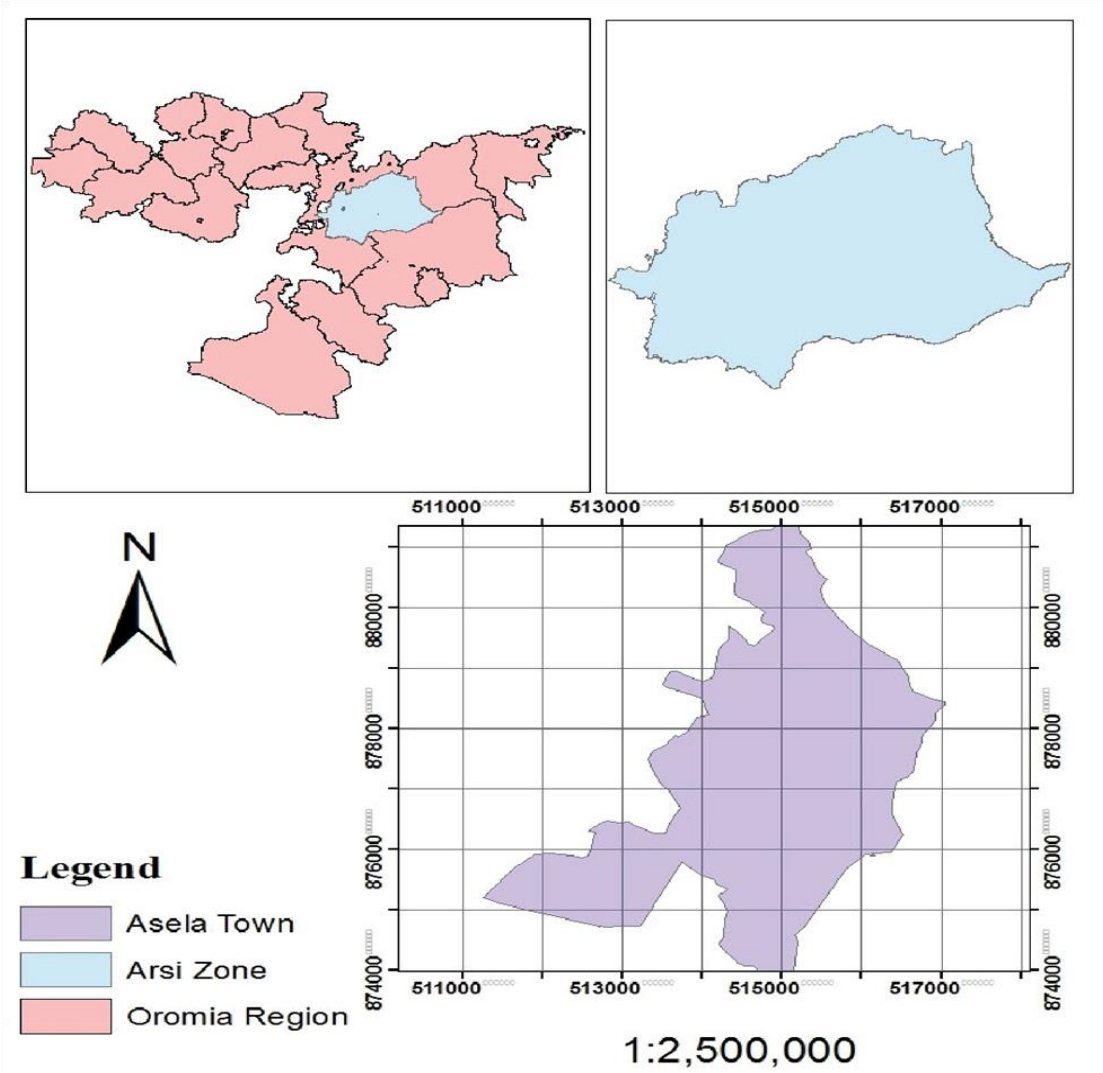
CHAPTER THREE; RESEARCH METHODOLOGY

3. RESEARCH METHODOLOGY

This chapter discuss about the data that used for this paper, the study methodology, the Research Design and approach, Data Collection Method, and Interpretation to achieve the aim of the study.

3.1. Description of the study Area

The study was done in Asella town, which is the Arsi administrative zone. Asella is the capital city of Arsi zone. It situated along 175 kilometers from Addis Ababa city. The town covers an area of 29.3 Square kilometers. People of different ethnic groups with diverse cultural backgrounds inhabit the town. Geographically, the town is located at 7.95807° or 7° 57′ 29″ N latitude and 39° 12367 or 39° 7′ 25″ E longitude. According to the (Population [2022] – *Projection*) the total population of the town is 139,537 of which 69,459 are males and 70,078 are females that Males & Females 49.8%, 50.2% respectively. Asella is categorized as having a sub-tropical high land climate. The city administration has eight (8) kebeles. The number of households living in the town in is 29,073 and the average family size per household is 4.8. Currently, the town has eight kebele namely Buseta, Arada, Hanku, Welkesa, Burkitu, Halila, Chilalo, and Kombolcha and has 57 ketena. The Buseta, Arada, Hanku, Welkesa, Burkitu, Halila, Chilalo, and Kombolcha kebele of the town have 14,808, 20,883, 20,375, 16,395, 20,535, 15,184, 17,652, & 13,703 the populations respectively (Population [2022] – *Projection*).



Source: Arc GIS Software

Figure 3.1 Map of the Study Area

3.2. Research Design

The study was investigated the determinant of household saving in Asella Town; therefore the study was employed quantitative approaches. Considering the research objective and problem along with the perspective of the different research approaches quantitative research approach is found to be appropriate for this study. Quantitative research is a logical and scientific investigation of quantitative properties and phenomena and their relationships (C.R. Kothari, 2004). Explanatory research design is concern with determining the cause and effect relationships. Also this study was used an explanatory

research design that explains the underlying causal relationship between independent and dependent variables that pertains to the research problem. Since the intention of this study is was identify the effect of independent variables over the dependent variable, the method is suitable and helpful in examining the relationship and concludes from the findings. This study also was used cross-sectional study; it is a type of research design in which you collect from many different individuals at a single point in time under this design data from household respondents collected at single point in time without repetition from the representative population. The reason for preferring a cross-sectional study is due to the vast nature of the study and economical to conduct in term of time and obtaining information from cross-section of the population at a single point in time is a reasonable strategy for many researches (Janet, 2006; Barley1997)

3.3. Population of the Study

This study was used on household level. The study was focus on households in Asella town and its target population was households in Buseta, Welkesa and Chelalo kebeles of Asela town. The number of target population that is, the number of households in the above mentioned kebeles is 7,894. The sample is taken from these 7,894 households.

3.4. Types and Sources of Data

The study was used both primary and secondary sources of data. The Primary data was collect from a household who is residents of Asella town, the data was collect through from sample households using structured questionnaire. While the secondary data was gather from Asella town administration offices, research papers, different journals, internet and different unpublished materials.

3.5. Sampling Design

The target population for this study is the households of Asella Town, Oromia Regional State. Multistage Sampling procedure was used to reach the study participants. Three local administrative (Kebeles) was select using simple random sampling from the total 8 administrative area (kebeles) of the town. In the same way from 57 Villages (ketenes), 6 ketena was selected randomly with simple random sampling from each kebele and then the household was selected using systematic random sampling (Table 1).

3.5.1. Sample size Determination

In order to collect reliable and representative sample out of the target households (7,894) and the sample size was decide or determine by applying the scientific formula (Yemane, 1967) as shown below

N = the number of total targeted households in town

n = sample size

e = level of precision which is equal to 0.05. The true margin of error 5% is taken with 95% confidence level.

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

$$n = \frac{7,894}{1+7,894\ (0.05)^2} = 380$$

Table 3. 1 Sample Size Determination

S.No	Kebeles Name	No.Sellected Village	Total Number of population Households of Sampled		Percentage(%) of total Households(P)	Selected Sample size=380*P/100%
			Total Number of population Households of sampled	Total Number of Households of Kebeles		
1	Buseta	1*Ketena	4,436	1,003	13	49
		2*Ketena	5,436	1,525	19	73
2	Walkessa	1*Ketena	5,465	1,240	16	61
		2*Ketena	5,125	1,132	14	53
3	Chilalo	1*Ketena	4,674	1,451	18	68
		2*Ketena	5,884	1,543	20	76
Total		6*Ketena	31,020	7,894	100%	380

Source: Own construction (2023)

3.5.2. Sampling Technique

In this study household was the basic sampling units in order to get quantitative and qualitative data on the determinants of household saving in the study area. A three-stage sampling technique was employed to get the required primary data, At the first stage the sample was select randomly three kebeles from eight kebeles, in the second stage, from sample three kebeles each has three ketene; from the three ketenas two ketena was select from each three selected kebeles, at the third stage in order to take representative sample households from the total household a probability proportion to size (PPS) was employed to determine sample size from each ketena.

Accordingly 380 households were selected through simple random sampling techniques. This study was take 49 households from Buseta kebele 1st ketena, 73 households from Buseta kebele 2nd ketena, 61 households from Walkesa kebele 1st ketena, 53 households from Walkesa kebele 2nd ketena, 68 households from Chilalo kebele 1st ketena, 71 households from Chilalo kebele 2nd ketena.

3.6. Method of Data Analysis

The study was used both descriptive and econometrics method of data analysis by using STATA. From descriptive statistics such as percentages, means, tabulation, charts and to analyze the determinants and to estimate values of slope and intercept coefficients the Double Hurdle econometric model was employed.

3.6.1 Econometric Model specification

This study used Double Hurdle Model, A double-hurdle model is used to solve simultaneously the households decisions whether to save and how much. Some empirical studies used single equation Tobit model to analyze the determinants of household saving (Girma et al., 2013; Obayelu, 2012). In the first hurdle, the decision whether or not to save is identified, and if she/he decides to save, hurdle two considered the level of household savings. The maximum likelihood estimator (MLE) in the hurdle 1 can be obtained using a binary probit regression and the likelihood estimator (MLE) for hurdle 2 can be estimated from truncated normal regression model (Cragg, 1971). Double hurdle specification is advantageous in that it permits the joint modeling of the decision to save

and extent of saving. Accordingly, individuals should pass through two-step decision processes; first they have to decide to save and then they need to put some amount of money (should save).

Double hurdle specification requires two latent variables; Y1 related with binary choice model determining decision to save (which is probit model) and Y2 referring to the level (amount of saving) that is a truncated regression in nature. These latent variables are expressed as linear functions of the first and second hurdle regressors, X1 and X2, respectively, where X1 represents the regressors used to explain the decision to save and X2 shows those variables used to explain the decision regarding the amount to save.

Although, Tobit specification is based on a restrictive assumption that both the decision to save and level (amount) of saving given that decision are determined by the same set of variables which implies that a variable that increases the likelihood of household to save will also increase the extent of saving. Therefore, double hurdle model is used as better alternative over Tobit specification. In a double-hurdle model the determinants of household decision to save and the extent (amount of) saving is estimated independently. In a double-hurdle model the determinants of household decision to save and the extent (amount of) saving is estimated independently.

The double-hurdle and the heckit models are similar in identifying the rules governing the discrete (zero or positive) outcomes. Both models recognize that these outcomes are determined by the selection and level of use decisions. They also permit the possibility of estimating the first- and second-stage equations using different sets of explanatory variables. However, the heckit, as opposed to the double-hurdle, assumes that there are no zero Observations in the second stage once the first-stage selection is passed. In contrast, the Double-hurdle considers the possibility of zero realizations (outcomes) in the second hurdle arising from the individuals' deliberate choices or random circumstances. This is the advantageous of double-hurdle models. According to Cragg (1971) the double hurdle model specified as the following:

Choice model:

$$Di = 1 \; if Zi\delta + ui > 0$$

$$Di = 0 \; if Zi\delta + ui \leq 0$$

Outcome model:

$$Yi* = Xi\beta + \varepsilon i$$

$$Yi = Yi*$$

$if Di = 1 \ and \ Yi* > 0$

$ui \approx N\ 0, 1;\ \varepsilon i \approx N\ (0, \sigma\ 2)$

Di= βo + β1xi……βnxn + ui. Where n=1, 2, 3…

Following,

Di = β1IN+ β2EDU+ β3DR+ β4AGE+ β5SEX+ β6FS + β7ES + β8EXP+ β9MS + B10DIR+ β11PSH + β12 HO + β13 AIGA + Ui

Where,

FS= Family size of the household

DR=Number of dependents

IN=Income of household per month

EDU=Education Level of household

AGE=Household head age,

SEX=Sex of household

ES= Employment status

EXP=Expenditure

MS=Marital status household

DIR=Deposit interest rate

PSH=Personal saving habit of household head

AIGA=Additional income generating activities

HO=Home ownership

3.7. Definition of Variable Measurements and Hypothesis

Dependent variable: - There are two components for dependent variable; the first is the decision to save. It has a dichotomous nature measuring households' decision to save which takes a value of one (1) if the household decides to save and if not (0) zero. The second dependent variable is the extent or amount of saving by households on the decision to save and is of truncated regression.

Independent Variables:-After the analytical procedures clearly defined, it is necessary to identify the potential explanatory variables that influence savings behavior. Based on review of literatures, past research findings thirteen explanatory variables is identified and included in the model. The variables include family size of the household, income of household, education level of household, age of household, sex of household, marital status of household and deposit interest rate, employment status of household, expenditure of household, number of dependents of household, personal saving habit of household, additional income generating activities and home ownership

Family size (FS): This is a continuous variable measured by numbers and in this study; family size refers to the number of individual living together in the same roof and shares everything within the household. (Zegeye, "Determinants of Household Saving the case of Boditi Town, Wolaita Zone, Ethiopia", 2018) The size of household found that significantly and negatively affect household saving. This implies a household have a larger family size due to additional household member shares the limited resources that lead the household to save less.

Number of Dependent (ND): it is the number of dependent in a given family divided by the number of working age. According to (Saliya A. Y., 2018)dependence ratio of household had a negative and significant influence on household saving decision. This show that a negative correlation between dependency ratio and probability of saving in the household. This result consistent with the prior research; that is a significant inverse relationship exists between dependency rates and 34 saving rates in less developed countries. And in this study inverse relation between dependency ratio and rural household saving was expected.

Income (IN): income is continuous variable expressed in terms of birr and saving is generally assumed to come from what is left from consumption. Household income is expected to have positive relationship with saving. Income has significant and positive effect on saving (Halefom, "Determinants of household saving in Gedeo zone, Southern Ethiopia, 2015).

Education Level (EDU):- It indicates the years of schooling achieved by household head. It is one of the control variable included in the model. In fact, the household saving is different with different educational level of household. Formal education of the

household is selected due to its effect on saving behavior. According to (Bogale, 2017), they have found that better educated people tend to save more. This is theoretically justified from the fact that education has the probability to increase households' awareness to saving and also their capacity to save as more educated households has wider possibilities of earning more income than not educated ones.

Household Head Age (AGE): It is continuous variable and measured in years and also it can be defined as the number of completed years from the time of birth till the time when the survey conducted. According to (Bogale Y. et al, 2017; Abate, 2020) as the ages of the households age increase, the saving behaviors of the also increase, However, Kidest A. (2019) is inconsistent with those study as the ages of the households age increase the saving behaviors of the household decrease.

Sex of household (SEX): is a dummy variable (which taken 1 value if the household is male and 0 if the household is female).Women and men have differing propensities to save due to variations in perceived risks and interests and in gender-related external factors that affect savings behavior. Saving behavior of women was better than men. Studies show that women are more conservative in their investment decisions than men. (Michael, 2014) (Abate, 2020)

Employment status (ES): It referring to the relationship between an employee and their current or former employer. It is one of the control variable included in the model. In fact, the household saving is different with different employment status of household. According to (Haile M., 2017) the saving habits of businessmen participants were 1.74 times higher as compared to government employees.

Expenditure (EXP): It is a continuous variable that refers to the sum of household expenses on food item, clothing, health, education etc. It includes not only expenditure on consumption but also different expenditures on social and religious ceremonies celebrated occasionally such as, wedding, funeral, circumcision and others. The expenses related to these ceremonies are sometimes too large relative to household income levels. According to the (Bealu, 2020) Expenditure on social issues is inversely related to the savings.

Marital status household (MS): is a dummy variable which indicates whether the household head is married or unmarried. It included in the model to control for the

household saving of differences of household who are married and unmarried. It is a dummy variable which assumed a value of one if the household head is married, zero otherwise. According to (Tsega H. et al, 2014: Abate 2020) being married was a negative impact on saving; the main reason for the finding might be the fact that most female partners are spouses that makes their liquid money contribution very less. Furthermore, there are also social and others costs added most of the time for married individuals.

Deposit interest rate (DIR): is a dummy variable (which taken 1 value if the household is satisfied with the existing deposit interest rate and 0 if the household is unsatisfied). The deposit interest rate is the rate of interest that investors pay to borrow money, (Mankiw, 2010:63). Deposit interest rate is the price at which present and future income can be exchanged. According to classical economists, saving is the direct function of interest rate. Consequently, savings tend to rise with an increase in the rate of interest as present consumption is being shifted to the future and vice versa. Therefore, it is expected that there is a positive relationship between interest rate and savings.

Personal saving habit of household head (PSH): is a dummy variable (which taken 1 value if the household is positive and 0 if the household is negative saving habits). Savings 26 habits were defined as frequently practiced behavior, done without a particular sense of awareness, with the goal of freeing up funds for saving or debt reduction. According to (Tarekegn T. et al, 2015) There is positive relationship between personal saving habit and saving practices of household. The probability of household head with positive personal saving habit is very high (0.84) to save than with negative personal saving habit. Lack of positive personal saving habit significantly harms the desire of households to save by engaging them in extravagant events. Because household head with positive personality regularly manages income, spends reasonably through planning, rigorously manages unexpected expenditures, thinks about family future, and protects him/her from adductions.

Additional income generating activities (AIGA): It is an activity that a person engaged in supplementary to what is already present or permanent income generating activity. According to (Haile M et al, 2017) a person who engaged in additional income generating activities than that of who only working a one work or permanent income it is better to save due to it increases their capacity to save by increasing their income.

Home ownership (HO): It indicates whether a household own a house or not. It is a dummy variable which represent the value one if the household owns house and zero otherwise. Home-ownership includes in the model as a control independent variable and household who own a house have different level of saving from household who lived rent house. According to (kidist A, 2019) it is a positive relationship between owning a house and saving and It have expected a positive effect on household saving status.

Table 3. 2 Explanatory variables and direction of influence on dependent variables

Variables	Description	Expected sign	Measurement
Household saving habit	HSH	+ /-	Dummy (1 if saving 0 not saving)
Household Saving amount	HSA	+ /-	In Ethiopian Birr
Family size of the household	FS	+ /-	Number
Number of dependents	DR	-	Numbers
Income of household per month	IN	+	In Ethiopian Birr
Education Level of household	EDU	+	Years
Household head age,	AGE	+ /-	Years
Sex of household	SEX	+ /-	Dummy (Male=1, Female=0)
Employment status	ES	-	Dummy(Government)=1, other =0)
Expenditure	EXP	-	In Ethiopian Birr
Marital status household	MS	+ /-	Dummy (single =0 Married=1)
Deposit interest rate	DIR	+	Dummy (Satisfied=1,Unsatsfied=0)
Personal saving habit of household head	PSH	+	Have saving habit =1 not have=0
Additional income generating activities	AIGA	+	Dummy (Yes=1, No=0)
Home ownership	HO	+	Dummy (house owns =1, other =0)

Source: Own construction (2023)

3.8. Ethical Considerations

In terms of ethical consideration, the researcher first requested permission from respondents. The data collections were starts after introduced the objectives and proceeds when informal agreement were reach between researcher and respondent. Respondents invite to comfortable environment to ensure their privacy and confidentiality. Hence, the researcher had guaranteed to ask and secure the respondents privacy and does not expect to mention their name. In addition, the data was original collected data, keep data for a reasonable period of time, and provide accurate account of the information. In general, the study kept the dignity of the respondent; promote moral questions and develop intimacy with the respondents of the study.

CHAPTER FOUR; RESULT AND DISCUSSIONS

4. RESULT AND DISCUSSIONS

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 Double hurdle econometric model, the empirical result of Double hurdle model has been presented. The regression results econometric model made possible with the help of using STATA.

4.1. Descriptive statistics results

Descriptive analysis is largely the study of distribution of one variable. This study provides us with summary of the person and other subjects on any of a multiple of characteristics such as size, composition, efficiency, preferences, etc.

4.1.1. Summary of statistics for Categorical Variables

In the below table 4.1 summarizes the profiles of 380 observation sampled household for all categorical variables individually. As the table 4.1 shows the lowest family size of the respondents is 1 and the largest family size is 10. The average family size of the sampled household is about 5.5. Typically, large family size has the significant relationship with lower saving, an increase in the household size; the demand for household consumption increases and also it increase demand for basic life sustaining materials and at the same time saving decreases.

As it was clearly indicated by table below Households with large number of dependents save less however households with lower number of dependents save more. This means it increase to the dependents, it is tough to fulfill the need of the family by single household head and their consumption level is greater than saving.

Out of 380 observations 286 respondents or 75.26 percent are male from those 57 of the respondents or 49.33 percent of them are participate on saving and the rest 60 households

or 51.67 percent of the respondents is not participated on saving and the rest 94 (24.73 percent) of the respondents are households headed by female. This shows that in sampled households the higher proportion of the households headed by male.

Although there are 13 (3.42%) illiterate household heads, however their saving has been less than the other households who categorized under primary, secondary and tertiary educational status. In other case, tertiary educated household share 142 (39.47%). As compared to other households, saving of tertiary educated households is higher than the others. So, as the educational status of household head increases the household saving has increased per month on average. Furthermore, those household heads that have higher educational status know the importance of saving, save their income in financial institutions and correctly handle their consumption expenditure.

Table 4. 1 Profile of respondents for categorical variable

Variables	**Category**	**Frequency**	**Percentage (%)**
Family size of households	Family size 1-3	132	34.73
	Family size 4-6	78	20.52
	Family size>=7	170	44.73
Number Dependent	Have Dependent	148	38.94
	Have not Dependent	232	61.05
Sex	Male	286	75.26
	Female	94	24.73
Educational attainment	Illiterate	3.44	13
	Primary educated	39.47	150
	Secondary educated	19.73	75
	Tertiary educated	37.4	142
Marital status	Married	328	86.31
	Single	52	13.69
Occupation status	Government	169	44
	Self-employed	84	22
	Private company	60	17
	NGO employee	37	9
	Unemployed	30	8
Saving habit of household heads	Have saving habit	188	49
	Not have saving habit	192	51
Home ownership	Have home	259	68.15
	Note have home	121	31.84
Additional income generating activities	Have Additional income generating activities	119	31.31
	Have not Additional income generating activities	261	68.68

Source: Own computation from survey data (2023)

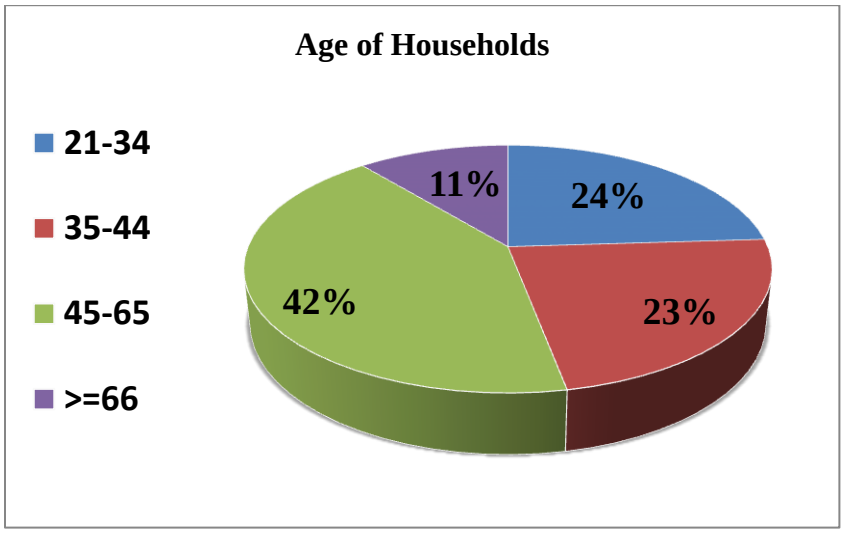
When we see the other categorical variable, marital status, more proportion of the sampled respondents is leading by married household head and 328 respondents or (86.31 percent) were married and 52 respondents or (13.69 percent) of the respondent were single.

When we see occupational status of the household head, as categorical variable, from the sample respondents 169(44%) were government employed. About 84(22 %) of household heads engaged in self-employment, 60 (17%) of the respondents were employed in private organization and also 37 of the respondents or (9%) of household head household head engaged in NGO-Employee and the remaining 30 Respondents or (8%) household heads were unemployed.

The decision of households in order to engage in saving from their monthly income is summarized in the above table 4.1 Accordingly among 380 observations of the household almost by half of the respondents reported that they have saving account. About 188 respondents (49 percent of the household head) have their saving account; the remaining respondents of 192, the sampled household of 51 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 not save and confronted with is low level of their monthly income and higher expenditure on consumption.

The respondents out of 380 observations 259 respondents or 68.15 percent are have their Own home and the rest 121 or 31.84 percent of the respondents are households headed who don't have their Own home. This shows that in sampled households the higher proportion of the households head have their home .the households that have their own home save more than that don't have their own home.

The other categorical variable, Additional income generating activities, more proportion of the sampled households don't have Additional income generating activities and 119 respondents or 31.31 percent were have Additional income generating activities. The number of dependents on household heads are from 380 observation 148 of the respondents or 38.94 percent of the respondents have dependents the rest 61.06% don't have no dependent. As the respondents response the households that have large dependent save smaller than that households don't have dependents.



Source: Own computation from survey data (2023)

Figure 4. 1 Age of Households

The following numbers of respondents with their percentage 91, (24%), 86 (23%) 161, (42%) and 42, (11%) of the respondents in the age group were between [21years and 34 years], [35 years and 44 years], [45 years and 65 years], [greater than or equal to 66 years] old, respectively. 380 sample respondents for continuous variable. The Figure 4.1 Shows that for sample respondents' age structure of the observation falls between 21 and 81, the lowest age category is 21 and the highest age of the respondent is 81. In the study area as the respondent's response as age of households heads age increase their extant of saving is tends to decline.

4.1.2. Summary of statistics for Continues variable

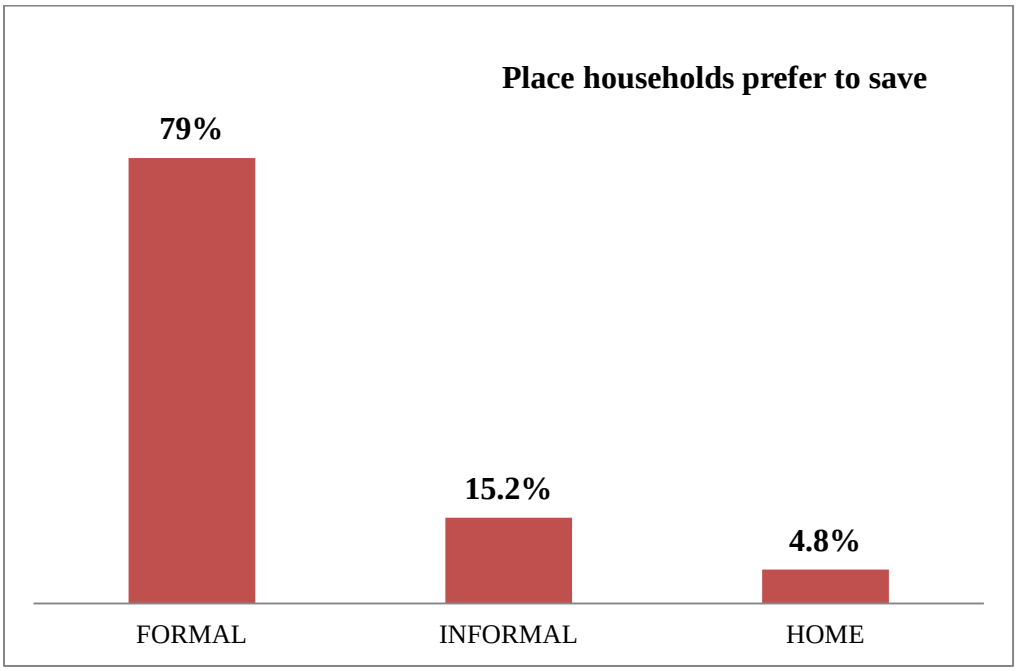
Table 4. 2 Household Average monthly income and Expenditure

Description	Mean	Std .dev.	Min.	Max.
Household saving if expenditure is <=10,000	1742.21	4212.15	500	7900
Household saving if expenditure is > =10,001	6125	3974.04	4000	10000
Household saving if income is < =10,000	563.53	4213.9	500	5000
Household saving if income is > =10,001	7640	4260.4	2500	18000

Source: Own calculation

In the study area the minimum expenditure on monthly is 500 birr and the maximum Expenditure is 10,000 birr. According to Table 1.2 household heads whose expenditure Above 10,001 birr was save 6,125 birr on average. In other case, mean value of household saving who are spending less than 10,000 birr were 1742.21 birr. Household heads whose expenditure below 10,000.00 their minimum income of the households on month is 500.00 birr and the maximum Expenditure is 7900.00 birr.

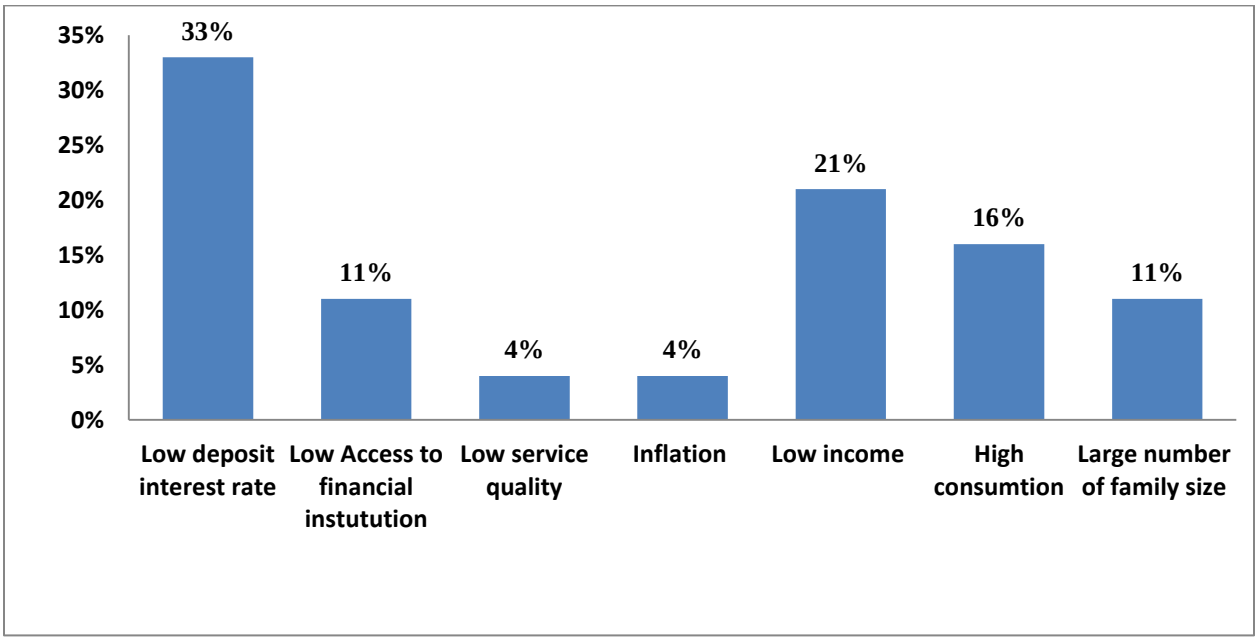
Economic studies have shown that income is the main determinants of consumption and saving. Rich people save more than poor people, both enormously and as percent of income. The very poor are incapable to save at all; as an alternative as long as they can take loan or draw down their wealth, they tend to save. That is they tend to spend more than what they earn and reducing the accumulated saving or going deeper into debt. In this study the minimum household's income is 500 birr and the maximum household's income is 18,000 birr per year. In the study area there is high income variation among households. In general, as the household income increase their saving per month increases.



Source: Own computation from survey data (2023)

Figure 4. 2 Place households prefer to save

The above Figure 4.2 Shows the household heads saving place. In this case out of 380 respondents 301 or 79 percent of household heads are saving in modern financial institutions (Bank, Microfinance). Whereas, 57 respondents or 15.2 percent of the respondents saving in informal institution (ekub, eder) .and the rest 22 respondents or 4.8 percent of the respondents is save at home. As response from respondents banks and microfinance branches increase from time to time leads to increase access of financial institution for the public even in far remote areas or outskirt of the country which encourage the saving habit of that particular society. As the graph shows most of the household hades are use modern financial institutions to save their money.



Source: Own computation from survey data (2023)

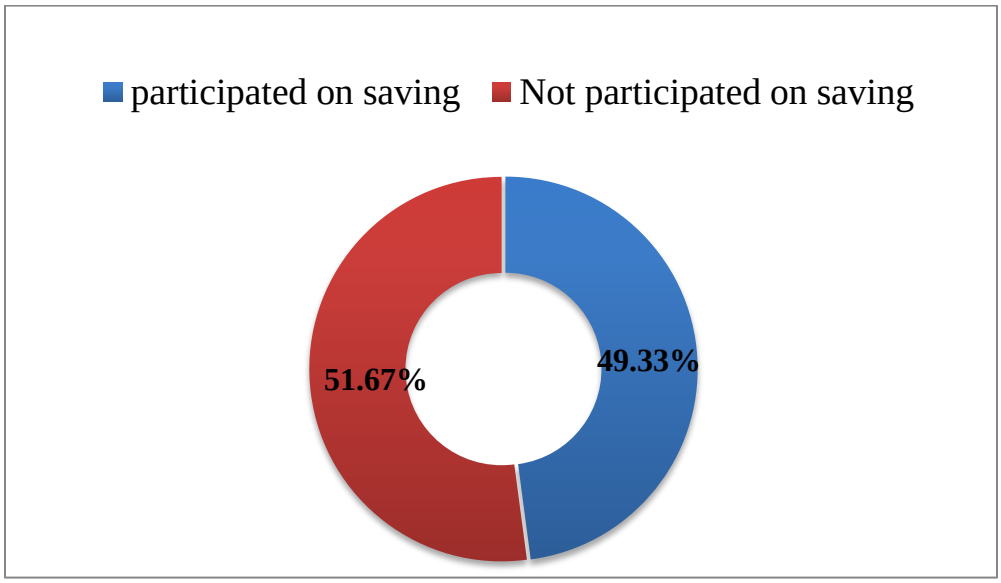
Figure 4. 3 Constraint and challenges of household saving

There are internal and external factors which affect household saving behavior or culture. The survey results show that in the above presented in seven categorical variables Figure 4.3 showed that 78 (21%) of the respondents are constrained their saving habit because of having low income and the rest 59 (16%) are because of having high consumption expenditure, because of large number of family members 42 (11%) of the respondents are constrained their saving habit additionally because extravagancy including different social ceremonies such as wedding, 123 (33%) of the respondents are constrained their saving habit because of low deposit interest rate in financial institution sector, 42 (11%)

of the respondents are constrained their saving habit because of access to the financial institution,18 (4%) of the respondents are constrained their saving habit because of low service quality in financial institution sector 18 (4%)of the respondents are constrained their saving habit because of high rate of inflation.

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 responses of the question the motivations of household to save are majority of respondents channeled their monthly saving for emergency purpose and save for family schooling. And oh half of the respondents planned their saving to start up new business or to expand the existing one.



Source: Own computation from survey data (2023)

Figure 4. 4 Saving status of the households

As the Figure 4.4 the data for this study contains 380 conveniently selected household of which only 49.33% involved in saving (saving be it the formal or informal institutions) and the remaining 51.66% not participate in saving practice of any type. The possible

causes identified for poor saving include high consumption expenditure, lack of incentive to save, low income level, low current level of deposit interest rate, high inflation, and having a negative personal saving habit, having large family size and others.

4.2. Econometric Analysis; Result of the Double hurdle 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. This section analyzes the determinants of household saving with the inferential statistics by double hurdle model by using the maximum likelihood method of estimate, the model examined the household's decision to save and the extent to which they saved in the study area as described in the methodology section. According to Gujirat (2004) Hurdle models are applied to situations in which target data has relatively many of one value, usually zero, to go along with the other observed values. They are two-part models, a probit model for whether an observation is zero or not, and a count model for the other part. The factors of household's decision to save and the amount of their saving are estimated separately in a double-hurdle model.

The decision to save or not to save is identified in the first hurdle, and if the household decides to save, the level of their savings is assessed in the second hurdle. Before directly proceed to analysing the finding scholars (Kothari, 2004) point out that testing the reliability as well as the validity of data is mandatory. Therefor this study conducted two basic testes and they found valid. The two tests were Wald Test and Likelihood Ratio.

The Wald test (also called the Wald Chi-Squared Test) is a way to find out if explanatory variables in a model are significant. "Significant" means that they add something to the model; variables that add nothing can be deleted without affecting the model in any meaningful way.

Table 4. 3 Test of Double hurdle Estimation

Type of Test	LR chi2(13)	Prob > chi2	Decision
Wald Test	3.03	0.2154	Model Accepted
Likelihood Ratio (lr test)	14.16	0.0002	Model Accepted

Source: Survey Result, 2023

4.2.1. Status of saving and its determinants

The Above Table 4.3 Shows that the result of the first hurdle has chi2 (3.03) and the critical value (0.2154) In the Z table the value of chi2 were significant (P value<0.001) and the second hurdle which tested by the Lr test showed that chi2 14.16 and the critical value 0.002. Thus two tests revealed the acceptance of the model. After checking the Wald Test and Likelihood Ratio (lr test) the estimation of variables were conducted. The following table showed the estimation of variables.

Table 4. 4 Estimations of Probit model and Marginal effect

	Probit model		**Marginal effect**	
	Coefficient	Std	Coefficient	Std
Family size	-.34**	.157	-.02	.002
Number of dependents	-1.03***	.331	-.04	.013
Income of household	.00**	.000	.00	6.85e
Education Level of household	.26**	.106	.00	.001
Household head age,	-.14**	.058	-.00	.002
Sex of household	-2.52**	1.151	-.08	.026
Marital status household	.175	.459	.00	.011
Deposit interest rate	3.93	2.799	.13	.078
Employment status	-.12	.431	-.00	.014
Expenditure	-.00**	.001	-.00	.000
Personal saving habit of household head	1.97**	.902	.14	.046
Additional income generating activities	2.94**	1.414	.21	.079
Home ownership	2.41**	.963	.16	.047
	Number of Obs=380 LRchi2(13)149.9 Prob > chi2 =0.0000 Pseudo R2 = 0.9132		Number of Obs=380 LRchi2(13)149.9 Prob > chi2 =0.0000 Pseudo R2 = 0.9132	

Source: Survey Result, 2023

Note: ***, **,* = denotes significance at 1 percent, 5 percent and 10 percent respectively.

As described given in above Table 4.4 Both the coefficients and marginal effects of the probit model are to estimate the first hurdle a binary probit regression was used; the coefficients of the Probit model only give the significance and the direction of the effects of each explanatory variable on saving. The marginal effect measures the impact of the impact that an immediate unit change in one variable has on the outcome variable while all other variables are held constant. This implies that the rate and level of saving will change whenever the variable factors are change.

The result showed that, family size, age of the household, sex, expenditure and number of dependents were found negative and significant effect on decision to save. This indicted that the increment of those variables in the household has a negative impact on saving decision of households in the study area others were found positive.

As the above table showed that, Family size which is significant at 5% level. The marginal effect of this variable implies that, if household family size increase by one individual then z-score decreased by 0.02 standard deviation units. When family size increases, households are expected to allocate more of their income on consumption expenditure and thus there will be no income left for saving. A study done by Melkamu, B et al., (2017) and Zegeye, P. (2018) found out that large family size reduces the saving rate of a household.

Number of dependants on the household has statistically significant at 1% level and negative effect on decision to save. The marginal effect of this variable implies that, If Number of dependants on household increase by one individual then z-score decreased by 0.04 standard deviation units**.** This is a result of a greater burden of consumption expenditure and hence, the more the allocation of household budget towards consumption expenditure leads to lower. Higher number of active working members involved in economic activities saves much more than others (Popovici, 2012). The elderly and young are expected to consume out of post saving while those within the working age are expected to accumulate saving (Quartey & Blankson, 2008), those studies are aligned to the study.

Income is one of the factors that determine households saving level. As it was expected the monthly income of the respondents has a positive significant effect on the decision to

save and coefficient is statistically significant at 5% level. If incomes of households increase by one birr then z-score increase by 1.96 standard deviation units other things being constant. Studies Abate,T. (2020) and Abebe, A. (2017) confirmed that an increase in income was found to increase saving significantly.

Furthermore they point out that Income and saving have a straight relationship, which means that when income rises, so does saving, but by a smaller amount. Because the proportion of income consumed drops as income rises, the proportion of income saved rises. Savings is negative at lower income levels. As the above table showed that household income is positive and it showed that an increase in incomes of respondents increases their tendency to participate in saving and the amount they save. This is because such respondents will have income left for saving after paying for consumption expenditure.

Education level of the respondent is another important variable at influencing decision to save and statistically significant at 5% level, the marginal effect of this variable implies that, If years of schooling increase by one year of households increase by one year then z-score increase by 0.76 standard deviation units**,** other variables being constant. This is due to a more educated person have an awareness to life style, awareness to Saving, involvement in other income generation activity. This finding is in line with theoretically justification that education has the probability to increase the awareness to saving and also their capacity to save as more educated has wider possibilities of earning more income than not educated ones (Fisher et al, 2012). Researchers such as Hussein, A. (2007), Girma,T. et al.,(2013) and Gina, A., et al., (2012) asserted that education is found to be significant to determine the level of saving and those researcher were conform with this study but on the contrary Rehman et al (2010) states this variable to have a negative effect on household saving due to the fact that educated households' tend to spend more on the living standard and Children's educational advancement. Another indicator in the inconsistency of the estimation the results is the one presented by Beckman et al (2013) it indicated that individuals university degrees or medium education are more likely to save due to income effects of better education and increased financial literacy.

As shown in the above table, the age of household head has negative significant effect on the decision of household to save, statistically significant at 5% level, that is as the household head gets older his productivity decreased and going to be a retired period as a result decision to save will decreasing, this may be because his possibility of getting more income will decrease as age increases. Kidest A. (2019) was conforming to this study. Researchers such as Bogale et al., (2017): Tewodros, S. (2021) stated that the age of respondent has positive significant effect on the decision to save, That is, as the individuals get older there decision to save will increase; this may be because awareness about saving will increase as age increases inconsistency with this study.

The dummy variable, sex of the respondent, has a negative sign and it is also statistically significant at 5%, therefore, the marginal effect of this variable implies that, if household headed by female then z-score increase by 0.08 standard deviation units**,** ceteris paribus. Female and male have differing propensities to save due to variations in perceived risks and interests and in gender-related external factors that affect savings behavior.Suggesting that female respondents are saving more than their male counterparts. This may be true because females are more conservative in their investment decisions than men. The result is consistent with the study Tsega H. et al, 2014: Abate 2020. However According to Zegeye P. (2018) female headed households in general have more dependents and thus have higher non-workers to workers ratio compared to other households, they work for lower wages and have less access to assets and productive resources compared to men, Therefore, Male headed households are expected to have better chance of earning income and when income increases saving level of the household increases.

Similarly, Personal saving habit of household head has statistically significant at 5% level. Therefore, the marginal effect of this variable implies that, if household heads have personal saving habit then z-score increase by 0.14 standard deviation units**,** other variables being constant, Ceteris paribus. This suggest that personal saving habit of household head increases, which may be related with the desired of respondents to produce more and get more incomes for saving. The study conducted by Tarekegn T. et al, (2015) point out that lack of positive personal saving habit significantly harms the desire of households to save by engaging them in extravagant events.

Expenditure of the household is another significant variable at 5% level and negative effect on decision to save. If the household put forward (increase) Expenditure a thousand birr then z-score decrease by 2.14 standard deviation units**,** other things remaining constant. This implies a higher expenditure of household's decreases saving decision. Not only expenditure on consumption but also different expenditures on social and religious ceremonies celebrated occasionally such as, wedding, funeral, circumcision and expenditure on social issues is inversely related to the savings (Bealu.T 2016).

Household engaged in additional income generating activities has statistically significant at 5% level and positive effect on the decision to save. As the marginal effect implies that, if household heads engaged in additional income generating activities then z-score increase by 0.21 standard deviation units. This implies a household engaged in additional income generating activities it increase the income base of the household and it increase the ability of saving of the households. According to (Haile M et al, 2017) a person who engaged in additional income generating activities than that of who only working a one work or permanent income it is better to save due to it increases their capacity to save by increasing their income.

Home ownership of the household also has statistically significant at 5% level and positive effect on the decision to save. Therefore, the marginal effect of variable implies that, a one unit increase on household heads Home ownership then z-score increase by 0.16 standard deviation units. ceteris paribus. The reason that a household having a home it's could be decreasing a rental expense of the house and it's tends to shift to saving. (According to Kidest A, 2019: Ricardo B. et al, 2015) home-ownership is associated with a higher saving rate.

Table 4. 5 Truncated regression model and Marginal Effect

	Tobit		**Marginal effect**	
	Coefficient	Std.	Coefficient	Std
Family size	-8.61	144.938	-2.55	41.434
Number of dependents	-.77***	0.143	-210.21	36.917
Income of household	.49***	0.080	0.19	0.024
Education Level of household	74.79	313.687	22.20	98.923
Household head age,	-0.27	44.803	-0.09	13.725
Sex of household	-1549.16	1070.009	-630.80	345.409
Marital status household	892.98	602.9390	273.72	183.234
Deposit interest rate	1474.49	2010.206	451.44	601.035
Employment status	-216.04	437.054	-66.04	131.431
Expenditure	-.00**	.000	-1087.93	476.758
Personal saving habit of household	.93**	0.485	244.13	172.617
Additional income generating	1.77**	0.686	438.42	129.082
Home ownership	3605.27**	1597.376	1102.47	457.758
	Number of Obs=380 LRchi2(13)149.9 Prob > chi2 =0.0000 Pseudo R2 = 0.9132		Number of Obs=380 LRchi2(13)149.9 Prob > chi2 =0.0000 Pseudo R2 = 0.9132	

Source: Survey Result, 2023

As mentioned in the above, to estimate the second hurdle or to estimates the amount of saving truncated regression was used. Since the marginal effect measures the impact of the impact that an immediate unit change in one variable has on the outcome variable while all other variables are held constant. In the second hurdle, according to this study the variables that affect the amount of saving in the household are Income of household, number of dependents, expenditure, personal saving habit of household head, additional income generating activities and home ownership respectively.

The marginal effect analysis implies that the number of dependents and expenditure of the household have negative relation with saving rate. According to the marginal effect analysis result showed that when the number of dependents increases by one individual over a household it will decrease the level of saving by birr 210.21 and similarly expenditure of the household increased by one birr the household saving decreased by 1087.93 of birr.

Being home ownership helps to increase saving by 1102.47 birr, an increment in Deposit interest rate of formal institution helps to increase saving by 451.44 birr. 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.

Engaged in additional income generating activities increase saving by 438.42 birr, having Personal saving habit of household head increase saving by 244.13birr and lastly an increment in Income of household helps to increase saving by .1963 birr. 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. More generally, other variables such as Income of household, home ownership, additional income generating activities and Personal saving habit of household head are positively related with saving.

CHAPTER FIVE; SUMMARY CONCLUSIONS AND RECOMMENDATION

5. SUMMARY, CONCLUSIONS AND RECOMMENDATION

In this chapter Summary, Conclusions and Recommendations are discussed. For clarity purpose, the conclusions are based on the research objectives of the study. Based on the findings of the study recommendations are made to government and non-government bodies, to banks and financial institutions, society and suggestion for other researchers.

5.1. Summary

For low-income countries, financial development is likely to have important implication for economic growth. So, study was analysed the determinants of household head saving in case of Asella town, Oromia Region, Ethiopia. In this study multi-stage sampling was applied. In the first stage Asella town was selected purposively because there is little empirical evidence on determinants of household saving in this area particularly in Asella town. Then, there are 8 kebeles found in the town, from these 3 kebeles were selected randomly. At the end by using simple random sampling method 380 household heads were selected to fit the study. The descriptive result Showed that about 48% of sampled households involved in saving and the rest not involved on saving. As a result 79% of the respondents use formal financial institutions and the remaining use for alternative saving options and the overall saving performance of the household is poor. The findings revealed that there is positive and significant causal relationship between amount of saving and income, personal saving habit, level of education, additional income generating activity and home owner of the respondents. Variables such as family size, age, expenditure and number of dependent were found to have negative influences on respondent's decision to save. The findings implied the need for designing strategies that could improve the saving behaviour, mobilization and diversification of saving by household. Furthermore, the need for government and other concerned organs involvement in building the capacity and incentives that in terms of households increasing saving behaviour; by reduce rate of inflation and improve deposit interest rate and increasing service quality, open high access for formal financial institution, and encourage household saving.

5.2. Conclusion

The study was conducted to identify the determinant of household saving in Asella town. The study used descriptive and econometric analysis to identify the effect of explanatory variables on dependent variable. With descriptive percentages, graphs, charts and tables were used to present factors affecting household saving and also the study particularly address the household decision to save and their extent of saving using the double hurdle model.

The conclusion drawn based on the findings is that only 48% of the respondents were found to have saving habit, while most 52 % of them were not savers at the time of the study period, this implies that the overall saving performance of the sampled household is poor.The finding of the study indicate that income, expenditure, personal saving habit, number of dependent, additional income generating activity and home ownership of the respondents at influencing both the decision to save and their amount of saving which due attention the all concerned organs to enhance household savings.

The determinant factors of household saving analyzed using the double hurdle model. Determinant factors of household saving found to be demographic, economic and institutional. The result showed that, family size, age of the household, sex, expenditure and number of dependents were found negative and significant effect on decision to save. The number of dependents was statistically significant at 1% level. This indicted that the increment of those variables in the household has a negative impact on saving decision of households in the study area. Income, educational status, personal saving habit, additional income generating activity and home ownership status were found positive and significant. .

Generally, majority of the respondents prefer to use formal institution for saving there are constraints which affect household saving behavior in the study area, from that having low income, having large family size and having high number of dependent on households are the main constrained of that household's do not save. Since household saving have a large share in national saving and economic development.

5.3. Recommendation

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

- As the number of family size increase the saving performance of households is reduced. Therefore, the saving institutions should encourage households who have a large number of family sizes to enhance their participation by limiting their family size through family planning and related measures. The government should designed strong policies related family planning and by giving role for non-government organization disseminate in different means to create awareness.
- As the study result indicates the number of dependent as number of dependency increases the saving performance of households is reduced. So, number educates households to have families that are sized based on their household income level. This could be achieved implemented by designing and delivering short-term training for households related with family planning. In addition, if dependent family members are not under eighteen, elderly, or disabled, should have to participate in some income generating activities which is suited with them in order to support the income of the household.
- The educational attainment has affect households savings positively this may help them to save their money income in the formal financial institutions, so, concerned bodies to enhance saving need to give the analytical capacity and awareness for of households those have low educational attainment specially towards saving behavior.
- Expenditure is reported as the main challenging factor to household saving in the study area and result shows negative sign in determining saving. So, Awareness creation and trainings on expenditure should be given to the society about consumption budget by surrounding financial institution such as bank, microfinance institution, saving and credit association by linking with community leaders and others which are near and live within the society and keep encompass each and every households.
- Personal saving has positive impact household savings which encouraging, making more relevant support those who have saving habit and make them a role

model to that particular society and advice and share their experience to others societies who have less saving habit compared to them.

- Income has a positive impact and significant impact on saving, so the government and concerned body should give priority for the improvement of household income and diversification of income streams for the households and encourage working cultures of the citizens which will have a round effect on saving, investment and income growth.
- Home ownership has a positive and significant impact on saving that means those who has house are save more than who has no house, this because those who have no house are forced to pay more of their disposable income to house rent. As house is a basic need to reduce this load the governed should built and supply house in the form of rent bay equivalent price for middle and lower income holders in the short run. In the long run the government design policy related to housing programed: such as public partnership, condominium, cooperatives and real estate owners how built and supply for lower and middle income holders and link them with financial institution to supply or provide mortgage loan for long period of time of and the government supply land.

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APPENDIX

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITUTE OF AGRICULTURE AND DEVELOPMENT STUDIES

Research Thesis for Requirement of Masters of Development Economics

Survey on Determinants of Household saving in Asella town of Oromia Region, Ethiopia

Dear Respondent: First, I would like to say thank you for your willingness to participate in this research in titled with "The Determinants of Household Saving: A Case Study in Asella Town, Oromia Region, Ethiopia". This questionnaire is designed for academic purpose towards partial fulfillment of Masters of Development Economics at St. Mary's university to collect Valuable ideas and comments from you. It is also intended as a high-level diagnostic tool to highlight opportunities for possible solution to the problems. I would like to express my sincere appreciation and deepest thanks in advance for your willingness, effort and cooperation in completing this questionnaire.

General guidelines

Please put a tick "✓" mark for those questions on the space provided.

- You are not required to write your name.
- I ask you in all due respect, to fill the questionnaire carefully and at your best Knowledge.

Basic Information

1. Sex of household head

A. Male (=1) ☐ B. Female (=0) ☐

2. Age: -……

3. Educational Background: Year of schooling……?

4. Marital status:

A. single (=0) ☐

B. married (1) ☐

5. Employment status

A. Government ☐ B. Self-employed ☐ C. Unemployed ☐

D. NGO employee ☐ E. Private Company ☐

6. Family size of the household…….

7. Is there anyone who is under the age of 15 and above 65 years in your house who is dependent on your income?

Yes ☐ No ☐

8. If your answer is yes for Q 7, how many people are dependent on you? ……..

9. Do you have your own home?

Yes ☐ No ☐

10. What is the average monthly income of the family……..?

11. Do you engaged in any other additional income generating activities?

Yes ☐ No ☐

12. If your Answer is yes for Question number 11 how much birr do you earn per month? .....

13. Do you save money from your earnings?

Yes ☐ No ☐

14. If your Answer is yes for Question number 13? How much birr do save…….?

15. If your answer is no for Question number 13 why?

A. High consumption expenditure

B. Low income

C. Low current level of deposit interest rate

D. lack of incentive to save

E. other ----------

16. What is your personal saving habit?

Positive ☐ Negative ☐

17. How much birr do you spend per month? ----------

18. Do you have saving access in your area?

Yes ☐ No ☐

19. Where do you prefer to save your money?

A. Bank/Micro Finance ☐ B. Informal Institution (Equb) ☐ C. at home ☐

20. If your answer for question number 19 is Informal/ at home please justify your reason…….

21. If your answer for question number 19 is Bank/ micro finance please justifies your reason……

22. Do you have information that you can earn interest on your saving account on Bank/ Micro Finance?

Yes ☐ No ☐

23. Generally, are you satisfied with the existing level of deposit interest rate?

Yes ☐ No ☐

24…. Do you think that households are facing problems and challenges that are negatively affecting their saving behavior?

Yes ☐ No ☐

25…. If yes what are the major constraints and challenges that are affecting household saving in the town?

A. Access to financial institution

B. Low service quality

C. Inflation

D. Low income

E. Higher consumption expenditure

F. Low deposit interest rate

G. Large family size

H. Other……

26. Is there any culture/norm that discouraging saving habit in your society? Please specify ……

27. Is there any culture/norm that encouraging saving habit in your society? Please specify ……

28. Finally, Would you like to give any additional suggestion/s or opinion?