



DILLA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

**SAVING HABIT OF RURAL HOUSEHOLDS: THE CASE OF GEDEB
WOREDA OF GEDEO ZONE, SOUTHERN REGIONAL STATE OF
ETHIOPIA**

M.Sc. THESIS

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**Saving Habit of Rural Households: The case of Gedeb Woreda of Gedeo Zone,
Southern Ethiopia**

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Bereket Bekele

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DEDICATION

It is my genuine gratefulness and warmest regard that I dedicate this work to the whole member of my family especially my father Bekele Bora and mother Workinesh Badessi and all brothers and sisters for growing me up with affection and love and being a constant source of inspiration. Without their effort and encouragement, the thesis would have not been completed. It also dedicated to my church elders, servant Haile, and my friends Iyasu and Idilu who encouraged me during my studies and to all my classmates of Dilla University agricultural economics.

STATEMENT OF THE AUTHOR

I declare that this thesis is my original work and that all sources of material used for this thesis have been fully acknowledged. The thesis has been submitted in partial fulfillment of the requirement for M.Sc. Degree at the Dilla University and is deposited at the university library to be made available to borrowers under the rules of library. I solemnly declare that this thesis is not submitted to any other institution anywhere for the awards of any academic degree, diploma or certificate.

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BIOGRAPHICAL SKETCH

The author was born in Gedeo zone, Gedeb woreda, Worka Sakaro kebele, southern Ethiopia, on September 12/1984 E.C. He completed his elementary and secondary school in worka sakaro primary, and Gedeb secondary and preparatory school respectively. After completion of his preparatory in 2006, he joined Adis Ababa University as regular student and graduated with Bachelor Science Degree in Department of Agricultural Economics in 2009 E.C. The author has been serving in Bule Hora University as Graduate assistance lecturer position in agricultural economics department till he again joined School of Graduate Studies of Dilla University in 2012.E.C.

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LIST OF ABBRIVATIONS AND ACRONYMS

| | |
|-------|---|
| CSA | Central Statistical Agency |
| GWA | Gedeb Woreda Administration |
| GDP | Gross Domestic Product |
| GDS | Gross Domestic Saving |
| LCH | Life Cycle Hypothesis |
| NBE | National Bank of Ethiopia |
| OANRD | Office of Agricultural and Natural Resource Development |
| OMFI | Omo Micro–Finance Institutions |
| OLS | Ordinary Least Square |
| OECD | Organization of Economic Cooperation and Development |
| RIH | Relative Income Hypothesis |
| TLU | Tropical Livestock Unit |
| WDI | World Development Index |

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ABSTRACT

Household saving is a crucial determinant of the supply of funds for investment. However, saving level in Ethiopia particularly in the study area is very low and little is known empirically about its determinants. This study, therefore, was aimed at investigating the factors that affect saving habit of rural households in Gedeb district of Gedeo zone, Southern Ethiopia. A cross sectional data collected from 295 rural sample households using interview schedule. The data collected were analyzed by using descriptive and econometric tools. The result of descriptive statistics revealed that the major challenges of saving practice in the study area were unplanned spending, high cost of living, high social commitments, spending income as soon as earning, very low income, unavailability of financial institutions, lack of trust in financial institution and lack of knowledge /awareness on saving whereas to acquire asset (house, land, clothes, TV etc.), to pay education fee, for household consumption (to buy food), to pay medical expenses, to receive interest rate for saving, to attend funerals and similar function and to get loan and credit access were the major opportunities of saving practice in the study area. The estimate of ordinal probit model with marginal effect found that age, education level, annual expenditure, farm land size, livestock owned, annual income, distance to financial institution, and frequency of extension contacts had significant influence on rural households' saving habit. The finding suggests that awareness creation and trainings about saving benefits should be given to the society, price stability policies targeted on major food items should be appropriately formulated, encourage rural households to look for additional jobs without jeopardizing their permanent job of crop and livestock production, prior attention should be given to small and very small landholders for improving productivity of the existing land through land management system and modern cultivation system.

Keywords: Households, saving habit, Ordinal probit model

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Saving is an important macroeconomic variable to be studied under the purview of the economic ground on an individual as well as household basis. According to Abhinav (2013) saving means surrendering the current consumption in order to increase the living standard and satisfying the daily desires in future time. Saving is the part of the income earned by the individuals (Husain, and Baharali, 2016). According to Kumar (2016) “saving is a key determinant of economic growth”. Speedy and durable economic growth needs investment projects like infrastructure, education and technology, business expansion, and modification. Thus, the main domestic source of funds for these projects is saving (Tsega and Yemane, 2014).

The high capital formation resulting from saving is a corner stone to economic performance of both developed and developing country, so, saving is the most significant factor that affects one’s countries economic development. But, in the African countries level of saving is very low. Low level of saving limits the capacity of the given country to invest in capital formation, and leads to lower level of economic growth and development than other countries that contribute enough savings. So, saving is usually considered as the main source of economic growth (Rehman *et al.*, 2011).

Surprisingly, Gross Domestic Savings as a percentage of GDP in eastern Africa has been low compared to many African countries. For instance, GDS (%GDP) of Zambia, Tanzania, Ethiopia, Uganda, and Kenya are 34.72%, 21.51%, 20.06%, 15.46%, and 8.42% only, respectively (WDI, 2018).

The reason of low domestic saving in developing countries may be economic fluctuations that lead to income variations and leave the households to severe poverty. Moreover, the credit and insurance markets are not well developed. Thus, these countries often face-saving allocation problems and have difficulties to develop productive investments. According to Deaton (2005) and Rogg (2006), serious problem confronting poor countries including Ethiopia is savings and

investment gap. Because of this gap, these countries faced challenges to finance investments needed for growth from domestic saving. Consequently, these countries often face-saving allocation problems and have difficulties to develop productive investment.

The saving habit of developing countries has been hindered by different factors such as inadequate financial service, physical distance from financial institution, little incentive to save, low interest rate and lack of adequate income to save (Ondiege, 2012).

Savings in rural Ethiopia is mainly made out of the income from agricultural activities. It is also characterized as seasonal and irregular as the cash flow through sale of agricultural produce and availability of work is seasonal. This reduces their financial capacity to save or poorly respond to incentives that promote savings in the country (Dejene, 2003). However, rural households do indeed save in the form of tangible assets and/or in financial forms which can be potentially utilized by savings institutions and for investments which is very essential for both households and national wellbeing (Dimova, and Sen, 2010).

Therefore, this thesis research focused on analyzing the major determinants of saving habits of rural households in Gedebe Woreda of Gedeo zone of the Southern Nations Nationalities and Peoples Regional State, Ethiopia.

1.2. Statement of the Problem

Households' saving represents the balance between their current income and their current consumption. By not spending some of their current income on consumption, or alternatively by borrowing, households can accumulate financial assets, such as deposits and shares, and housing assets. Households' savings in developing countries particularly in Ethiopia remains limited and far behind from other parts of the world. This is due to high levels of unemployment, low level of income, the engagement of a large proportion of the population in the informal sector and poor performance of the economy (Karim, 2010). One of the serious problems confronting poor countries including Ethiopia is the savings and investment gap (Deaton, 2005; Rogg, 2006). Because of this, these countries find it difficult to finance investment projects needed for growth from domestic saving. It is also common to see these countries to finance their investment in the short run partly through domestic government borrowings and/or foreign loan and grants. This would significantly increase the country's debt burden and would not be a solution in the long run.

For the developing countries including Ethiopia, the household savings rate is a prime cause for the highs or lows economic development and influencing the overall economic scenario. 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 (Tadele, 2015). The saving habit of many of the peoples of Gedeo zone particularly Gedebe woreda has been said to be low as compared to other states of Ethiopia. The reasons behind this are include a limited employment opportunity, high consumption habit, bad saving culture and limited intention to save though the woreda well known by its specialty coffee production (GWA, 2020).

However, for achievement of prosperity of rural households, investigating the root causes of the problem of rural households and know how they can promote a habit of saving is very important for sustainable economic growth and rural development of the country.

In Ethiopia different studies were done and identify the different factors related to the households saving behaviors, for instance Michael *et al.*, (2001), Timergu, (2011) and Mirach and Hailu,

(2014). The study done by Mirach and Hailu, (2014) showed that 54.1% of sample households practiced saving and the common reasons for households not to save are low income, inflation, low interest rate, cultural background, education, social affairs and unemployment. However, these studies did not consider the saving habit of individual or household at micro level. Hence, this study also tried to fill the gap and put impression like some other researchers who are focused on factors affecting saving behavior in micro level for example Lidi *et al.*, (2017) by assessing and investigating the saving habit of the households and its determinant factors in Gedebe Woreda of Gedeo zone of the Southern Nations Nationalities Peoples Regional State, Ethiopia.

1.3. Objectives of the Study

The general objective of this study was to assess the saving habit of rural household in Gedeb woreda of Gedeo zone, Southern Ethiopia.

The specific objectives of the study were:

1. To assess the status of rural households' saving habit in the study area;
2. To identify the key factors affecting rural households' saving habit in the study area.
3. To assess the challenge and opportunity of saving practice of rural households in the study area; and

1.4. Research Questions

1. What is the status of rural households' saving in the study area?
2. What are the key factors affecting saving habit of rural households in Gedeb woreda?
3. What are the challenges and opportunities of saving practice of rural households in Gedeo zone of Gedeb woreda?

1.5. Significance of the Study

This study was contributed different benefits. First, it could benefit community by creating awareness and providing updated information regarding the importance of saving and the way to improve the saving habit.

Second, the outcome of this study would have great contribution to interested party which is related to core factors that determine saving habit of rural households.

Third, the research output of this study could also inform the current status of the household saving behavior and the main influential factors with scientific procedure of the saving to the financial institutions working in the study woreda. Forth, the study was also believed to provide the bench mark for forthcoming interested researcher in the same or related topic.

1.6. Scope and Limitations of the Study

This study was focused on saving habit of rural household in Gedeb woreda. Though the woreda has 13 rural kebeles, the study was conducted only on 3 kebeles and 295 sampled households.

In addition to that, the researcher was faced unsuitable transportation service because of poor infrastructure facilitation in the study area. Other limitation, respondents were hiding real and necessary information about their saving and even some were not willing to give response.

In order to compensate such kind reluctant by household head to give real information, researcher has used secondary sources like Experts in Financial institutions, Government officials and other informants in woreda to convince the purpose and significance of this study.

Lastly, scientific limitations such as data access and institutions like research center to get material and information was a problem in study area.

1.7. Organization of the Thesis

This study is organized in to five chapters. The first chapter includes the introductory part such as background of the study, statement of the problem, research questions, objectives of the study, significance of the study, scope and limitations of the study and organization of the thesis. The Second chapter includes literature review related to study. Chapter three includes research methodology that encompasses a location and description of the study area, data collection procedures, sampling technique and sample size determination technique. Chapter four deals with result and discussions. Finally, chapter five presents conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1. The Basic Concepts of Saving

Savings has primarily been defined as the portion of income that is not consumed.

$$C=f(Y)$$

$$Y=C+S$$

$$S=Y-C$$

Where, C =Consumption S =Saving Y =Income

It was measured in birr. Generally saving includes not only money/birr but also assets and other related property. However, for the purposes of this study, the habit of saving that people had serve as dependent variable.

The rural household saving that saved in the financial institution plays a major role in accelerating private investment as well as government investment. Saving increases money supply, therefore it encourages people to participate in borrowing market. Thus, it flourishes country's economic growth, brings economic development in the country and serves as a corner stone to achieve the current prosperity strategy of the government.

The word "saving" contained broad-based meaning and numerous explanations. In economic contexts, saving is defined as the residual income after deducting current consumption over a certain period of time. Conversely, saving in psychological context is referred to the process of not spending money for current period in order to be used in future. In other word, saving behavior is the combination of perceptions of future needs, a saving decision and a saving action. On the other hand, people are likely to define saving as investing, putting money in a bank account, speculating and paying off mortgages (Warneryd, 1999).

Saving is the mechanism that allows people to defer part of their consumption today in favor of consumption tomorrow, where tomorrow could be next week, next year, retirement or even (in

the case of saving for bequests) after death (Fisher and Anong, 2012). On the other hand, saving is not the residual of current income on current consumption, but reserved for use in the future (Gersovitz, 1988).

In developing countries, saving is difficult to capture as it can be raised on an informal basis and as a result, it cannot be completely assessed by the national accounts. On the other hand, in OECD countries saving is largely made up of property investments, monetary and financial investments (Schmidt-Hebbel *et al.*, 1999). In developing countries, as households hoard money, savings are perfectly liquid so they can be used to face any urgent need or investment opportunity. This becomes all the more important since households' confidence in the banking system is low. Moreover, non-financial saving is important in developing countries (Goldstein and Barrow, 1999). It can take various forms as precious or semiprecious materials (jewels, carpets, etc...).

In Ethiopia, precious or semi-precious materials are accumulated on a regular basis and are exchanged against liquidities in order to meet lifecycle (education, marriage, immigrations, etc.) or urgent spending. The non-financial household saving also consists on housing properties and other forms of ownership (land, livestock, machines, etc.) (Robinson, 2004). Robinson (2004) adds building materials, cereals and harvest to these main forms of savings. More generally, this kind of saving accounts for a large part of households' saving. According to Goldstein and Barrow (1999) one of the essential characteristics of non-financial savings is to be able to be easily used in case of social need or economic opportunity. For cereals stocks or livestock purchases, can add high motivation of economic profitability meaning livestock accumulation is a source of profit in such a way that livestock can be easily sold; some of them produce other consumable and tradable goods (eggs, milk, wood) or others can be used as agricultural inputs in which this form of savings present some drawbacks: cattle breeding requires resources like water, animal food, pasture, work-time and can be lost in the case of illness or natural disasters.

2.2. Benefits of Saving

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. Chenery and Srinivasan (1998) 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. As Gedela (2012) put, since the classical times, saving has been considered as one of the determinants of growth. He also suggested that, to achieve higher rate of growth with relative price stability, the marginal propensity to save should be raised by appropriate incentives and policies.

In general, DeFina (1984) 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.

2.3. Saving Habit

Darnton *et.al.*, (2011) defined Habit as a factor in behavior and/or a practice. And the authors added that, worked out on the ground, “practices” and “behaviors” are hard to distinguish. Neal, Wood, Labrecque, Lally (2011) put their meaning of habits as psychological dispositions to repeating past behavior. They also noted that most researchers agree that habits often originate in goal pursuit, given that people are likely to repeat actions that are rewarding or yield desired outcomes. In addition, habit strengths a continuum, with habits of weak and moderate strength performed with lower frequency and/or in more variable contexts than strong habits.

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 (2006) used the term saving likelihood to indicate savers the intensity where people are willing to save some portion of income; Mahdzan (2010) used the term propensity to save to refer the intensity of setting aside a portion of income as saving, or an

inclination to save; Fisher and Anong, (2012) and Fisher (2010) use saving habit to express the regularity of saving over periods.

Demography and saving habit; the saving can be most often determined by the demographic features like the sex ratio, the age distribution, and the rate of dependent population. Saving is highly determined by whether the female's contribution towards saving is more or the male is contributing to its highest level and again if the problem of the age distribution in the family contributing to the saving is optimum then the saving rate is determined in a different perspective. Aggregate savings is exaggerated by the age distribution of the population if the carve up of dependent population is high than the income earning groups, the savings ratio will be low (Nayak, 2013).

2.4. Saving Habit in Ethiopia

In fact, the rate of domestic saving in developing countries including Ethiopia is believed to be insignificant. However, reliance on foreign aid and debt is not always imperative due to different socioeconomic and political reasons. Therefore, it is believed that the pattern of domestic saving, particularly individuals' saving in the country should change if higher rate of saving is required. Capital formation is an important factor in economic growth countries that would be able to accumulate higher levels of investment to achieve a faster rate of economic growth and development. To finance, investment required economic growth. The economies need to generate sufficient saving. Therefore, the domestic saving is necessary for economic growth because it provides the domestic resources needed to fund the investment effort of the country (IPUMBU, 1999). Personal saving has two primary functions. First, saving provides the economic security of a safety net by transferring resources from present to the future via saving. Individuals would be prepared to face unexpected and irregular financial circumstances. Second, saving leads to the accumulation of wealth that enables individuals to improve their living standards and to respond to new opportunities (Kelley and Williamson, 1968).

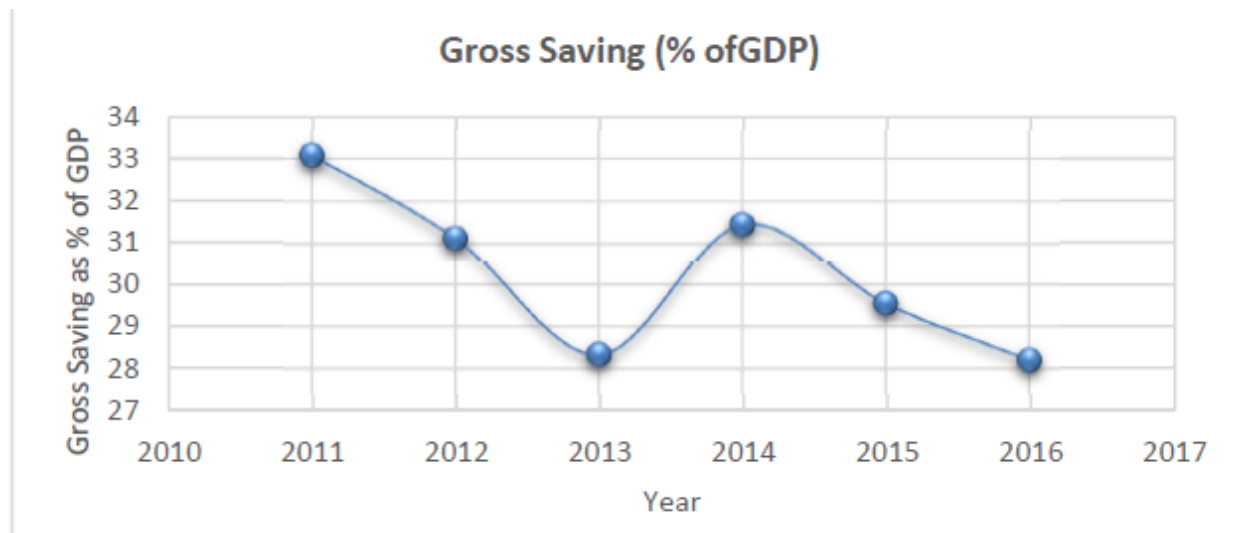


Figure 1: Gross national Saving % of GDP in Ethiopia

Source: World Bank (2018)

Gross National saving rate as percentage of GDP of Ethiopia shows ups and down moments and has decreasing trend in recent years. The rate of domestic saving rate was 33% of GDP during 2011 and also reported at 28.34% of GDP in 2013, 28.20% in 2016, according to the World Bank (2018) Moreover; domestic saving within the country can be calculated after paying income taxes and consumption.

There is both private and public savings. Private one is the amount of income that households have it after taxes and left from consumption. Private saving = $(Y - T - C)$. Public saving is the amount of tax revenue that the government has left after paying for its spending. Public saving = $(T - G)$ (Mankiw, 2003).

According to (Schreiner *et al.*, 2001), highlights the features of most developing country having low saving rate, so that improving the attitudes of saving habit is their primary goal.

Since saving plays a crucial for combating or meeting any emergencies accrued by the individuals or the households or any corporate agencies, so that improving saving habits based on increasing awareness provided from governmental and other nongovernmental agencies as well as institutions plays a pivotal role. Saving is meant for meeting contingencies but sometimes it also acts as a form of investment. But sometimes people would not incline towards to have

more saving either in pecuniary or in other forms and the very delicate reason is lack of awareness. To advocate appeals for saving there is a need to know about the saving motives of the individuals. An understanding of the saving preferences also helps in calculating the saving instruments which can efficiently arouse saving capacities. Saving more and spending more simultaneously has become the basic and conflicting factor for the economy. Also having a very poor access to the saving need which really has made a great interest in the minds of looking at the perspective as a whole (Subhashree, 2013). There is a growing recognition of the importance of financial education as it relates to the saving and asset accumulation.

2.5. Nature of Saving

Savings can be known as the cash or physical products set aside for future use. People in urban and other low-income communities can save when they are guided and encouraged by the Government and financial institutions. For the people in the urban regions, savings are made through traditional credit rotation groups, or purchase of domestic animals (goats, pigs, chickens or cows). Gradually, the traditional way of saving in rural region has been abolished; the people shifted their saving pattern to save in form of physical assets, like gold, land and durable goods and financial assets like shares, stocks, and bonds (Nayak, 2013). According to Nayak (2013), the Micro Finance Institutions (MFIs) and micro-enterprises are playing a major role in recent years in urban region by encouraging the people to save more. MFIs need to inject capital or funds which may be the owners of money or loan. When a loan is used, it is someone else who has done the saving. Micro enterprises, like other businesses, convert savings (of the owners and of others) into investment, in the creation of wealth. Variations in the saving pattern is mostly found in different societies, as there exists, a difference in environmental, social, economic and cultural contexts.

Human wants get transformed as the society grows and in turn cause substantial changes in the outlook of the people towards saving. In low-income communities, the ability to save is low and often is in cash or kind. Saving in cash is cheap and convenient. Variations in saving is visible in different communities as there exists difference in income levels, consumption pattern, awareness of the saving benefits, family size, investment opportunities, etc. Human attitude

towards saving has been changed through decades as in the remarkable growth in the society (Nayak, 2013).

2.6. Forms of Savings

An individual or a family's choice as to where to save in order to determine most extreme fulfillment also, and guarantee the security of their funds, is an exceptionally fundamental individual and family choice. It has been contended by Raily (1992) that individuals save when their salaries surpass their present utilization longings, and that the abundance investment funds should be possible in a few ways. Raily (1992) contended that, to save cash, families can choose to put the cash under their bed or cover it in the terrace until some future time when utilizations surpass their present wage. By and large, there are two principal outlets where families can store any reserve funds that they mean to do (Raily 1992).

Formal Savings; formal savings occur when individuals or families keep their money with formal financial institutions such as commercial banks or other non-bank financial institutions such as insurance companies, credit unions or savings and loans companies (Boateng, 1994).

Informal Savings Institutions; informal savings are any savings that occur within the informal sector of the economy. Aryeetey and Gockel (1998) observed that the informal financial sector participates in all commercial savings and lending that take place outside the formal sector in the developing economy. In Ethiopia various types of informal saving (worku, 2000). These include private sector rotating saving and credit groups such as iddir and iqqub that are initiated and organized by the people themselves, under the premise of financial relations based on reciprocity. Iddir and iqqub are the most important informal organization, based on the pre-established social ties.

Saving Account; saving accounts are accounts maintained by retail financial institutions that pay interest but cannot be used directly as money in the narrow sense of a medium of exchange (for example, by writing a cheque). These accounts let customers set aside a portion of their liquid assets while earning a monetary return (Robert and Josephine, 2006).

2.7. Motive for Savings

Although numerous studies have been carried out on saving behavior, according to Zhong, and Xiao, (1995) only a few of these have aimed to investigate motivations for saving directly. Research on motivations to save is, however, of both theoretical and applied interest. It can help financial advisors and educators to have a deeper understanding of the goals of people's financial behaviors (Udry, and Drezeand, 1994/5). The theme of saving motives was first treated by Keynes (1936). He identified eight different motives:

1. Precaution, which implies building up a reserve against unforeseen contingencies;
2. Foresight, which includes providing for anticipated future differences between income and expenditure (the life-cycle motive);
3. Calculation, which refers to the wish to earn interest;
4. Improvement, which means to enjoy a gradually improving standard of living over time
5. Independence, which refers to the need to feel independent and to have the power to do things;
6. Enterprise, which means having the freedom to invest money if and when it is favorable;
7. Pride, which concerns leaving money to heirs (the bequest motive); and
8. Avarice or pure miserliness Browning and Lusardi (1996) added the ninth one which is to accumulate deposits to buy houses, cars, and other durables (the down-payment motive).

2.8. Theoretical Framework of the Study

2.8.1. Theories of savings

Many disciplines and scholars have tried to explain savings behavior from different perspective and thoughts. For instance, whiles economists explain savings from income and age perspective (Modigliani and Ando, 1957), sociologist see class and social stratification as the primary influence of savings (Muradoglu and Taskin, 1996). Also, social workers have outlined access,

incentives, expectation, and facilitation as the factors that influence savings (Gotteschalck, 2008 and Patti, 2010). Behavioral economists and economic psychologists on the other hand see self-control, motives and other individual characteristics as the factors that influence savings (Katona, 1975). This study utilized the katona's theory of saving to deal with the ability to save or willingness to save by rural households. This section also tried to explain some of these theories as they form the basis underlying the study.

2.8.1.1. Life cycle theory

The LCH is an economic theory that developed by Franco Modigliani and his student Richard Brumberg. The theory is pertaining to the spending and saving habits of people over the course of a Life time. LCH presumes that individual's base consumption on a constant percentage of their anticipated life income.

An example supporting the hypothesis is that when people earn a regular income, they save for retirement rather than spending it all. This theory leads to important and non-obvious predictions about the economy as a whole, that national saving depends on the rate of growth of national income, not its level. The level of wealth in the economy allows a simple relation to the length of the retirement span. The life-cycle hypothesis remains an essential part of economists' thinking. With population growth, there are more young people than old, saver people increase than non-savers, so that the total non-saver of the old will be less than the total saver of the young, and there will be net positive saving. If incomes are growing, the young will be saving on a larger scale than the old so that economic growth causes positive saving, and the faster the growth, the higher the saving rate. So, saving is much influenced by the rate of growth of total income. It is not much influenced by population growth or growth in per capita incomes.

Currently the topic of debate shifted to the relationship between saving and the age-structure of the population. Cross-country regressions result regularly show that aggregate saving rates are lower if elder and children population is high. Predictions that are in accord with the life-cycle theory if saving takes place in middle-age when earnings are high, after the child-rearing ages, but prior to retirement. The life-cycle hypothesis provides a direct theoretical relationship between aging and saving behavior (Modigliani and Brumberg 1954).

The life-cycle hypothesis is age-related consumer heterogeneity and the prediction that saving follows a hump-shaped pattern (that is, high at middle age and low at young and old ages). The saving profile across age groups for different countries shows the obvious increase in savings for middle-age groups compared to younger age people. The life-cycle pattern is not nearly so clear when it comes to the middle-age and older age. Even now, almost all countries people age of sixty or older do save at a lower interest rate than those in the immediately younger age groups. Research has shown that this hypothesis is not problem-free when it comes to interpreting actual saving habits. Life-cycle saving is not sufficient to account for the high level of aggregate wealth in industrial economies (Kotlikoff and Summers, 1981).

Elderly people save or at least do not save as much as predicted by the life-cycle hypothesis (Deaton and Paxson, 1994; Poterba, 1995), and consumers appear to value bequests (Menchik and David, 1983).

Carlin and Soskice (2006) continue to conclude that in the life-cycle hypothesis model individual and household consumption follows a reasonably predictable pattern. Where individuals in the early years, as young adults start out their working life, they are inexperienced, relatively unproductive and therefore receive lower wages. In time the salaries increase as a young adult move towards middle age, with increased experience and productivity salaries increases follow. Salaries fall again as individual reach retirement. The theory states that the consumption pattern over the life-cycle will not change considerably.

Implying that households try to smooth out consumption over the life-cycle, in younger years where the income is relatively low, and consumption exceeds the income, the household is forced to borrow for this consumption whereas at later stages of work life, individuals pay off this debt and start saving for their retirement. It is during this period that household cover up for the debt aggregated earlier, while also planning for future consumption where there might not be an income source to cover for the consumption. All these stages are illustrated in figure below

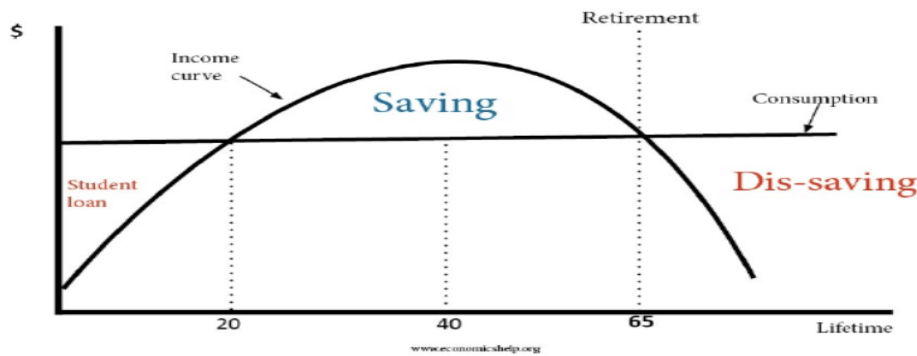


Figure 2: Life cycle hypothesis

2.8.1.2. Friedman theory of permanent income

Friedman's, (1957) permanent income hypothesis is an extension of the life cycle hypothesis. It is also based on the perception of one's present and future income. When income is higher than the permanent income somebody considers to be his or her comfortable (and realistic) level of income, money is saved for a period in life where income might be below this personal permanent income level.

According to Friedman, people also save because of a bequest motive, the motivation for saving to leave an inheritance (Ottoo, *et al.*, 2009). According to Odhiambo, (2008) the central idea of the permanent-income hypothesis, proposed by Milton Friedman in 1957, is simple: people base consumption on what they consider to be their normal income. In doing this, they attempt to maintain a fairly constant standard of living even though their incomes may vary considerably from month to month or from year to year. As a result, increases and decreases in income that people see as temporary have little effect on their consumption spending.

Thus, consumption depends on what people expect to earn over a considerable period of time. As in the life-cycle hypothesis, people smooth out fluctuations in income so that they save during periods of unusually high income and dissave during periods of unusually low income. Wagner *et al.*, (2005) believes that both the permanent income and life-cycle hypotheses loosen the relationship between consumption and income so that an exogenous change in investment may not have a constant multiplier effect. This is more clearly seen in the permanent-income

hypothesis, which suggests that people will try to decide whether or not a change of income is temporary. If they decide that it is, it has a small effect on their spending.

Only when they become convinced that it is permanent will consumption change by a sizable amount. In analyzing the differences between the two theories, Stephanie, and Marias, (2004) noted that the life-cycle hypothesis introduced assets into the consumption function, and thereby gives a role to the stock market. A rise in stock prices increases wealth and thus should increase consumption while a fall should reduce consumption. Hence, financial markets matter for consumption as well as for investment. The permanent-income hypothesis on the other hand introduces lags into the consumption function. An increase in income should not immediately increase consumption spending by very much, but with time it should have a greater and greater effect. Behavior that introduces a lag into the relationship between income and consumption will generate the sort of momentum that business-cycle theories saw. A change in spending changes income, but people only slowly adjust to it. As they do, their extra spending changes income further.

An initial increase in spending tends to have effects that take a long time to completely unfold. The existence of lags also makes government attempts to control the economy more difficult. A change of policy does not have its full effect immediately, but only gradually. By the time it has its full effect, the problem that it was designed to attack may have disappeared (Wagner, *et al.*, 2005). Finally, though the life-cycle and permanent-income hypotheses have greatly increased our understanding of consumption behavior even though data from the economy does not always fit theory as well as it should, which means they do not provide a complete explanation for consumption behavior (Stephanie and Marias, 2004).

2.8.1.3. Keynes absolute income hypothesis

Keynes (1936) introduced the notion of marginal propensity to save (Keynes' Absolute Income Hypothesis). The theory examines the relationship between income and consumption, and asserts that the consumption level of a household depends on its absolute level (current level) of income. As income rises, the theory asserts, consumption will also rise but not necessarily at the same rate. The idea is that saving is only possible, if someone has more than enough to meet the basic

needs. This means that someone can only save what is left over once essentials have been paid for (Ottoo *et al.*, 2009).

2.8.1.4. Relative income hypothesis

RIH is economic theory that attributed to James Duesenberry, who investigated the implications of this idea for consumption behavior in his book (1949) titled *Income, Saving and the Theory of Consumer Behavior*. The theory states that the satisfaction (or utility) an individual derives from a given consumption level depends on its relative magnitude in the society (e.g., relative to the average consumption) rather than its absolute level. It is based on a postulate that has long been acknowledged by psychologists and sociologists, namely that individuals care about status. At the time when Duesenberry wrote his book the dominant theory of consumption was the one developed by the English economist John Maynard Keynes, which was based on the hypothesis that individuals consume a decreasing, and save an increasing, percentage of their income as their income increases.

This was indeed the pattern observed in cross-sectional consumption data, at a given point in time the rich in the population saved a higher fraction of their income than the poor did. However, Keynesian theory was contradicted by another empirical regularity: Aggregate saving rate did not grow over time as aggregate income grew. Keynes (1936) developed the absolute income hypothesis. The theory explains positive relationship between absolute income and saving. Such proposition is supported by much empirical evidence. This finding is consistent with the view that saving rise after income exceeds subsistence consumption. This finding challenges the recent revolution of microfinance institutions to mobilize micro-saving from the poor. The implication of this finding is for Financial Institutions to target the middle- and high-income groups for saving mobilization and reduce the pressure to mobilize micro saving from the poor. Duesenberry argued that relative income hypothesis could account for both the cross-sectional and time series evidence.

Duesenberry claimed that an individual's utility index depended on the ratio of his or her consumption to a weighted average of the consumption of the others. From this he drew two conclusions: (1) aggregate saving rate is independent of aggregate income, which is consistent

with the time series evidence; and (2) the propensity to save of an individual is an increasing function of his or her percentile position in the income distribution, which is consistent with the cross-sectional evidence. Relative income hypothesis has also found some corroboration from indirect macroeconomic evidence. One of these is the observation that higher growth rates lead to higher saving rates, which is inconsistent with the lifecycle/permanent-income theory since the lifetime resources of an individual increases as growth rate increases.

$$\frac{C_t}{Y_t} = a - b\left(\frac{Y_t}{Y_0}\right)$$

2.8.1.5. Katona's theory of savings

Otto *et al.* (2009) noted that Katona's theory of saving is based on the assumption that saving/consumption is dependent on the ability to save/ consume and the willingness to save/ consume. The theory stressed the importance of income but thought of the absolute income hypothesis as being too simplistic. Simply having money left over after expenditures on necessities does not mean that this money has been saved or will be saved.

To predict saving, the willingness to save needs to be considered as well. In other words, those who are able to save still need to choose to do so, that is, they have to make a decision that requires some degree of willpower. Consumer expectations and consumer sentiment will impact on saving decisions as well as pessimism and optimism with regard to a general and one's personal evaluation of the economic situation. While people save for different reasons, Katona assumes that someone's personal evaluation of the economic situation will influence contractual as well as discretionary saving decisions (Katona, 1975).

2.9. Methodological Framework

In this study Ordinal probit model was applied because it is the better in analyzing ordinal/cardinal dependent variable than logit and probit model. Therefore, in this study saving habit of rural household was stated as dis-saving, no saving, regular saving and irregular saving.

Categorical models whose dependent or explained variables are coded as "0" and "1" are called as two ended or dummy dependent variable models. Models in which the dependent variable

consists of answers having two categories such as whether the consumer buys a product or not, whether an individual participates in the labor market or not, yes-no, successful-unsuccessful, male-female can be given as examples. When qualitative variable models can take two such values, the first models that come to mind are linear probability model (LPM), logit and probit models. In the linear probability model which is one of these models the most obvious problem is that the estimated probability values fall outside the range of “0” and “1”.

Logit and probit models are the most widely used models for estimating the functional relationship between dependent and independent variables in practice.

Logit and probit models are also among the generalized linear models (GLM) family. If the latent variable is unobserved or the dependent variable is binary, this model cannot be estimated using the normal least squares method (OLS). Instead, the maximum probability estimate is used which requires assumptions about the distribution of errors. Often, the choice is between the normal errors in the probit model and the logistic errors in the logit model (Long *et al.*, 1977).

In other hand if dependent variables are ordinal, but are not continuous in the sense that the metric used to code the variables is substantively meaningful. For instance, it is customary to employ a 7-point scale when measuring party identification in the U.S., assigning the numerals {0, . . ., 6} to the categories {“Strong Republican”, “Weak Republican”, . . ., “Strong Democrat”}. But the metric underlying party identification is not necessarily the same as the linear metric relating the numerals zero through 6 (i.e., the real line). In substantive terms, the difference between 0 and 2 on the coded party identification scale (moving from “Strong Republican” to “Republican Leaner”) may be quite different from the difference between 2 and 4 (“Republican Leaner” to “Democrat Leaner”), or 4 and 6 (“Democrat Leaner” to “Strong Democrat”).

These variables are sometimes also called “polychotomous” (as opposed to “dichotomous”). When such a variable appears on the left-hand side of a statistical model it is obvious that LS regression will suffer from many of the short-comings we saw LS regression to face in the binary case: i.e., heteroscedasticity, predicted probabilities outside the unit interval, etc.

A widely used approach to estimating models of this type is an ordered response model, which almost always employs the probit link function. This model is thus often referred to as the “ordered probit” model. Like many models for qualitative dependent variables, this model has its origins in bio-statistics (Aitchison and Silvey 1957) but was brought into the social sciences by two political scientists (McKelvey and Zavoina, 1975; both PhD candidates at the University of Rochester at the time, incidentally).

2.10. Empirical Literature

Many empirical studies have been conducted to investigate the determinants or factors affecting saving habit. They are explained as the following: -

2.10.1. Studies outside Ethiopia

Many different empirical studies tell that the dependence ratio is an important factor that determines saving habit. According to the study conducted on Asian countries using econometric methods on the demographic determinants of saving, it was found that the dependency ratio has a significant negative effect on saving across countries (Schultz, 2005). Moreover, the study conducted by Hussein (2007) and Quartey and Blankson (2008), the elderly and young are expected to consume out of past saving while those within the working age are expected to accumulate saving.

Different researchers supported the characteristics of saving by Keynes like at very low levels of income as well as at zero income, since consumption is positive, **saving** must be negative. As income increases, dissaving vanishes and **saving** becomes positive. For example, Nwanchukwu and Egwaikhide (2007) found that income has a positive and significant effect on the private saving in Nigeria. Touhami and Colleagues (2009) also investigate the micro-econometric determinants of households saving in Morocco. They concluded that income significantly explains the cross-sectional variation of the saving behavior of households in Morocco.

The rate of interest determines the saving rate of the individuals on a view to encourage people towards saving. The finding by Kibet *et al.* (2009) on smallholder farmers and entrepreneurs in

Kenya indicated that interest rate on deposits has some positive influence on the saving of farmers.

A study conducted on Multan District of Pakistan using OLS estimation mechanism as an econometric tool show that children 's educational expenditures, liabilities, Education of household head, marital status, family size, and value of house were significantly and inversely affecting household saving behavior. The result is found to be in the theoretical explanations of life cycle hypothesis where age has a positive significant effect and square of age is negatively related to the household saving (Rehman *et al.*, 2010).

Increase in interest rates is expected to motivate farmers to save as it implies that they get better returns on their saving. When the rate of interest is high people are more interested to save rather than invest and also the reverse is true (Nayak, 2013).

Beckmanrm *et al.* (2013) using a double hurdle model on secondary data to identify household saving determinants suggests that age derives the propensity to save and reveal the hump shaped relationship between age and saving is found to be as predicted by the life cycle hypothesis which hold true for the saving practice of Central, Eastern and Southem Europe.

Even though poor people have some capacity to save; they will deposit their savings in a financial institution if an appropriate institutional structure and appropriate savings products exist to the depositor's savings needs (Donkor and Duah, 2013).

Like there are factors affecting saving habit of household, there are also factors do not affect saving habit. According to the study done by Anang *et al.* (2015) on Gahana Binary logit model show that income and household status of the household were not significantly influence saving habits of the household, but it was found that age, gender and marital status of the respondent affected micro savers and their saving habit. Other study also stated that education level, spouse spending habit and credit facilities have no effect on saving habit of the household of Jalingo Taraba State but it affected by household size and age (Rikwentishe *et al.*, 2015).

2.10.2. Studies in Ethiopia

When we come to African country of Ethiopia, variety research has been conducted even if mainly focused on macro level. The study conducted by (Dawit, 2003) also identified the following different factors which affect domestic saving of Ethiopia. They are the small level income, incompatible expansion of public sector, consumption expenditure, adversative terms of trade, lack of continual economic growth performance, and discouragement effect of monetary and fiscal policies measure. The results of this study are almost homogeneous to the study conducted by Abbu (2004). Abbu tried to identify Adverse terms of trade, financial sector development and lack of sustained economic growth performance, low level of income, and inflation as main independent variables that lead to low domestic saving

Similarly, the study of Worku (2008) on determinants of saving growth in sub-Saharan African countries using time serious data spanning from 1961-2004 found that GDP one period long conception expenditure export and inflation to have statically significant impact on growth domestic saving. The result of co integration tests indicates that there is a long run relation between real GDP and real GDS in Ethiopia. Moreover, there is a bidirectional causal relation between real GDP and real GDS.

The study conducted by Haro (2012) on determinants of domestic saving in Ethiopia using time serious data from 1974-2009 and non-structure vary model has found out the main determinants which affect saving in Ethiopia. They are terms of trade, inflation, macroeconomic uncertainty, population, real per capital income, broad money supply, and current account deficit ratio.

Sisay (2012), studied on the determinants of rural households saving behavior using OLS regression. He found that dependence ratio and households' conception ratio affect saving negatively.

A study conducted by Girma *et al.* (2014) identified determinants of rural households' savings in East Hararghe Zone, Oromia Regional State, Ethiopia. Nine significant determinant explanatory variables of rural households' savings were identified which includes household head's education level, livestock holdings, access to credit service, income, investment, training participation, contact with extension, forms of savings and saving motives.

For instance, the change in training participation, access to credit, contact with extension agents, choosing saving institution, livestock holdings in TLU increases the level of household savings by 1388.83, 2631.3, 109.29, 2538.88, 1044.47 Birr among the savers households, respectively (Girma *et al.*,2014).

The study by Hagoes and Michael (2014) on North Gondar, Ethiopia using Tobit model show that cultural background, social affairs, unemployment, low interest rate, and inflation are common reasons for the household not to save.

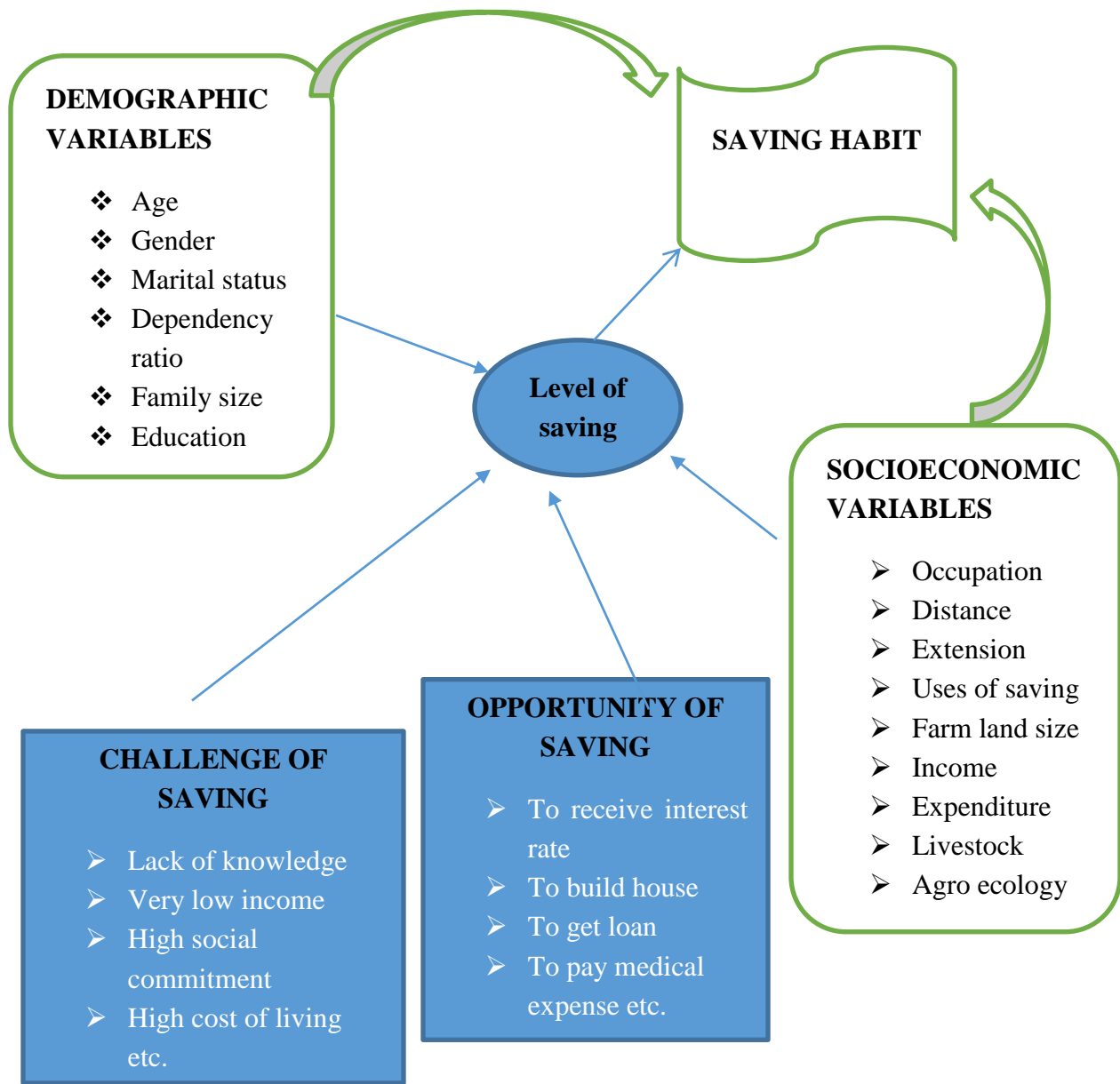
To sum up what different researcher tried to put his or her best research finding at macro as well as micro level. However, most of the researchers are focused on the macroeconomic variables that affect saving and most of them used amount of saving as dependent variable for econometric analysis. Only this could not bring accurate solution for the problems, for this reason by considering researchers' idea which put impression on microeconomic level especially on zonal and woreda level, this study also aimed to fill this gap by putting its impression at micro level and considering saving habit as dependent categorical variable.

2.11. Conceptual Framework of the Study

The following framework is adapted from literature review and serves as the groundwork of this study. The framework is formulated to explain an effect of the challenges (e.g. lack of knowledge, unplanned spending, high social commitment etc.) and opportunities (e.g. to receive interest rate, to build house, to get loan, to pay medical expense etc.) that have on level of saving of rural households (Zhong and Xiao, 1995).

In turn, level of saving (amount of saving) also has significance effect-on-saving habit that means the amount that rural household have in financial institution can determine whether they have no saving habit, dis saving habit, irregular saving habit or regular saving habit (Fentahun *et al.* 2019).

In the same manner different independent variables (Demographic (e.g. age, gender, marital status, dependency ratio etc.) and socioeconomic variables (like occupation status, distance, extension contact, uses of saving, farm land size etc.)) may have an effect on level of saving as well as on rural households saving habit (Girma *et al.* 2014).



Source: Adapted from Techan (2018)

CHAPTER THREE

RESEARCH METHODOLOGY

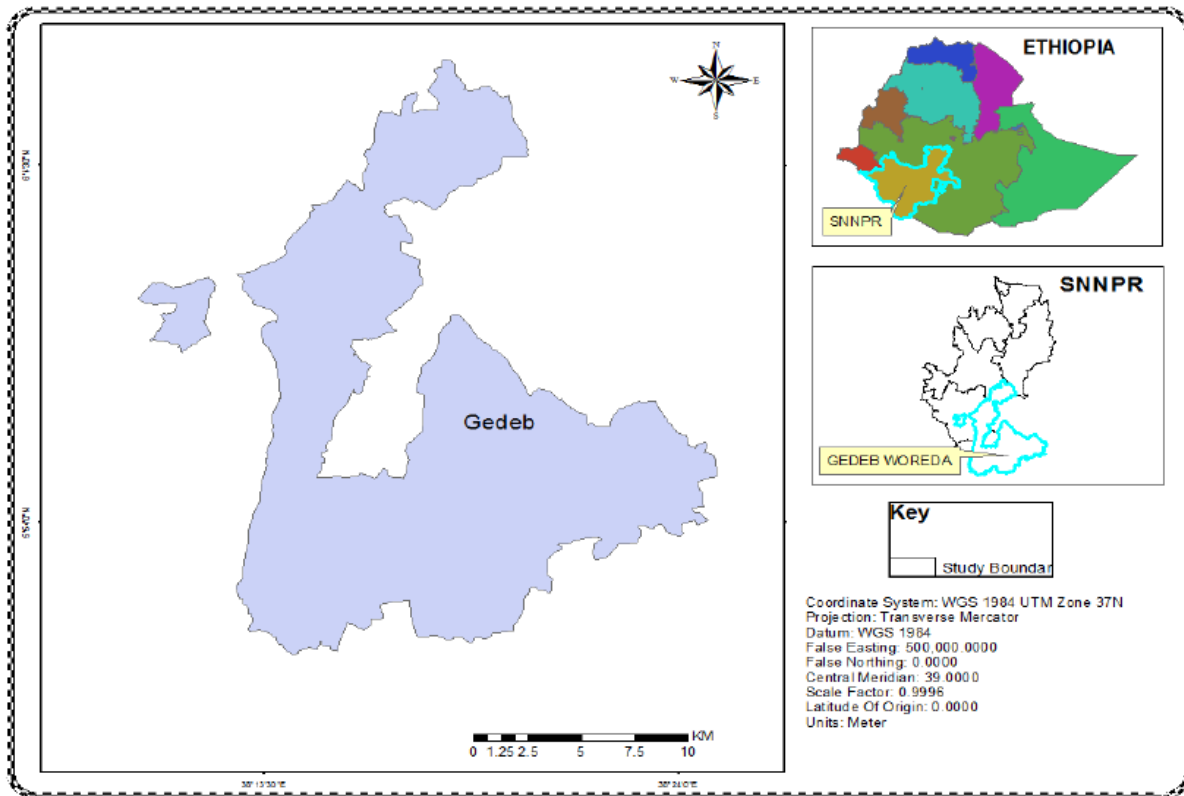
3.1. Location and Description of the Study Area

This study was carried out in Gedeb Woreda which is one of the woredas in the Gedeo zone of Southern Nations, Nationalities, and Peoples' Regional state of Ethiopia. It is bordered on the east and south by the Oromia Region, on the west by Kochere, on the northwest by Yirgachefe, and on the north by Bule. The absolute location of the woreda is 5.9170° N, 38.2493° E. This woreda has thirteen rural kebeles. Among the randomly selected kebeles, agro-ecologically, Worqa Sakaro kebele is located at a distance of 11 kilometers from Gedeb town, and is found in the Woyna dega zone. The other kebeles, Hallo Hartume and Halo Bariti is located at a distance of 6.5 and 8 kilometers from Gedeb town, and is found in the Dega and woyina dega agro-ecological zone, respectively. The total population of woreda is 162,899 of whom 79,613 are men and 83,286 are women. Total household size is 20,473 of which 18,624 are male and 1849 are women. It has an estimated area of 24,448.13hectares that covers of 13 rural Kebeles. The altitude of the woreda is 1500- 3000 m.a.s.l, mean annual rain fall 1001-1800mm, the mean annual temperature ranges from 12.6 to 20⁰c (GWA, 2020).

There are two cropping seasons in the study area, i.e., Belg (short rainy season) which runs from March to May and Meher (main rainy season) which occurs in the months of June to September. Belg rains are mainly used for land preparation and planting long cycle crops such as maize, haricot bean and rarely barley. The Meher rains are used for planting barley, wheat, broad bean, potato, haricot bean, and sweet potato and to some extent teff. The area generally depends on rain fed agriculture and uses mixed farming. Both crop production and animal husbandry are commonly practiced. It is believed that 80% of the economy of the people is based on agriculture, from the total agricultural production, 60% was produced during long rainy season (Mehir) and the other 40% from short rainy season (Belg) (Gedeb woreda OANRD, 2020).

There are also the governmental as well as non-governmental organizations which established based on their service giving to rural as well as urban people. But financial institution is still remained inadequate in the area. OMO microfinance institution is one of the financial institutions

providing the financial service in the woreda with main objective of saving and credit services provision for poor households living in urban and rural areas. The commercial bank of Ethiopia has one branch in the woreda and it was the only formal financial institution next to OMO microfinance providing financial service in the woreda up to 2012 E.C. But, in recent time the Bank of Abyssinia and Nib have been established.



Source: Gedeb woreda administration, 2020

Figure 3: Map of Gedeb woreda

3.2. Data Types, Sources and Methods of Data Collection

This study used both secondary and primary data sources. The primary data collected through household survey using a structured questionnaire. The questionnaire was administered by enumerators, who were selected based on their educational background that means the enumerators who have ability to read, write and communicate were selected. One day training was given to the enumerators on the method of data collection, giving prime emphasis to interviewing technique and content of questionnaire. Questionnaire pretest was conducted and modifications were made based on feedback of the pretest and follow up were made to ensure that the process of data collection smooth. In addition to questionnaire, observation and key informant interview were conducted together to get primary data. During the survey, information was gathered on issues related to factors that affect the saving habit in the study area.

Secondary data were also collected from main sources like research papers, CSA, journal, Gedeo Zone OMFIs, Gedeb Woreda administration as well as Gedeb woreda office of Agriculture and Natural Resource Development etc.

3.3. Sample Size and Sampling Technique

In this study, multi-stage sampling technique was applied to generate the required primary data. **In the first stage**, Gedeb woreda was selected purposively from the Gedeo zone. The reason of the study woreda purposively selected is that though 80% of economy of this area is based on agriculture, mainly on coffee and enset production, household inclination to save the portion of income is weak (Gedeo zone OMFIs and Gedeb Woreda OANRD, 2020). This woreda has 13 rural kebeles. The households are the smallest sampling units of the study to be considered and the heads of these units serves as the target population of study.

In the second stage, the thirteen kebeles of the study woreda were grouped in to two based on agro- ecology zone. Thus, out of 13 rural kebeles, one among 8 dega agro ecological zone kebeles out and two among 5 woyna dega agro-ecological zone kebeles were selected randomly. **Finally**, 295 rural households were randomly selected from total households of 3 sample kebeles by using proportional probability sample size sampling technique. Sample size of the sample households was determined by following TayroYamen (1967) sample determination formula.

To determine the required sample, 95% confidence level, 0.5 degree of variability and 5% level of precision were applied.

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

Where, N = Total number of household head

n = Desired sample size

e = level of precision 5%

$$n = \frac{1,119}{1 + 1,119(0.05)^2} \sim 295$$

The 295 sample respondents were selected from 3 rural kebeles on proportional basis as explained below.

$n_i = N_i/N * n$, Where, n_i = Number of sample units from kebele i, N_i = the total number of household head in the kebele i, n = the desired sample size and N = Total number of household head.

Table 1: Distribution of the sample in the selected kebeles

| Kebeles | Agroecological setting of kebele | Total households | Sample households |
|---------------------|---|-------------------------|-----------------------------|
| Halo Hartume | Dega | 319 | 84 |
| Worqa sakaro | Woyina dega | 420 | 111 |
| Halo Bariti | Woyina dega | 380 | 100 |
| Total | | 1,119 | 84 + 111 + 100 = 295 |

Source: GWA, and own computational results, 2021

3.4. Methods of Data Analysis

In this study, both descriptive statistics and econometric methods were used to analyze the data. The first and third objectives of research were analyzed using descriptive statistical analyzing method while the second objective was analyzed using Ordinal probit model.

3.4.1. Descriptive and inferential statistics

The mean, standard deviation, percentage, etc. are descriptive statistics which were used to describe the demographic and socio-economic characteristics of the rural household while particularly F-test (for continuous data) and chi square (for discrete data) etc. inferential statistics which are used to explore the relationship between variables.

3.4.2. Econometric Model

To analyze the determinant of saving habit, order probit model was employed because household saving habit is categorical or ordinal in sense (Wooldridge, 2010) and adopted by Harris *et al.* (2002) as well as Fentahun *et al.* (2019). In statistics, **ordered probit** is a generalization of the widely used probit analysis to the case of more than two outcomes of an ordinal dependent variable (a dependent variable for which the potential values have a natural ordering). In this study, categorical response ranged from 1 to 4, which represents: No-saving, Dis-saving, Irregular saving and Regular saving, respectively. The model was estimated in the form of:

$$S^* = \sum_{i=1}^n \beta x_i + \varepsilon_i$$

Where S^* is an unobservable index (latent) of the household propensity to save; X_i is individual characteristics, ε_i represents error term, β is parameters to be estimated and $i = 1 \dots n$.

$$S = \begin{cases} 1, & \text{if } s^* < 1 \\ 2, & \text{if } 1 \leq s^* \leq \mu_2 \\ 3, & \text{if } \mu_2 < s^* \leq \mu_3 \\ 4, & \text{if } \mu_3 < s^* \end{cases}$$

The model assumes that the observed saving response “S” is related with the underlying latent variable: financial position regarding to saving, and cut of points.

Hence, $S = F(S^*, \mu_j)$ the probability that individual i chooses alternative j ($j = 1,2,3,4$) are

$$\text{Prob}[s_i = 1/x_i] = \Phi(-x\beta), \text{prob}[s_i = 2/x_i] = \Phi(\mu_1 - x\beta) - \Phi(-x\beta),$$

$$\text{prob}[s_i = 3/x_i] = \Phi(\mu_2 - x\beta) - \Phi(\mu_1 - x\beta), \text{prob}[s_i = 4/x_i] = 1 - \Phi(\mu_2 - x\beta)$$

More generally the model is specified as:

$$\text{Prob}[s_i \leq j/x_i] = \text{p}(s^* \leq \mu_j/x) = \Phi(\mu_j - x\beta)$$

Where $1 < \mu_2 < \mu_3$ is cut-off points, and X is the vector of all explanatory variables. The maximum likelihood parameter estimates can be estimated by maximizing the log likelihood function.

$$\log^l = \sum_{i=1}^n \sum_{j=0}^j z_{ij} \log(\text{prob}[s_i \leq j/x] = \text{p}(s^* \leq \mu_j/x) = \Phi(\mu_j - x\beta))$$

With respect to β and μ , z_{ij} is an indicator variable equal to unity if an individual i chooses alternative j and zero otherwise.

To examine factors that influence saving habit, an ordered probit model was used as follows.

$$Y_i = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_k X_k + \mu$$

Where Y_i represents saving habit, α_0 is the constant term, β 's are coefficients to be estimated, μ is error term, X_1, \dots, X_k are independent variables (Income, Occupation, and certain demographic characteristics).

$$Y_i = \alpha_0 + \beta_1 \text{GEN} + \beta_2 \text{MAR-STA} + \beta_3 \text{AGE} + \beta_4 \text{EDU} + \beta_5 \text{FMS} + \beta_6 \text{DE-R} + \beta_7 \text{OCCU} + \beta_8 \text{DS} + \beta_9 \text{EXTCON} + \beta_{10} \text{U-S} + \beta_{11} \text{AINCI} + \beta_{12} \text{FLS} + \beta_{13} \text{LSTOCK} + \beta_{14} \text{EXP} + \beta_{15} \text{AGECO} + \epsilon_i$$

where Y_i represents saving habit, α_0 is the constant term and $\beta_1, \beta_2, \beta_3, \dots, \beta_{13}$ are coefficients to be estimated of regression parameters, ϵ_i is the error term,

GEN represents Gender
MAR-STA is marital status
EDU is Education
FMS is Family size
DE-R is Dependency ratio
OCCU is Occupation
DS is Distance
EXTCON
U-S is Uses of saving
AINCI is Annual income
FLS is Farm land size
LSTOCK is Livestock
EXP is Expenditure
AGECO is Agro-ecology

3.5. Variables Definition and Hypothesis

3.5.1. Dependent Variable

Saving habit: This variable refers to the rank response about saving behavior of sample respondents. It has four points scaled categorical response (1 = No saving, 2 = Dissaving, 3 = Irregular saving and 4 = Regular saving).

3.5.2. Independent variables

Independent variables of this study discussed as follow.

Age of the household head (AGE): Age of the household head is a continuous variable measured in years. The age of the household head is believed to affect and determine the saving habits of household. Burney and Khan (1992) found that savings increase with the age crossing a certain limit. The maximum age limit where people held much savings account was 36 years and the highest savings was recorded at 31 years. Beyond these age limits, the proportion with savings account and the average savings declined (Deaton, 1992). The life-cycle hypothesis

suggests that there exists a relationship between age and saving rates. When the age of the households increases their saving status going decreases. Therefore, in this study it was assumed that as the household's age increase, older individuals have poor saving habit than young individuals.

Sex of the household head (SEX): This variable is dummy variable which take a value of 1 represents Male and 0 represents Female. There are some empirical studies in Netherlands by kalwij (2003), Canada by Gagnon, Gagnon, and Khoury (2006), Uganda by Kiiza and Pederson (2002) and Ethiopia by Aron *et al.* (2013) which revealed that female individuals had better saving behavior than males because of the life developed style by the community and they are expected to cover the principal household consumption and costs in any social interaction. Whereas empirical study in Philippines by Bersales and Mapa (2006) showed that male individuals are better saver because female had no or less power to control resources. Therefore, in this study it was expected that either positive or negative relationship between sex and saving habit.

Household family sizes (HFS): The family size is continuous variable and measured as the total number of people in the respondent's household. It is argued that households with larger family sizes have high consumption expenditure. They have low income left over to pay for new economic development and hence a household with large family size is expected to have poor saving habit. When the number of family size increase, ability to save will decrease. The family size is related negatively to saving behavior (Bendig *et al.*, 2009). Therefore, it was hypothesized that as family size increase, the extraordinary fees can occur and minimize saving opportunity.

Household heads Level of Education (EDU): It is the continuous variable measured in terms of years of schooling that household head was attended and hypothesized to affect saving habit. Education can change the attitude of household head, brings improvement of saving habit and serves as the bridge to travel from a place where there is darkness of development to a place where there is prosperity. According to Oliveira *et al.* (2003) education level of the household heads had positively related to the magnitude of savings. Therefore, educated households would have a positive or better saving habit. Education affects saving habit by influencing the level of

saving and the options for asset accumulation available to the household. In this study positive relationship between level of education and saving habit was expected.

Marital status of households' respondent (MAR-ST): The marital status of the head is categorical variable taking value of 1 if the household head is unmarried, 2 if married, 3 if divorced and 4 if widowed. It also determines the saving habit of the rural households. This variable has different role on saving according to the idea of different authors. The married population is subjected to more liabilities which discourage them to save more as the income of the individuals is spent on the family's consumption. The unmarried or the widowed population saves a significant amount from their income. The saving behavior of this group plays an important role in the model of saving pattern (Goetz and Gupta, 1996). On other side, it is assumed that married households can handle and manage their overall farm activities than households who divorced or single, that enabled them to produce more income and save more. Historically, marriage has been viewed as a source of financial security continues to be a determining factor for economic well-being. Pooling resources for a married couple may provide a cushion for them to accumulate assets without going under in times of crisis. As study (Marzieh *et al.*, 2013) stated that married households are more economically developed than single households. In this study married household was expected to have a positive effect on the regular habit of savings.

Dependency ratio (DR): This is the ratio of dependent household member (age less than 15 and above 65) to the number of economically active family members (age between 15 and 65). A household with more economically inactive labor force compared to the economically active labor force shows a high dependency ratio. If the earning population in different households is high as compared to the number of dependents, then there is a chance of high saving because the consumption expenditure is less than the income which goes for saving. If the unproductive or the dependent population becomes more than that of the productive or the income group then the probability of saving becomes low (Issahaku Harona, 2011). In this study negative relation between dependency ratio and saving habit was expected.

Expenditure of rural household head (EXP): It is a continuous variable and measured in Ethiopian Birr. It refers to the sum of household expenses on the food item, production items,

clothing, education, health, etc. The more the respondents spend; their saving reduces (Wolde Gebre, 2018). Therefore, it was hypothesized that this variable has a negative relationship with the saving habit of the rural household.

Occupation Groups (OCCU): It is the categorical variables taking the value of 1 if the household head is Farmer, 2 if Self-employed, 3 if Unemployed, 4 if retired, and 5 if Homemaker. The selected sample represents the total population including different occupational groups where there are Farmer (agricultural labors), self-employed (non-agricultural labors or daily wageworkers, artisans, salaried, petty traders and business persons), unemployed, retired and homemaker. Among occupation groups, unemployed and homemaker earn nothing and retired group earn lower than other (Quartey, 2008). Therefore, in this study it was expected that occupation group of farmers, self-employed and retired have direct relationship with saving habit.

Distance to financial institution: Distance is a continuous variable and measured in terms of Kilo meters. It is a continuous variable. In fact, as farmers locate far from the financial institution there is limited access to input and output markets and market information. Moreover, distance to market leads to higher transaction cost which reduces the benefits accrue to the households. More importantly, the longer distance from the market likely to discourage the households from participating in market-oriented production that increase their income and possible encourage to save in financial institutions. Study founded by Chemonics International (2007) stated that distance is a major barrier to formal financial saving and other markets in rural areas. Therefore, it was expected that the distance to financial institution influences the saving habit negatively.

Frequency of extension contact (FEC)

This variable is dummy variable which take a value of 1 if rural household head contacted by extension agent and 0 otherwise. The information that the extension agents provide could enable producers to increase the quality and quantity of the rural household farm product. A study conducted by wondmagegn (2014), indicated that extension service positively and significantly related to the volume of coffee product supplied to the market. This suggests that extension service avails information regarding technologies which improve production of coffee that

affects the volume coffee supplied by the household to the market and leads to good saving habit of rural household. Teshome *et al.*, (2013) have also shown that contacts with extension officers have significant influence on households' saving behavior in Ethiopia. Therefore, the number of extension contacts was expected to have positive effects on the saving habit of rural household.

Uses of saving (U-S)

A use of saving is a dummy variable which take a value of 1 if household head knows uses of saving, and 0 if not. The rural households who know about uses of saving which included as buying food items, acquiring household asset, unexpected expenditures, children future education, purchase business asset, retirement etc. will have better saving habit (Nega, 2016). Therefore, in this study positive relationship between uses of saving and saving habit was expected.

Annual income of rural household (AINC): Income is an important determinant of the saving behavior of the rural households. It is the continuous variable and measured in Ethiopian Birr. Total annual income earned from sale of agricultural products, off-farm activities, and livestock products by improving its productivity to secure the members' basic needs and gradually to change the household members' life style. As (Abdelkhalek *et al.*, 2009) stated that annual income positively affects the saving level of the household. Therefore, in this study direct relationship between annual income and saving habit was expected.

Farm Land size (LS): It is continuous variable and measured in terms of number of hectares. According to the study conducted by Ejigu Mulatu (2020), this variable affected households' saving positively. Given other factors of production, larger land size increases farm production as compared to smaller land size. Consequently, farm households who own larger land size produce more output which results in higher farm income and saving. Therefore, positive relationship of farm land size and saving habit was expected.

Number of Livestock Owned (TLU): This variable is continuous variable defined in terms of Tropical Livestock unit (TLU). It is measure of wealth. Farmers in study area produce both crops and livestock together. Livestock could support crop production in many ways; it can be source of cash, draft power and manure that will be used to maintain soil fertility (Wassie, 2014). The

income obtained from livestock serves to invest on crop production for further income generation. It has been shown that the wealth of an economic unit has positive impacts on household savings (Ahmad *et al.*, 2006; Schmidt-Hebbel *et al.*, 1992). Therefore, in this study it was expected to have positive effects on saving habit.

Agro-ecology: Agroecology is a dummy variable which take a value of 1 if household head is from dega agroecological zone and 0 if not. Climate change affects the rural communities differently in different agro-ecological zones. As a result, communities' knowledge and skill to adapt to the climate change impacts varies from different agro-ecological settings. The rural population, for whom agriculture is the primary source of food, direct and/or indirect employment and income, will be most affected due agriculture's vulnerability to climate changes (Below *et al.*, 2010). Therefore, in this study it was expected to have positive or negative relationship with a saving habit.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

In this chapter, descriptive and inferential statistics and econometric model results are presented and discussed.

4.1. Status of Household Heads' Saving Habit

As already noted, the present study is based on data collected from a total of 295 sample household head. Of 295 sample respondents, 71(24.07%), 78(26.44%),49(16.61%) and 97(32.88%) had not saving, dis-saving, irregular and regular saving habit respectively. In sum, 224 (75.9%) of the sample respondent had saving habit, whereas, the remaining 71 (24.1%) of the sample respondent had no saving habit (Table 2).

Table 2: Status of rural households' saving habit

| Saving habit | No. | % |
|--|------------|----------|
| No-saving | 71 | 24.07 |
| Dis-saving | 78 | 26.44 |
| Irregular saving (randomly) | 49 | 16.61 |
| Regular saving (weekly, monthly etc.) | 97 | 32.88 |

Source: Own survey results, 2021

4.2. Characteristics of Sample Households

As indicated in table 3, the average age of sample households who had no saving, dissaving, irregular and regular saving habit were 43.24year, 46.03year, 40.43year and 39.04 year respectively. The average age of the total sample household was 42.13 year with standard deviation of 11.77. The F test result for mean difference in age distribution was statistically significant at 1% probability between the groups.

The average family sizes of sample households that had no saving, dissaving, irregular saving and regular saving habit were about 6.99, 7.06, 6.08 and 6.30 persons per household respectively. The average family size of the total sample household was 6.61 with standard deviation of 2.73. The F test result for mean difference in family size was statistically insignificant (table 3).

The average dependency ratio of the sample households that had no saving, dissaving, irregular and regular saving habit were 0.53, 0.56, 0.50 and 0.51, respectively. The average dependency ratio of the total sample household was 0.53 with standard deviation of 0.33. The F test result for mean differences in dependency ratio was statistically insignificant (table 3).

Table 3 reveals that the average annual income of the sample households that had no saving, dissaving, irregular and regular saving habit was about 10188, 22301, 26096 and 24733 Ethiopian birr, respectively. Average annual income of the total sample household was 20816 Ethiopian birr with standard deviation of 20396. The F test result for mean difference in annual income was statistically significant at 1% probability between the groups.

Also, the average annual expenditure of sample households that had no saving, dissaving, irregular and regular saving habit was 59262, 64087, 62441 and 51065 Ethiopian birr, respectively. The average annual expenditure of the total sample household was 58371 Ethiopian birr with standard deviation of 39747. The F test result for mean differences in expenditure was statistically significant at 10 % probability between the groups (table 3).

The average distance of the total sample household from their home to financial institutions was 7.7 km with standard deviation of 2.8. The average distance for sample households that had no saving, dissaving, irregular saving and regular saving habit was 6.79 km, 8.49 km, 6.67 km, and 8.25 km, respectively. The F test result for mean difference in distance was significant at 1% significant level (Table 3).

The survey result (table 3) shows that the average sizes of farm land of sample households that had no saving, dissaving, irregular and regular saving habit was 0.81hectare, 1.45hectare, 1.98 hectare and 1.22 hectare, respectively. The average farm land size of the total sample household

was 1.31 hectare with standard deviation of 1.20. The F test result for mean differences in farm land size was significant at 1% probability between the groups (table 3)

Average livestock holding of sample households in terms of TLU that had no saving, dissaving, irregular and regular saving habit was 1.30, 2.19, 3.45 and 2.06 and, respectively. The average livestock holding of the total sample household was 2.14 TLU with standard deviation of 3.05. The F test result for mean difference in livestock holding was significant at 5 % probability level between the groups (table 3).

Concerning to education level of sample respondents, average education level of sample households that had no saving, dissaving, irregular saving and regular saving habit was 4.66, 7.09, 5.73 and 5.65 years of schooling, respectively. The average education level of the total sample household was 5.81 years of schooling with standard deviation of 4.06. The F test result for mean difference in education level was significant at 1% probability level between the groups (table 3).

Table 3: Characteristics of sample respondents with continuous variables

| Variables | Saving habit of rural house holds | | | | | | | | | | F- value |
|--------------------|-----------------------------------|-------|------------------|-------|------------------------|-------|----------------------|-------|-------|-------|-----------|
| | No Saving habit | | Dis-saving habit | | Irregular saving habit | | Regular saving habit | | Total | | |
| | Mean | STD | Mean | STD | Mean | STD | Mean | STD | Mean | STD | |
| Age | 43.24 | 10.6 | 46.03 | 14.9 | 40.43 | 9.87 | 39.04 | 9.55 | 42.13 | 11.77 | 12.097*** |
| Family size | 6.99 | 2.74 | 7.06 | 2.8 | 6.08 | 3.02 | 6.3 | 2.47 | 6.61 | 2.73 | 4.766 |
| Dependency ratio | 0.53 | 0.45 | 0.56 | 0.12 | 0.5 | 0.49 | 0.51 | 0.27 | 0.53 | 0.33 | 1.884 |
| Annual income | 10188 | 12369 | 22301 | 17944 | 26096 | 21471 | 24733 | 23495 | 20816 | 20396 | 43.560*** |
| Annual expenditure | 59262 | 30414 | 64087 | 19026 | 62441 | 27982 | 51065 | 27911 | 58371 | 39747 | 7.814* |
| Distance | 6.79 | 2.44 | 8.49 | 3.04 | 6.67 | 2.48 | 8.25 | 2.75 | 7.7 | 2.81 | 19.721*** |
| Farm land size | 0.81 | 0.84 | 1.45 | 0.92 | 1.98 | 1.95 | 1.22 | 0.95 | 1.31 | 1.2 | 29.192*** |
| Livestock | 1.3 | 2.28 | 2.19 | 2.69 | 3.45 | 4.54 | 2.06 | 2.67 | 2.14 | 3.05 | 7.295** |
| Education level | 4.66 | 3.7 | 7.09 | 3.75 | 5.73 | 3.87 | 5.65 | 4.4 | 5.81 | 4.06 | 13.660*** |

Note ***, **, * means significant at the 1%, 5% and 10% probability levels, respectively

Source: Own survey result, 2021

The survey result (table 4) shows that 270 (91.5%) and 25(8.5%) of the sample respondents were males and females headed household, respectively. Among the sample households that had no saving habit, dissaving habit, irregular saving habit and regular saving habit, 12(4.1%), 4(1.4%), 4(1.3%) and 5(1.7%) were females headed household, respectively. The remaining sample households that had no saving, dissaving, irregular saving and regular saving habit were 59(20%), 74(25%), 45(15.3%) and 92(31.2%) males headed household, respectively. Chi square result shows that sex was statistically significant at 5% probability level.

Also, 6(2%), 265(89.9%), 4(1.3%), and 20(6.8%) of the sample respondents were un-married, married, divorced and widowed, respectively. From this, 2(0.7%) and 2(0.7%) un-married household heads, 58(19.7%) and 71(24.1%) married household heads, 3(1%) and zero (0%) divorced household heads, and 8(2.7%) and 5(1.7%) widowed households had no saving and dissaving habit, respectively. On the other side, 1(0.3%) and 1(0.3%) un-married household heads, 45(15.3%) and 91(30.9%) married household heads, zero (0%) and 1(0.3%) divorced household heads, and 3(1%), and 4(1.4%) widowed household heads had irregular and regular habit, respectively. Chi square result shows that marital statuses of the sample households were statistically insignificant (table 4).

Concerning occupation status of the sample respondents, 173(58.6%), 110(37.3%), 5(1.7%), 6(2%) and 1(0.3%) of sample respondents were farmer, self-employed, unemployed, retired and home maker, respectively. About 39(13.2%) and 49(16.6%) Farmers, 24(8.1%) and 27(9.2%) self-employed, 5(1.7%) and zero (0%) unemployed, 2(0.7%) and 2(0.7%) retired, and 1(0.3%) and zero (0%) of sample respondents had no saving and dissaving habit, respectively. Whereas, 33(11.2) and 52(17.6%) farmers, 15(5.1%) and 44(14.9%) self-employed, zero and zero% unemployed, 1(0.3%) and, 1(0.3%) retired and zero (0%) and zero (0%) home maker had irregular and regular saving habit, respectively. Occupation statuses were statistically significant at 5% probability level (table 4).

The survey result shows (table 4) that, from total number of sample respondents, 151(51.2%) sample households have used extension service on maximization of production and productivity as well as saving habit, whereas, 144(48.8%) sample households have not used extension service. Of sample respondents that had no saving habit and dissaving, 21(7.1%) and 55(18.6%) sample respondents have used extension service but 50(17%) and 23(7.8%) sample respondents

have not used extension service, respectively. On the other hand, among the sample households that had irregular and regular saving habit, 20(6.8%) and 55(18.7%) sample respondents have used extension service but 29(9.8%) and 42(14.2%) sample respondents have not used extension service, respectively. Chi square result shows that extension contact was statistically significant at 1% probability level.

From the total number of sample respondents, 238(80.7%) and 57(19.3%) sample respondents knew uses of saving and not knew uses of saving, respectively. About 33(11.2%), 70(23.7%), 45(15.3%), 90(30.5%) sample households that had no saving habit, dissaving, irregular saving regular habit knew uses of saving, respectively. On the other hand, 38(12.9%), 8(2.7%), 4(1.3%) and 7(2.4%) sample households that had no saving, dissaving, irregular and regular habit not knew uses of saving, respectively. Uses of saving were statistically significant at 1% probability level (table 4).

Survey result shows (table 4) that from the total number of sample respondents, 84(28.5%) and 211(71.5%) sample respondents are from dega and woyina dega agro-ecological zone, respectively. About 21(7.1%), 33(11.2%), 9(3.1) and 21(7.1%) sample respondents that had no saving, dissaving, irregular and regular saving habit are from dega agro-ecological zone, respectively. On other side, 50(17%), 45(15.2%), 40(13.5%) and 76(25.8%) sample households sample respondents that had no saving, dissaving, irregular saving and regular saving habit are from woyina dega agro-ecological zone, respectively. Agro-ecology was statistically significant at 10% probability level.

Table 4: characteristics of sample households with dummy and categorical variables

| Saving habit of rural households | | | | | | | | | | | |
|----------------------------------|-----------------|------|------------------|------|------------------------|------|----------------------|------|-------|------|--------------|
| Variables | No saving habit | | Dis-saving habit | | Irregular saving habit | | Regular saving habit | | Total | | Chi2 |
| | No. | % | No. | % | No. | % | No. | % | No. | % | |
| Sex of HH | 71 | 24.1 | 78 | 26.4 | 49 | 16.6 | 97 | 32.9 | 295 | 100 | |
| Female | 12 | 4.1 | 4 | 1.4 | 4 | 1.3 | 5 | 1.7 | 25 | 8.5 | Pr = 0.029** |
| Male | 59 | 20 | 74 | 25 | 45 | 15.3 | 92 | 31.2 | 270 | 91.5 | |
| Marital status | 71 | 24.1 | 78 | 26.4 | 49 | 16.6 | 97 | 32.9 | 295 | 100 | |
| Un-married | 2 | 0.7 | 2 | 0.7 | 1 | 0.3 | 1 | 0.3 | 6 | 2 | |
| Married | 58 | 19.7 | 71 | 24.1 | 45 | 15.3 | 91 | 30.9 | 265 | 89.9 | Pr = 0.289 |
| Divorced | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0.3 | 4 | 1.3 | |
| Widowed | 8 | 2.7 | 5 | 1.7 | 3 | 1 | 4 | 1.4 | 20 | 6.8 | |
| Occupation status | 71 | 24.1 | 78 | 26.4 | 49 | 16.6 | 97 | 32.9 | 295 | 100 | |
| Farmer | 39 | 13.2 | 49 | 16.6 | 33 | 11.2 | 52 | 17.6 | 173 | 58.6 | |
| Self-Employed | 24 | 8.1 | 27 | 9.2 | 15 | 5.1 | 44 | 14.9 | 110 | 37.3 | Pr = 0.021** |
| Unemployed | 5 | 1.7 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1.7 | |
| Retired | 2 | 0.7 | 2 | 0.7 | 1 | 0.3 | 1 | 0.3 | 6 | 2 | |
| Home maker | 1 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 | |
| Extension contacts | 71 | 24.1 | 78 | 26.4 | 49 | 16.6 | 97 | 32.9 | 225 | 100 | |
| Yes | 21 | 7.1 | 55 | 18.6 | 20 | 6.8 | 55 | 18.5 | 151 | 51.2 | Pr =0.000*** |
| No | 50 | 17 | 23 | 7.8 | 29 | 9.8 | 42 | 14.2 | 144 | 48.8 | |
| Uses of saving | 71 | 24.1 | 78 | 26.4 | 49 | 16.6 | 97 | 32.9 | 295 | 100 | |
| Yes | 33 | 11.2 | 70 | 23.7 | 45 | 15.3 | 90 | 30.5 | 238 | 80.7 | Pr =0.000*** |
| No | 38 | 12.9 | 8 | 2.7 | 4 | 1.3 | 7 | 2.4 | 57 | 19.3 | |
| Agro-ecology | 71 | 24.1 | 78 | 26.4 | 49 | 16.6 | 97 | 32.9 | 295 | 100 | |
| Dega | 21 | 7.1 | 33 | 11.2 | 9 | 3.1 | 21 | 7.1 | 84 | 28.5 | Pr = 0.0593* |
| Woyina dega | 50 | 17 | 45 | 15.2 | 40 | 13.5 | 76 | 25.8 | 211 | 71.5 | |

Note ***, **, * means significant at the 1%, 5% and 10% probability levels, respectively

Source: Own survey result, 2021

4.3. Opportunities and Challenges of Saving Practices in the Study area

4.3.1. Opportunities of saving practice in the study area

In economic context saving is the residual income after deducting current consumption over a certain period of time. It has essential advantage for saver himself and for the nation at large. Therefore, the opportunities of saving in study area are explained as the following: -

To build house and acquire asset

The survey result revealed that the opportunity of building house and acquiring asset like land, TV, cloth etc. was ranked 1st from by sample households. House and related asset are very useful to rural household. Saving provided 67% of the sample household with better house, land, TV, cloth etc. in the study area. Better living standard for rural household minimizes bottleneck of poverty of Ethiopian country (table 5).

Paying education fee

The survey result revealed that opportunity of paying education fee was ranked 2nd by sample respondents. Sending students to governmental as well as private school based on their choice is mandate to all households in Ethiopia. Because there is a resource utilization gap, understanding gap and capital accumulation gap between uneducated and educated one, education can open the eyes of children to see change or solution to problem of rural as well as urban households. Therefore, saving provided and will provide benefit to pay education fee that is whether at elementary level, high school and preparatory level or university level. 53% of sample households obtained saving benefit to pay education fee (table 5).

Household consumption

The survey result revealed that opportunity of household consumption was ranked 3rd by sample households. In the study area, saving allows the households to handle consumption and helps them to continue consume even in the time of scarcity. Consumption by itself plays role in the growth of economy. Increasing in consumption leads to increasing in production which accelerates economy (table 5).

Paying medical expense

The survey result revealed that opportunity to pay medical expense was ranked 4th by sample households. Healthy life and living healthy are crucial for all people in the all over the world contribute people to do better, to maximize production and productivity. However, healthy condition of human being is not street but full of ups and downs. There are different situations can hinder the healthy life of people like diseases, accident etc. but saving can calm down problems. Saving provided benefits for 47% of sample households to pay medical expense in study area (table 5).

Receiving interest rate

The survey result revealed that opportunity to receive interest income was ranked 5th by sample respondents. Interest income is an income received by customer of financial institution like commercial bank of Ethiopia. When an individual deposits money in to savings account and decides to leave it untouched for several months or years, he/ she can receive interest of his or her deposit. In the study area, 44% of rural households obtained interest income because of their saving (table 5).

Attending funerals and similar functions

The survey result revealed that opportunity of attending funerals was ranked 6th by sample respondents. Funeral is a ceremony or service held shortly after a person's death, usually including the person's burial or cremation. During this time a lot of expense will be incurred by family of person. Therefore, to cover such kind unexpected expense, saving will hold great place. In study area, 43% of sample respondents obtained benefit of saving to cover expense during funeral ceremony (table 5).

Getting loan and credit access

The survey result revealed that opportunity to get loan and credit access was ranked 7th by sample respondents. Loans and credits are types of bank-issued debt that depend on a borrower's needs, credit score and relationship with the lender. Loans are non- revolving lump-sum credit facilities that are normally used for a specific purpose by the borrower. Saving specific amount of money in given financial institutions may facilitate the loan and credit access for customers.

The loan given by lenders supports borrowers in the time of in need. Saving created opportunity to 39% of sample households to borrow needed amount of money for specific purpose in study area (table 5).

Table 5: Opportunities of saving practice of rural household

| Opportunities | No. | | % | | Rank |
|---|-----|-----|-----|-----|-----------------|
| | Yes | No. | Yes | No. | |
| For household consumption (to buy food) | 152 | 143 | 52 | 48 | 3 rd |
| To get loan and credit access | 64 | 231 | 22 | 78 | 7 th |
| To receive interest rate for saving | 131 | 164 | 44 | 56 | 5 th |
| To build house or acquire asset (land, clothes, TV) | 199 | 96 | 67 | 33 | 1 st |
| To pay Medical expenses | 138 | 157 | 47 | 53 | 4 th |
| To attend funerals and similar functions | 129 | 166 | 43 | 57 | 6 th |
| To pay children education fee | 157 | 138 | 53 | 47 | 2 nd |

Source: Own survey result, 2021

4.3.2. Challenges of saving practice in the study area

The results of the survey revealed that there are different challenges that reduce the ability of saving of rural household.

Unplanned spending

The survey result revealed that unplanned spending was ranked 1st by sample households. A truly unplanned or unexpected expense is something that rural household cannot predict, such as a natural disaster or a medical emergency. These are the things that could happen to household at any time, but he/she never be sure if they will-or how much they will cost him/her if they do. These unexpected expenses can minimize or demolish capacity of rural household saving if they frequently happen. As explained in the table 6 below, 109, 286, 58, 99, 79, 29 and 3 household heads reported that school fee, food expenditure, water, medical, transport, clothing, fuel and others' expenditure are increasing, respectively.

Table 6: Monthly expenditure rate of household heads

| MONTHLY HH EXPENDITURE | No. | | | |
|---------------------------|-----|------------|------------|----------|
| | NO | INCREASING | DECREASING | CONSTANT |
| School fee | 92 | 109 | 24 | 70 |
| Food | - | 286 | 9 | - |
| Water | 98 | 58 | 24 | 115 |
| Medical | 131 | 99 | 64 | 1 |
| Transport | 151 | 79 | 51 | 14 |
| Clothing | 46 | 115 | 128 | 5 |
| Fuel | 8 | 29 | 77 | 18 |
| Others | 286 | 3 | - | 6 |

Source: Own survey result, 2021

In study area, 79% of sample households agreed that the major challenge of saving is unplanned expenditure (table 7).

High cost of living

The survey result revealed that high cost of living was ranked 2nd by sample respondents. The cost of living is the amount of money needed to cover basic expenses such as housing, food, taxes, clothing, transportations and health care expenses. An example of the cost of living is the amount of money it would cost to have a minimum standard of living in particular area. If the cost of living in specific area is high or expensive, the portion of income goes to expenditure will be high. Therefore, such situations prevent people from saving their income. In the study area, 71% of sample respondents agreed that high cost of living is barriers of saving practice (table 7).

High social commitments

The survey result revealed that high social commitments were ranked 3rd by sample households. Social commitment means living or preferring to live in a community rather than alone to support each other during different ceremony or to share problem during the time of sorrow or difficulties. Therefore, high social commitments can reduce the saving practice of people. In the

study area, 67% of sample household agreed that high social commitment is another challenge of saving practice (table 7).

Spending income as soon as earning

The survey result revealed that spending income as soon as earning was ranked 4th by sample respondents. When people spend less than they earn, they can start saving money but if they spend more than they earn or spend as soon as they earn, they cannot save money. This is challenge to many people. In the study area, 58% of sample respondents agreed that spending income as soon as earning is also another challenge of saving practice (table 7).

Very low income

The survey result revealed that very low income was ranked 5th by sample respondents. A low-income household is one whose income is low, relative to other households of the same size. Low-income persons have less disposable income than others and may struggle to pay bill. Very low-income household may not think about saving of portion of income because their income is not enough even for their daily consumption. If such kind household cannot get assistance of government, they may not obtain even food of hand to mouth. In the study area, 56% of sample respondents agreed that very low income is barriers of saving money (table 7).

Lack of knowledge/awareness on saving

The survey result revealed that lack of knowledge or awareness was ranked 8th by sample households. Having information about modern saving makes rural household ready to start saving money in formal financial institution and even divert their practice from informal in to formal to get better service. However, lack of knowledge about modern saving habit may prevent them from saving money in formal financial institutions. In the study area, 19% of sample respondents agreed that lack of knowledge was also challenge of saving practice (table 7).

Unavailability of financial institutions

The survey result revealed that unavailability of financial institution in study area was ranked 6th by sample respondents. Financial institution is a company engaged in the business of dealing with financial and monetary transactions such as deposits, loans, investments and currency

exchange. Unavailability of such kind institutions in given area or around area has put great problem like financial information will be limited, financial transaction also will be limited. Therefore, household choices other means of saving money which may cost them a lot. In the study area, 39% of sample households agreed that unavailability of financial institution was another challenge (table 7).

Lack of trust in financial institution

The survey result revealed that lack of trust in financial institution was ranked 7th by sample respondents. Many people lack trust in financial institution because of the reason fear about future i.e., they may lose their money in the future. They want to see their money at home at their side. However, this problem not only brings shortage of finance/money supply but also puts the money of household in comma. It may be stolen or may face fire dangerous. In study area, 31% of sample households agreed that another challenges of saving practice was lack of trust in financial institution (table 7).

Table 7: Challenges of saving practice of rural households

| CHALLENGES | No. | | % | | Rank |
|---|-------|----------|-------|----------|-----------------|
| | Agree | Disagree | Agree | Disagree | |
| Unavailability of financial institution | 116 | 179 | 39 | 61 | 6 th |
| Lack of trust in financial institution | 91 | 204 | 31 | 69 | 7 th |
| Lack of knowledge/awareness on saving | 57 | 238 | 19 | 81 | 8 th |
| Unplanned spending | 233 | 62 | 79 | 21 | 1 st |
| Spending income as soon as Earning | 172 | 123 | 58 | 42 | 4 th |
| Very low income | 165 | 130 | 56 | 44 | 5 th |
| High social commitments | 198 | 97 | 67 | 33 | 3 rd |
| High cost of living | 208 | 87 | 71 | 29 | 2 nd |

Source; Own survey result, 2021

4.4. General Suggestions by Household Head for improving Saving Practice of Rural Households

The sample respondents were asked to point out their suggestions with respect to the type of measure that the government/concerned body should make in improving saving practice of rural households. The sample respondents, about 65%, 34% and 1% suggested that promoting awareness creation through training for rural household is very important, important and less important, respectively. The survey result revealed this suggestion given by sample respondent was ranked 1st. About 47%, 26% and 27% suggested that increasing the number of financial institutions is very important, important and less important, respectively. According to survey result, this suggestion was ranked in 2nd place. About 58%, 32% and 10% of sample respondents suggested that establishing strong linkage between rural households and financial institution is very important, important, and less important, respectively. According to survey result, this suggestion was ranked in 3rd place (Table 8).

Table 8: Household suggestions for improving rural household saving practice

| | No. | | | % | | | Rank |
|--|----------------|-----------|----------------|----------------|-----------|----------------|-----------------|
| | Very important | Important | less important | Very important | Important | Less important | |
| Promote awareness creation through training | 190 | 101 | 4 | 65 | 34 | 1 | 1 st |
| Increasing the number of financial institutions | 138 | 76 | 81 | 47 | 26 | 27 | 3 rd |
| Establishing strong linkage between rural households and financial institutions | 172 | 93 | 30 | 58 | 32 | 10 | 2 nd |

Source: Own survey result, 2019

4.5. Saving Habit and related behaviors of Rural Household heads

According to survey result (Table 9), of the total sample households, 159 (53.90%) and 136 (46.10%) had preference to save in formal or modern institutions and informal or traditional financial institutions, respectively. The justifications to save in formal institutions are the following: -

- ✓ Sake of salary
- ✓ To obtain interest income
- ✓ To secure money
- ✓ To gain credit service and modern transactions
- ✓ To improve living standard, to solve the problem of poverty and use money properly
- ❖ The rural household justifications or reasons to save in informal institutions are the followings: -
 - ✓ Amount of money is small
 - ✓ Easily use from home for consumption purpose
 - ✓ It is available locally and around their residence
 - ✓ Lack of awareness
 - ✓ Lack of trust in bank
 - ✓ To build or improve social interaction, to engage in funeral practice
 - ✓ To deposit easily without any process
 - ✓ To support each other in the time of problem
 - ✓ To mitigate sudden problem
 - ✓ To help family easily
 - ✓ To expand existing business with in short period of time
 - ✓ To get money easily when it needed

Survey result (Table 9) reveal that from sample respondents, 25(8.5%), 13(4.4%), 108(36.6%) and 18(6.1%) had preference to save in Omo-microfinance, Nib bank, Commercial bank, and Abyssinia bank, respectively. These formal financial institutions are currently available in study area except Omo-micro finance. Whereas, 59(20%), 42(14.24%), 27(9.15%), 3(1.01%) of

sample rural respondents has preference to save in Equb, Idir, Home, and friend, respectively. These institutions are informal/traditional saving institutions.

Table 9: Distribution of the sample household saving preference by financial institution

| HH preference to save | No. | % |
|--|------------|----------|
| Formal institution or Modern | 164 | 55.59 |
| Omo microfinance | 25 | 8.5 |
| Nib bank | 13 | 4.4 |
| Commercial bank | 108 | 36.6 |
| Informal institution or traditional | 131 | 44.41 |
| Equb | 59 | 20 |
| Idir | 42 | 14.14 |
| Home | 27 | 9.15 |
| Friend | 3 | 1.01 |

Source: Own survey result, 2021

It may also be important to see how the trend of individuals' saving behaves so as to analyze whether there are changes or improvements in the individuals' saving, over time.

Inconsideration of this, the respondents were asked to explain how their annual rate of saving is characterized (whether it is increasing, constant or declining), since for the last 2 years until the current period. In this regard, of the total sample households who had saving habit (224), about 58 (25.89%) reported that the rate of saving is increasing. The remaining 80(35.71%) and 86(38.40%) reported that the rate of saving is immobile and declining, respectively (Table 10).

Table 10: Saving trend of rural sample households

| Saving trend | No. | % |
|---------------------|------------|------------|
| Increasing | 58 | 25.89 |
| Constant | 80 | 35.71 |
| Decreasing | 86 | 38.4 |
| Total | 224 | 100 |

Source: Own survey result, 2021

According to survey result (Table 11), the total and average saving of sample rural household was 2,255,433 and 7,645.54, respectively. Of the total sample rural household, the total and

average saving of male and female headed household were 2197233, 58200 and 8,168.15, 22328, respectively.

Table 11: Level of saving of rural households

| Sex | Summation | Mean |
|---------------|------------------|----------------|
| Female | 58200 | 2328 |
| Male | 2197233 | 8168.15 |
| Total | 2255433 | 7645.54 |

Source: Own survey result, 2021

4.6. Determinants of Saving Habit of Rural Households

As discussed in chapter 3 earlier ordered probity model was selected for analyzing determinant factors that affecting sample respondents saving habit in the study area. Fourteen explanatory variables (9 continuous, 3 dummy and 2 categorical variables) were hypothesized to be determinant factors to affect saving habit of sample rural household. Prior to running the model, the explanatory variables were checked to know whether the multicollinearity and heteroscedasticity problem are existed or not. The parallel regression assumption also has been checked. VIF and 1/VIF are the most familiar methods of detecting the problem of multicollinearity among the explanatory variables. As a rule of thumb, if VIF of a variable exceeds 10 or the tolerance margin (1/VIF) less than 0.1 or 10%, then we would say that there is a serious problem of multicollinearity. Therefore, in this case, all the VIFs are below 10 and thus all the tolerance margin (1/VIF) are more than 0.1 or 10% implying that multicollinearity is not a problem in this study (Appendix Table 2).

Besides, the Breusch-pagan/Cook-Weisberg test for existence of heteroskedasticity problem was carried out; and the result ($\text{Prob} > \chi^2 = 0.2175$) revealed that the problem of heteroscedasticity was not significant i.e., there is no problem of heteroscedasticity (Appendix Table 3). According to omodel test, an insignificant test statistic ($\text{Prob} > \chi^2 = 0.3645$) provides evidence that the parallel regression assumption has not been violated that means the slope coefficients in the model are the same across response categories (and lines of the same slope are parallel) (Appendix Table 4).

Table 12: Results of the ordered probit model

| Saving habit of rural households | | | | | |
|---|--------------|--------------|--------------|--------------|-------------|
| Variables | Coef. | NSH | DSH | ISH | RSH |
| SEX | -0.4355771 | 0.0286532 | 0.1258564 | -0.095924 | -0.0585856 |
| AGE | -.285549* | .0018784* | .0082507* | -.0062884* | -.0038407* |
| Marital status | | | | | |
| Un-married | -0.0147932 | 0.0045935 | 0.001308 | -0.002637 | -0.0032645 |
| Married | 0.3950648 | -0.0154571 | -0.1223888 | 0.0759853 | 0.0618606 |
| Divorced | 0.0526542 | -0.0003833 | -0.0174911 | 0.0084499 | 0.0094245 |
| Widowed | -0.1418793 | .00 16338 | 0.0484017 | -0.0203597 | -0.0264082 |
| Family size | -0.0013007 | 0.0000856 | 0.0003758 | -0.0002864 | -0.0001749 |
| Dependency ratio | 0.0071568 | -0.0004708 | -0.0020679 | 0.0015761 | 0.0009626 |
| Education level | -.0464103** | .003053** | .0134099** | -.0102206** | -.0062422** |
| Annual expenditure | -3.93e-06 ** | 2.59e-07** | 1.14e-06** | -8.66e-07*** | -5.29e-07** |
| Occupation status | | | | | |
| Farmer | 0.1371219 | -0.0425781 | -0.0121245 | 0.0244428 | 0.0302597 |
| Self-employed | 0.0702855 | -0.004821 | -0.0201121 | 0.015706 | 0.0092271 |
| Unemployed | -0.0509542 | 0.0029755 | 0.0150856 | -0.0107922 | -0.007269 |
| Retired | -0.1883348 | 0.0086792 | 0.0577022 | -0.0374153 | -0.0289661 |
| Home maker | -0.7821766 | -0.0077335 | -2623011 | -0.1146011 | -0.1399665 |
| Farm land size | .1202958*** | -.0079133*** | -.0347585*** | .0264919*** | .0161799*** |
| Number of livestock | .0443728*** | -.0029189*** | -.0128212*** | .0097719*** | .0059682*** |
| Annual income | 6.22e-06*** | -4.09e-07*** | -1.80e-06*** | 1.37e-06*** | 8.36e-07*** |
| Distance | -.0625686** | .0041159** | .0180787** | -.013779** | -.0084155** |
| Extension contact | .3862617** | -.0254091** | -.1116071** | .0850636** | .0519526** |
| Uses of saving | 0.4410875 | -0.0290157 | -0.1274486 | 0.0971375 | 0.0593268 |
| Agro ecology | 0.4320735 | -0.0310213 | -0.1516271 | 0.0774312 | 0.1387496 |
| cut1 | -2.471011 | 0.8121144 | | | |
| cut2 | -1.7506 | 0.8081948 | | | |
| cut3 | -0.6651387 | 0.805357 | | | |
| Number of observations | 295 | | | | |
| LR chi2(22) | 61.74 | | | | |
| Prob > chi2 | 0.000 | | | | |
| Pseudo R2 | 0.0756 | | | | |
| Log likelihood | -372.364 | | | | |

Remark: *, **, *** indicates at 1 percent, 5 percent, and 10 percent significance levels, respectively and NSH, DSH, ISH, RSH refers to no saving, di-saving, irregular saving and regular saving habit, respectively.

Source: Own survey result, 2021

Age of rural household head (AGE): This variable affected habit of saving significantly and negatively at 1% probability level. The probability of having poor saving habit is enhanced as age of household head increase. Thus, one more year of household head increases the probability of the household's no-saving and dis-saving habit by 0.19 percent and 0.83 percent, respectively; and decreases the probability of the household's irregular and regular saving habit by percent 0.63 percent and 0.38 percent, respectively. This is probably due to the reason that when age of rural household head increase, the level of responsibility and cost of living to manage the family will higher. The other reason could be old aged households in the study area are economically inactive and dependent on others. This study result was similar with the finding of Temam and Feleke (2018).

Education level of rural household head (Educations): This variable also affected habit of saving significantly and negatively at 5% probability level. The model outcome shows the probability of having poor saving habit increase as rural household head's years of schooling increase. So, one more year of schooling of household head increases the probability of the household's no saving and dis-saving habit by 0.31 percent and 1.34 percent, respectively; and decreases the probability of the household's irregular and regular saving habit by 1.02 percent, and 0.62 percent respectively. The reason may be an educated household head is more probably send the children to school, therefore their expenditure is higher as result in lower saving. This result is supported with the result obtained by Wogene markos (2015).

Annual expenditure of rural household head (TOTALANNEXP): This variable also affected habit of saving significantly and negatively. The model result revealed that the probability of loss good saving habit increases as annual household expenditure in Ethiopian birr increases. Thus, one Ethiopian birr more expenditure of household head increases the probability of the household's no-saving and dis-saving habit by 0.0000259 percent and 0.000114 percent annually, respectively; and decreases the probability of the household's irregular and regular saving habit annually by 0.0000866 percent and 0.0000529 percent, respectively. This is due to the fact that rural household head faced unexpected and unplanned spending in different activities like food expenditure, production expenditure, materials expenditure etc. such and related expenses diminish the good saving habit of rural household head. This result matches

with the finding of (Ismail and Bakar, 2012) the overall expenditure-income elasticity increases the annual expenditure increase and that affects annual saving negatively.

Farm land size (FARMLANDHE): According to model result, this variable affect saving habit significantly and positively at 10% probability level. The model showed that rural household heads that have larger farm land have better saving habit. Holding one extra hectare farm land by rural household, increases the probability of the sample households' irregular and regular saving habit by 2.65 percent and 1.62 percent, respectively; and decreases no saving and dis-saving habit by 0.79 percent and 3.48 percent, respectively. This might be because of farm households who own larger land size produce more output which results in higher farm income and saving. This study supported with study conducted by Ejigu Mulatu (2020).

Number of Livestock Owned (TOLTALLIVE): This variable is positive and significant at 10% significance level. By keeping other variables constant, holding higher number of livestock increases the probability of having better saving habit, vice versa. Thus, one more number of livestock of household head decreases the probability of the household's no saving and dis-saving habit by 0.29 percent and 1.28 percent, respectively; and increases the probability of the household's irregular and regular saving habit by 0.98 percent and 0.60 percent, respectively. This is probably due to rural household obtained higher income from relatively higher number of livestock. Livestock is another source of income next to coffee and enset production in study area.

Annual income (ANNINCOME): This variable also affected habit of saving significantly and positively at 10% significance level. The model result revealed that the probability of having good saving habit increase as annual income in Ethiopian birr increase. Thus, as income of the sample household increase by one Birr, the probability of the household's no saving and dis-saving habit decrease by 0.0000409 percent and 0.000180 percent annually, respectively; and increase the probability of the household's irregular and regular saving habit annually by 0.000137 percent and 0.0000836 percent, respectively. This is due to that the higher amount of annual income could reveal rural household head is on the way of improving its agricultural production and productivity to safe the household essential needs and smooth life of family. The

study result was similar with the finding of (Issahaku, 2011) that annual income had positive and significant impact on the household savings behavior.

Distance to financial institutions: In line with the expectation, distance from home of rural household to financial institutions affected saving habit negatively and significantly at 5% significance level. The model result revealed that the probability of loss of good saving habit increase as distance in kilometer increase. If household heads reside one kilometer away from financial institutions, the likelihood of being irregular and regular saving habit would be lower by 1.38 percent and 0.84 percent, respectively; and no saving and dis-saving habit would be higher by 0.41 percent and 1.81 percent, respectively. This is because households' residence far away from the institution joined with the institutions' problematic saving procedure and discouraged some rural household head to save more in financial institutions. This result is in line with the study by Birhanu (2015) and Chemonics International (2007).

Frequency of extension contact: As expected, the coefficient of frequency of extension contact on the model is estimated to be positive and significant at 5% significance level. The model revealed that the probability of holding good saving habit increase as frequencies of extension contact increase. If household heads got one number extra frequency of extension contact, the likelihood to be irregular and regular saving habit would increase by 8.51 percent and 5.20 percent and, respectively; and no saving and dis-saving would be decrease by 2.54 percent and 11.16 percent and, respectively. This is due to fact that rural household who had more number of extension contact were more informed than those who had less/no number of extension contact. Thus, frequency of extension contact is crucial to increase production and productivity in turn saving habit in study area. The results of studies by (Musa *et al.*, 2015) who found that extension agents provide farmers with new information on improved agricultural technologies, better farm management practices, market and etc.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The main objective of this study was to assess saving habit of rural households in the case of Gedeb woreda. The analysis was based on the cross-sectional data obtained 295 sample rural households. Multi-stage sampling techniques were employed to the generate primary data.

To achieve the objectives of the study, both descriptive and econometric analysis were undertaken. An ordinal probit model has been used to identify the determinant factors affecting saving habit of rural households of Gedeb woreda.

The finding of this study shows average annual income of the total households were 20,815.69 Ethiopian birr. Food expenditure is highly increasing expenditure in the study area. In the study area, 24.07 percent of sample rural households had not saving habit. Only 25.89 percent of the rate of saving is increasing, the rest 35.71 percent and 38.40 percent are immobile and declining, respectively in the study area.

The major challenges of rural households saving practices were unplanned spending, high cost of living, high social commitments, spending income as soon as earning, very low income, unavailability of financial institutions, lack of trust in financial institution and lack of knowledge /awareness on saving thus concerned body should direct the way in which rural households can calm down these challenges.

The major opportunities of saving to rural household were to acquire asset (house, land, clothes, TV etc.), to pay education fee, for household consumption (to buy food), to pay medical expenses, to receive interest rate for saving, to attend funerals and similar function and to get loan and easily access to credit.

The estimate of the ordinal probit model with marginal effect found that age of the household head, education level of the household head, annual expenditure, farm land size, ownership of livestock, annual income, distance to financial institution, and frequency of extension contacts

were the determinant factors affecting rural households' saving habit. Out of the significant factors, only age of household head, education level of household head, distance to financial institution and annual expenditure affect saving habit negatively, while farm land size, ownership of livestock, annual income and frequency of extension contacts affect saving habit positively.

5.2. Recommendations

Finding of this study reveals that average saving amount/level of saving of rural household is very low; hence, financial institutions, government and other stakeholders shall work together to improve the saving habit of rural households through creating awareness about saving benefits, develop and provide saving consultation programs, give productive loan and follow up their credit utilization so that they can use it to generate additional income and this in turn motivates rural households to save in formal financial institutions.

The result of this study shows that, age of the household head had negative effect on saving habit. Therefore, support must be given to youth household heads to improve the saving habit. In other words, financial institution and policy makers should target increasing a job opportunity mechanism on the basis of age.

Education level showed negative relation to households saving; indicating that more educated household head is more likely educate their children and that have a higher expenditure and less saving. Thus, the government should therefore increase its funding of the education sector not only to secondary and tertiary institution but also to adult education program. NGOs should also be encouraged to participate in the provision of education especially in training and acquisition of necessary skill for management of finance.

Finding of this study indicates that annual expenditure had negative and statistically significant effect on saving habit of rural households. Much of the income of the people was found to be spent on foods (daily meal) and food inflation is considered to retard rate of saving of households. Thus, the concerned body or the local government should design and implement strategies that aimed at improving the saving habit of the society.

Farm land size is one of the variables that affect saving habit of rural household positively in the study area. Therefore, local government bodies with agricultural professionals should give prior attention to small and very small land holders for improving productivity of the existing land through land management system and modern cultivation system.

The result of this study also shows that number of livestock owned had positive and significant effect on saving habit of rural households. Thus, government should promote different modern strategies in which production and productivity of livestock can increase.

Annual income had positive and statistically significant effect on saving habit of rural household. Rural households with higher levels of income have a higher potential that can reduce a risk they face and ensure wellbeing, which may open the way to save in financial institutions. So, they are most likely to invest more funds in agriculture. Increasing earning capacity of the lowest income group of rural households is expected to enhance individuals' rate of saving; hence, government bodies should encourage rural households by providing financial support to look for additional jobs without jeopardizing their permanent job that is crop and livestock production.

Distance from financial institutions had negative and statistically significant effect on the saving habit of rural households. Hence, financial institutions should provide saving services by establishing satellite branches reasonably near to the rural households' residences. In addition, policy interventions should focus on increasing the availability and accessibility of financial institutions in rural areas to promote rural households saving.

Frequency of extension contact had positive effect on saving habit of rural household head. This indicates that, as the number of extensions contact increase, the likelihood of having better saving habit increase. Thus, financial institutions with government should provide special extension service for rural households to improve their skill and knowledge on crop and livestock production and diversify source of income generation which leads to saving practice.

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7. APPENDICES

Appendix Table 1: Conversion factors used to estimate Tropical Livestock Unit equivalents.

| Animal categories | TLU |
|------------------------|-------|
| Calf | 0.25 |
| Donkey(young) | 0.35 |
| Weaned calf | 0.34 |
| Camel | 1.25 |
| Heifer | 0.75 |
| Sheep and goat (adult) | 0.13 |
| Caw and Oxen | 1 |
| Sheep and goat young | 0.06 |
| Horse | 1.1 |
| Chicken | 0.013 |
| Donkey (adult) | 0.7 |

Source: Storck (1991 as cited in wassie, 2014)

Appendix Table 2: Multicollinearity Test with VIF

| Variables | VIF | 1/VIF |
|-----------------|-------------|----------|
| FAMSIZE | 7.63 | 0.131142 |
| NUMBDEPE | 6.41 | 0.156112 |
| SEX | 2.60 | 0.384064 |
| MARST | 2.56 | 0.390724 |
| DOHAVEXTE | 1.53 | 0.653982 |
| DISTANCE | 1.51 | 0.663373 |
| AGE | 1.48 | 0.677579 |
| FARMLANDHE~R | 1.33 | 0.753575 |
| DOUSESOSAV | 1.32 | 0.757620 |
| EDUCATIONS | 1.32 | 0.760252 |
| ANNINCOME | 1.23 | 0.810763 |
| OCCUSTATUS | 1.22 | 0.817486 |
| TOLTALLIVE~O | 1.21 | 0.827361 |
| TOTALANNEXP | 1.08 | 0.922802 |
| AGECO | 1.02 | 0.856230 |
| Mean VIF | 2.23 | |

Source: Own survey data,2021

Appendix Table 3: hettest for heteroskedasticity

| | |
|---|---------------|
| hettest | |
| Breusch-Pagan / Cook-Weisberg test for heteroskedasticity | |
| Ho: Constant variance | |
| Variables: fitted values of HABSAV | |
| chi2(1) | 1.52 |
| Prob > chi2 | 0.2175 |

Source: Own survey data, 2021

Appendix Table 4: oparallel lines regression assumption test after ordered probit model

| | |
|--|---------------|
| Approximate likelihood-ratio test of proportionality of odds across response categories | |
| chi2(15) | 27.09 |
| Prob > chi2 | 0.3645 |

Source: Own survey data, 2021

4) Friend/s 5) Wife/husband 6) Child/Children

6. What is the number of your family size? _____

7. How many of your family are employed (number of earners)? _____

8. How many members of your family are financially dependent on you? (They have no income of their own and you and/or someone else in your household supports them)

.....

9. What is your level of educational? _____

10. Expenditure

1. What is the total Annual expenditure? _____ in birr

2. What is your monthly household expenditure? _____ in birr

3. What is your current status of expenditure?

| Expenditure | Current status of Expenditure | | | | Amount spent in Birr |
|----------------|-------------------------------|----------------|----------------|----------|----------------------|
| | No | Increasi ng | Decreas ing | Constant | |
| School fees | | | | | |
| Food | | | | | |
| Water | | | | | |
| Medical | | | | | |
| Transportation | | | | | |
| Clothing | | | | | |
| Fuel | | | | | |
| Others | | | | | |
| ----- | | | | | |

Part II: Socio Economic Status of the respondents

11. What is your current Occupation status?

1) Farmer 2) Self-employed 3) Unemployed

4) Retired 5) Homemaker

12. What kind of work do you do?

1) Professional, technical and related work 2) Administrative and managerial work

3) Clerical and related work 4) Agricultural work

13. What is your major source of income?

1) Professional, technical and related work 2) Administrative and managerial work

3) Clerical and related work 4) Agricultural work

14. Do you have Farm land? 1) Yes 2) No

15. If your answer is Yes for Q No 13, your farm land size is----- in hectare.

16. Do you have livestock? 1) Yes 2) No

17. If your answer is Yes for Q No 15, the number of Sheep ----- Calf ----- Heifer-----
Cow----- Oxen-----Poultry-----Goat-----Horse-----Donkey-----
Mule.....

Total number of livestock is -----

18. What is the total: A, monthly income of the household head? _____

B, annual income of the household head? _____

19. Do you have saving access in your area? 1) Yes 2) No

20. Where do you prefer to save your money?

1). Formal institution (or Modern) 2) Informal institutions (like Equb, Idir.) or traditional

21. If your response for question number 19 is formal/modern institution, which one of the following is?

1) Omo microfinance 2) Nib bank

3) Commercial bank 4) Abyssinia bank 5) others

22. If your response for question number 19 informal/traditional, which one of the following is?
1) Equb 2) Idir 3) Home 4) Friends 5) In form of asset

23. If your response for question number 19 is informal/traditional, why? Justify your answer.

24. What is your reason if your answer for question number 19 is modern or formal institution?
Please list your reasons. _____

25. How long is the formal institution far from your home? In km _____

26. Is it appropriate? 1) Yes 2) No

27. Do you have extension agent services 1) Yes 2) No

28. If your answer is yes for Q no 26, how frequent do you get information?

1) Daily 2) Weekly 3) Monthly 4) Sometimes

Part III: Questions Related to saving habit of the Respondents

29. Do you know about uses of saving? 1) Yes 2) No

30. Do you have a habit of saving? 1) Yes (has saving habit) 2) No (has no saving habit)

31. If yes what is your habit of saving

1) Dis-saving 2) Not saving

3) Regular saving (weekly, monthly, etc) 4) Irregular saving (randomly)

32. How much savings do you have? (Both in your savings account and informal ways)

33. What is your saving rate trend (saving rate trend of rural household head)?

1) Increasing 2) Constant 3) Decreasing

Part VI Challenges and Opportunity of Saving practice

34. What type of benefit will you get from saving?

| No. | Opportunity of saving (benefits(uses) from saving) | Yes | No |
|-----|---|-----|----|
| 1 | For household consumption (to buy food) | 1 | 2 |
| 2 | To get loan and credit access | 1 | 2 |
| 3 | To receive interest rate for saving | 1 | 2 |
| 4 | To build house or acquire asset (land, house, clothes, TV etc.) | 1 | 2 |
| 5 | To pay medical(illness) expenses | 1 | 2 |
| 6 | To attend funerals, engagement, and similar function | 1 | 2 |
| 7 | To pay children fee (Education of children) | 1 | 2 |

35. What are the challenges of saving?

| No. | Challenges of saving of rural household | Agree | Disagree |
|-----|---|-------|----------|
| 1 | Unavailability of financial institution | 1 | 2 |
| 2 | Lack of trust in financial institution | 1 | 2 |
| 3 | Lack of knowledge/awareness on saving | 1 | 2 |
| 4 | Unplanned spending and saving | 1 | 2 |
| 5 | Spending income as soon as earning | 1 | 2 |
| 6 | Very low income | 1 | 2 |
| 7 | High social commitments | 1 | 2 |
| 8 | High cost of living | 1 | 2 |

36. What are your general suggestions for improving savings practice of rural household?

| No. | Recommendations | Very important (1) | Important (2) | Less important (3) |
|-----|---|--------------------|---------------|--------------------|
| 1 | Promote awareness creation through saving | | | |
| 2 | Increasing the number of financial institutions | | | |
| 3 | Establishing strong linkage between rural households and financial institutions | | | |
| | Others | | | |