

**“The Determinants of Household Saving: The Case Study of  
Jimma Town, Ethiopia.”**

*A thesis submitted to the College of Business and Economics, Department of  
Economics in partial fulfillment the requirement for the Degree of MSc in  
Development economics.*

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**JIMMA UNIVERSITY  
COLLEGE OF BUSINESS & ECONOMICS  
DEPARTMENT OF ECONOMICS**

**JULY 22, 2021**

**JIMMA, ETHIOPIA**

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Under the Guidance of

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And

Co-advisor: - Mrs. Nejat Kemal (MSc)



*A thesis submitted to the College of Business and Economics, Department of  
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Developmental economics.*

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## CERTIFICATE

This is to certify that the thesis entitles “**The Determinants of Household Saving:** The Case Study of Jimma Town, Ethiopia”, submitted to Jimma University for the award of the Degree of Master of Development economics and is a record of real research work carried out by Mr. Tesfaye Demissie, under his guidance.

*Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree Master.*

Main Adviser’s Name	Date	Signature
_____	_____	_____
Co-Advisor’s Name	Date	Signature
_____	_____	_____
Internal Examiner	Date	Signature
_____	_____	_____
External Examiner		
_____	_____	_____

## DECLARATION

This is to declare that the thesis entitles “**The Determinants of Household Saving: The Case Study of Jimma Town, Ethiopia**”, has been carried out by me under the guidance of Mr. Fikadu Guta and Ms. Nejat Kemal.

The thesis is original and has not been submitted for the award of any degree masters or any university or institutions.

Researcher’s Name

Date

Signature

---

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## **ACRONYMS and or ABBREVIATIONS**

BLM	Binary Logit Model
CSA	Central Statistical Agency
HS	Household Save
IMF	International Monetary Fund
JTR	Jimma Town Residents
LDCs	Less Development Countries
MFI	Micro Finance Institutions
MoFED	Ministry of Finance and Economic Development
OLS	Ordinary Least Square

## Abstract

*Saving is greatly contributing for economic growth at individual, communities, national and international level. Nevertheless, inappropriate management of the resources is extremely deterred the development of individual capital as well as the country, particularly the least developing country like Ethiopia, where the saving habit and system is poor. The objective of the study is to determinants of household saving means improving saving of households. The data were collected 354 households from five Kebeles, concerned offices and organization using structured questionnaire and interviews. Both descriptive and econometric analysis employed analysis to collected data. With descriptive analysis percentages, figures, graphs, charts and tables were used to present determinants of household saving and in logistic regression analyses the variables that are positively related with the probability of household saving are household head age, sex, credit and monthly income. The variables that are negatively related with the probability of household saving are family size, household education, marital status, interest rate and monthly expenditure. From nine explanatory variables, four of the variables: family size, credit access, monthly income and monthly expenditure have a significant effect on households saving. To increase the saving of households, the following recommendations should be implemented by the concerned bodies: first, income is the major determinant of saving then, due attention should be given to increase income of households. Income could be increased by implementing policies that increases the employment opportunities and reduce underemployment and concealed unemployment. Second, family planning and related measures should be taken to limit household family size. Third, to reduce expenditure, awareness should be given to households in study area. Finally, In order to save or solve problems of saving:- often compare prices before they make a purchase, consider whether the real necessity before make a purchase, always follow a careful monthly budget, high income level, to control market , to reduce inflation, to create job opportunity, properly uses addiction and other.*

**Keywords:** Explanatory variables, Household, Household saving, Jimma town, Logistic regression, saving.

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Background of the Study

Saving has been considered as one of the factors affecting growth to lead the developing countries to the path of development or saving refers to a fraction of income not instantly consumed, but kept for future investment, consumption or unforeseen possibilities in the future (Nwachukwu and Odigie, 2009). So, it is considered as an important element in fulfilling the financial gap by households. Although household saving is meant to cover consumption expenditure at large, households in developing countries in general are financially constrained due to seasonality of cash flows, poor work culture and the resulting low income that makes saving seasonal and irregular (Karlan et al., 2013). At macro level, saving in the form of capital formation is a crucial instrument for economic growth as it increases country's capital stock, thereby improving the ability of an economy to produce future higher incomes (Donkor and Duah, 2013). Saving in the form of capital formation is strongly correlated with economic growth as suggested by neoclassical growth models.

Recently it is indicated that Ethiopia has set a high and ambitious growth rates on its growth and transformation plan (MoEFD, 2014). In order to achieve and sustain such high growth targets, the country requires substantial amount of capital formation. In contrast to middle income country, resource management and mobilization in Ethiopia is poor (IMF, 2014). Also in this study area less saving exist that the cause of lack of control market, lack of job, the matter of situation market, low income level, improperly uses addiction, low interest rate, high inflation, religion, excessive expenditure, increasing unemployment year to year and in our country Ethiopia, in general and Jimma town residents might the particularly the smallholders' income is characterized as seasonal and irregular, in which savings are usually less considered. To this effect, the present study was designed to assess factories affecting household saving Jimma town residents.

## **1.2. Statement of the Problem**

Economic theory suggests that savings helps to foster economic growth. However, savings has an immediate impact on economic growth of a country. Equivalent to income source, the economic growth and development of the world including Ethiopia are determined by saving habits (Ribaj and Mexhuani, 2021), but savings stimulate investment, production, and employment, which are greatly contributing to sustainable economic growth for given societies or communities, households as well as individual. Domestic savings and economic growth of the given country have been strongly positively correlated (Thornton, 2009; Jagadeesh, 2015). Most scholar and academicians consent as irregularity of the market (missed management of commodities), less awareness, cultural, educational background, and unemployment are primarily should be affecting the household saving of individuals, society, regions and country including Jimma town (Mirach and Hailu, 2014).

In addition, too low job opportunities and or less employment, high level of debt, inappropriate or unfair payment to the workers should equally affect the individuals' wealth or capital as well as the national economic development, particularly the developing country specifically like Ethiopia. This could be due to the inflation the price of consumable and non-consumable materials, lack of saving skills, maximizes leisure for recreation, addiction, improper management of money, lack of consistence income, lack saving habit, and poor or deficiency of saving system (Soharwardiet al.,2014).

There were some previous studies in Ethiopia (Mirach and Hailu, 2014; Nigus, 2015; Lidi et al., 2017). However, the mentioned previous studies were a different with approach of study, variables, study area, and time, which we had tried to address in the current study. Moreover, identifying the major determinant affecting household saving and consequently addressing them, has received limited attention in Ethiopia, particularly in the Jimma town. It has been hypothesized that family size, expenditure, sex, interest rate, credit access, marital status, age, educational level and income are the major determinant of household saving in Jimma town. Nevertheless, the mentioned factors are not more confirmed through studies. On the other hand, creating awareness, regulating the market, and creating job opportunities, can improve the saving habit of societies (Crossley et al., 2012).

Comparatively to other parts of Ethiopia, Jimma town have potential for income generating by various group of peoples found at different economic level. However, the life of most residents in town are below the standards being getting quality and quantity of basic needs such as food, shelters, cloth as well as health and education. This could be because of mismanagement their income regardless of the amount they get. In most case the people waste their time by social life, chewing khat, drinking alcohol, playing of pool, and others, which in turn affect their saving of money. But the aforementioned situations need conformation by investigation.

To our knowledge, this is the first study conducted on the determinants of household saving in Jimma town, and it can be used as a base for further studies and as input for monitor by concerning bodies.

### **1.3. Basic research questions**

The general goal of this study is to assess the saving of house hold and the associated factors related to household saving in Jimma town. The basic research questions here are:

- ✓ What are the major determinants of households saving in Jimma town residents?
- ✓ To what extent its affect the survival of individual and the development of Jimma town?
- ✓ How is to give an awareness saving of the household in Jimma town?

### **1.4. Objective of the Study**

#### **1.4.1. General objective**

The general objective of the study was to:-

- assess the determinants of household saving in Jimma town residents

#### **1.4.2. Specific objectives**

The specific objectives of this study were to:-

- ✓ examine the major determinant of household saving in Jimma town residents
- ✓ identify the impact of socio-economic factors like sex, age, educational level, family size, marital status, interest rate, monthly expenditure, access to credit and monthly income on decision to save.
- ✓ to give an awareness saving of the household in Jimma town.

## **1.5. Significance of the Study**

This research conducted to evaluate the saving of the household and to identify the factors affecting the saving of the household in Jimma town residents and with purpose to create awareness on the effective utilization of financial resources and saving, planning and expenditure controlling habit, socio-cultural saving barriers, interest rate, and inflation and unemployment combating strategies to augment saving capacity, investment and then economic growth. Moreover, assessing determinants of households saving in this town is very important for implementation of saving programs that benefit and improve the life of the household. It was hoped that the research of this study had been improve policy makers', planners' and researchers' understanding of the determinants of household save in the study area and might serve as an important tool for any possible information towards improving saving. Therefore, in general, this research was essential as it contributes to the efforts of the country in improving saving of household.

## **1.6. Scope and Limitations of the Study**

### **1.6.1. Scope of the study**

The scope of this study was to find out the determinants of the household saving in Jimma town. For reasons have connected with time and resource, the scope of the study was restricted to sample Kebele households in Jimma town and the methodology the study used to data collecting instruments: questionnaire and interview. The study was designed to assess the questions of the research no more any less that means it was done in the medium.

### **1.6.2. Limitations of the study**

There were different constraints to the study. To begin with, there was time, material and financial problem during the process of investigation also the study was delimited to sample "Kebele". Lack of the awareness the some respondents do not return interview schedule and to control the data collecting process together with managing the data obtained from the questionnaire and faced a challenge. The other limitation of the study was faced when collecting data: most of the households were uneasy to be accessed and it was difficult to identify the households by simply looking at them. The other problem was that there was no one place to

access the households and this made it difficult. Additionally, should be to go to homes of the respondents and asked for the presence of the households for the questionnaires.

## **1.7. Organization of the Study**

The whole study was organized as follows. The first chapter includes the introduction part which incorporates background of the study, statement of the problem, objectives of the study; general objectives, Specific objectives, research Questions, and significance of the study, scope of the study, limitation of the study and organization of the study. The second chapter investigates literature and empirical review available on about the association between house holding saving and it's the determinant. The third chapter deals with about methodology that means focus on sampling size determination, methods of data analysis, sampling techniques, data type and source, and description of the study area. The fourth chapter concerned with presentation and discussion of the findings or results obtained; which called data analysis. Both the descriptive analysis and econometrics analysis was undertaken. Finally, the last chapter (fifth chapter) includes the conclusion and recommendation and at the end references and appendices were attached.



# CHAPTER TWO

## 2. LITERATURE REVIEW

### 2.1. Literature Review

There are several hypotheses of saving that are implied from consumption theories (hypothesis) as the amount of income not consumed is saved. These include the Keynesian Absolute Income Hypothesis, the Quensberry's Relative Income Hypothesis, Friedman's Permanent Income Hypothesis, and Modigliani Life Cycle Hypothesis. These hypotheses are discussed very briefly as part of theoretical literature.

#### 2.1.1. The Keynesian absolute income hypothesis

States those individuals save out of their current income to smooth the expected consumption over time. The effect of the precautionary savings is realized through its impact on current consumption, as individuals postpone their current consumption in order to maintain the utility level of consumption in the future if income drops (Njung'e, 2013). Thus, saving is only possible if someone has more than enough to meet the basic needs and can only save what is left after paying for such basic needs (Michael, 2013).

#### 2.1.2. Quensberry's relative income hypothesis

According to relative income hypothesis of Duesenberry higher growth rates lead to higher saving rates, which is inconsistent with the lifecycle or permanent-income theory, since the lifetime resources of an individual increases as growth rate increases (Nayak, 2013) and 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. At a given point in time the rich in the population saved a higher fraction of their income than the poor did.

### **2.1.3. The Permanent income hypothesis**

States that people will spend money at a level consistent with their expected long-term average income. A household will save only if his or her current income is higher than the anticipated level of permanent income, in order to guard against future declines in income. According to this hypothesis, income growth is one of the primary determinants of domestic saving through its effect on the lifetime income of working population. This is because, higher rate of income growth raises the aggregate income of active workers relative to those not earning labor incomes and this will raise the lifetime resources of workers on which consumption and saving depends (Nayak,2013).

### **2.1.4. Franco Modigliani and Richard Brumberg's life-cycle hypothesis**

Imagine that individual base consumption on a constant percentage of their anticipated life income. With population growth, there are more young people than old, more people are saving than are not saving, so that the total not saving of the old will be less than the total saving 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 are not saving so that economic growth, like population growth, causes positive saving, and the faster the growth, the higher the saving rate (Nayak, 2013).

### **2.1.5The life cycle hypothesis**

Lifecycle hypothesis gives income growth and the age structure of the population a special role in explaining the national saving rate. Income growth increases the life time resource of the working population than the non-working group. Since consumption and saving decision depends on the life time earnings, it increases aggregate saving. Since the age structure of the population determines the size of the non -working population, it can greatly influence the level of national savings. The higher the share of the non-working population, the stronger the impact a decline in wealth causes at this stage of life. However, per capita income as one of the important determinants of saving rates, because people are forward looking and base their savings decisions on lifetime income. But in reality, the current level of income also plays a significant role in explaining saving behavior (Khanat et al., 2010).

### **2.1.6. Household 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 ((Michael, 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 ((Njung'e, 2013).).

## **2.2. Empirical Literature**

### **2.2.1. Education level and household saving**

Education has been included as a representation for human development which increases the human productivity and capabilities. This is because of the fact that, as the level of education increase the awareness of households concerning saving also increase that mean saving of households with higher educational level on average save more than households with no or lower educational level. The mean saving of illiterate household heads is Birr 58.57 whereas household

heads with primary education, secondary education and tertiary education on average saves Birr 261.8, Birr 269.93 and 546.65 per month respectively. Hence, as the educational level increases, the average household saving also increases (Teshome et al., 2013).

Also, according to (Lidi et al., 2017) education status of household heads is important variable at influencing their saving levels. The study analyzed the effect of education at three levels; primary, secondary and college diploma or above and found statistically significant effects on their decision to save and the amount they choose to save. This is theoretically justified from the fact that education has the probability to increase households' awareness to saving and also their capacity to save as more educated households has wider possibilities of earning more income than not educated ones. So that understanding from two ideas, the expected effect of education level on saving is positive.

### **2.2.2. Age and household saving**

Some research studies states that the higher the old aged population in the nation the lower is the saving rate in the economy, also according to (Nigus, 2015) in their study found age as in the middle age save more than household heads that are in the early age and old age. The mean saving of middle age, early and old age household heads is about Birr 360.6, 206.2 and 244.6 per month respectively result in his research this show that simple understanding middle age more saving than early age and old age.

*Hailesellasi* et al. (2013) in their study found age as a significant and negative factor for the saving behavior of households that the higher the age of households, the lower is the saving of the households. However, the study by Rehman et al. (2011) found insignificant relationship between lower income group age and saving level else. Odoemenem et al. (2013) study also revealed that age composition did not have significant influence on saving. The expected effect of age on saving is positive.

### **2.2.3. Income level and household saving**

According to *Hailesellasi* et al.( 2013) and Lidi et al.( 2017) annual income of the household has a positive significant effect on both the decision to save and amount of saving as predicted in theoretical and empirical literature. An increase in incomes of households increases their

tendency to participate in saving and the amount they save. This is because such households will have income left for saving after paying for consumption expenditure. So that estimated from these ideas, the expected effect of incomes on saving is positive.

#### **2.2.4. Gender and household saving**

This by gender analysis is relevant because women are usually expected to save more part of their disposable income than men do. However, the finding showed that women do not save more than men. The average saving of women is Birr 259.46 per month but, the saving of men is Birr 329.86 per month this idea come from the researcher of two (Nigus, 2015; Borko, 2018).

On other hand, according to study of Odoemenem et al. (2013), sex had significant influence on saving whereas, Rehman et al. (2011) found that female to male ratio was insignificantly affect saving levels. So that estimated from these ideas, the expected effect of gender on saving is positive.

#### **2.2.5. Interest rate and household saving**

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 Keyna indicated that interest rate on deposits has some positive influence on the saving of farmers. Increase in interest rates is expected to motivate farmers to save 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 (Nayak, 2013). 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). So that estimated from this empirical, the expected effect of interest on saving is positive

#### **2.2. 6. Marital status and household saving**

Hailesellasié et al. (2013), which showed the family value plays an important role in the household saving of individuals and economic development. The married households save more than singles due to their multiple sources of income. However, the study by Rehman et al (2011) found that marital status insignificantly affects saving levels.

On other hand, Marital Status of household head is also an important factor that has very significant effect on household savings. When household head is un-married, he has no responsibility regarding family. He has less expenditures and more money to save for future needs. But after marriage, he has to look after his family, children, relatives, and have more domestic expenditures than past. Theoretically, household saving is expected to be negatively affected by marital Status.

### **2.2.7. Family size and household saving**

Households with large family size save less than households with small family size. Therefore, households size negatively and significantly effects on saving or this is the size of the household family measured in terms of total number of members in a family which includes the partner and children. Since food requirements increases with the number of persons in the household, food and non- food expenditure increases with increase in household size and this could reduce the saving of the household. (Nigus, 2015). So that estimated from this empirical, the expected effect of family size on saving is negative

### **2.2.8. Monthly expenditure and household saving**

Expenditure refers to money which is spent by the people for consumption. It is a continuous variable which is measured in Birr. It affects households saving negatively. The more the households spend on the consumption, their saving will be reduced. Rehman et al. (2011) indicated that expenditure significantly and inversely affects household saving. The expected effect of expenditure on household saving was negative. People have always a larger preference for the indivisible good and therefore want to save at a higher rate after the expenditure is met. This increases the income of households saving rate. So that estimated from this empirical, the expected effect of expenditure on saving is negative.

### **2.2.9. Credit access and household saving**

According to economic theory, credit access is expected to have several influences on savings: irritated consumers will be concerned to borrow and consume more in the present, hence save less; some current savers will reduce their saving since future needs can be financed more easily through credit; no change in saving will occur for the very patient and highly risk-averse savers.

This implies that improvement in credit access is expected to impact negatively on saving. However, the study by binary choice model (Probit model) was used, showed saving to be positively related to credit access.

According to the International Monetary Fund (IMF), improvement in availability of credit is one cause cited for decline in saving in many industrial countries.(Kibet et al., 2009), Credit access was found to be significant in explaining the level of saving by the household. Also credit access has a net negative effect on saving such that; an improvement in credit access will cause a reduction in saving, and vice versa. Those support the idea with the study by binary choice model (Probit model). Therefore, the expected effect of credit access on saving is positive.

### 2.3. Conceptual Framework

The framework is formulated to explain the relationship of the independent variables (sex, age, educational level, family size, marital status, interest rate, monthly consumption expenditure, access to credit and monthly income) and dependent variable ( household saving ).

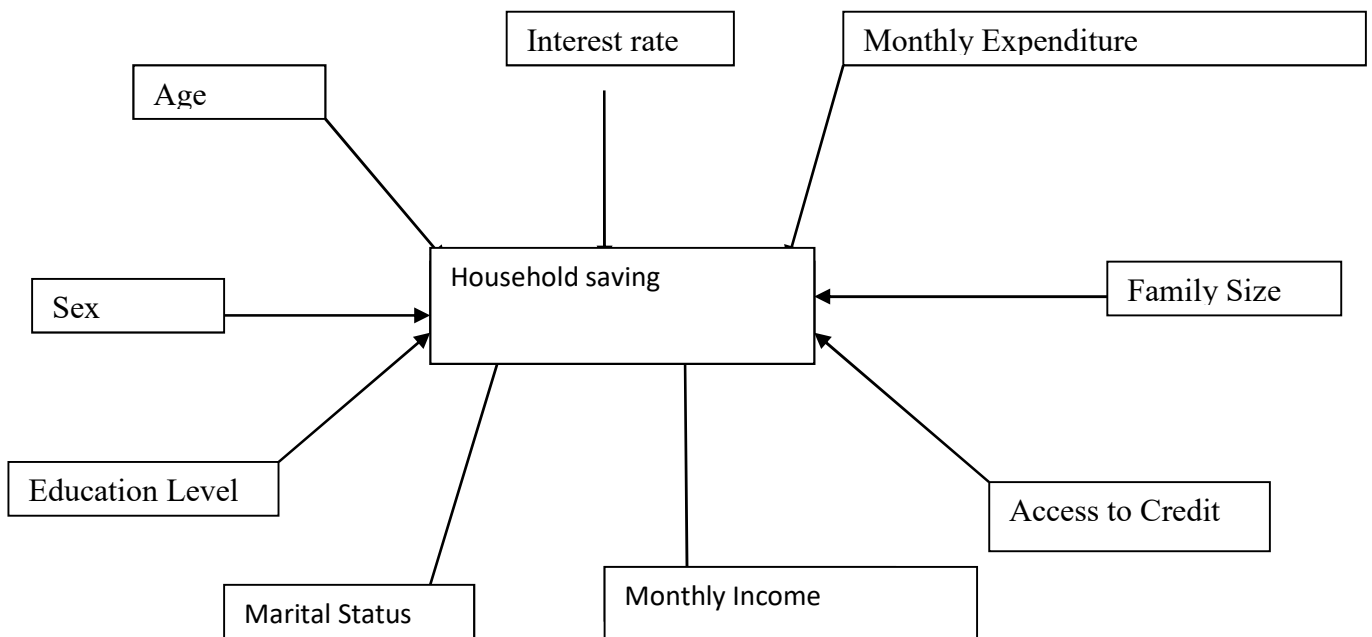


Figure 2.1. Conceptual Framework

# CHAPTER THREE

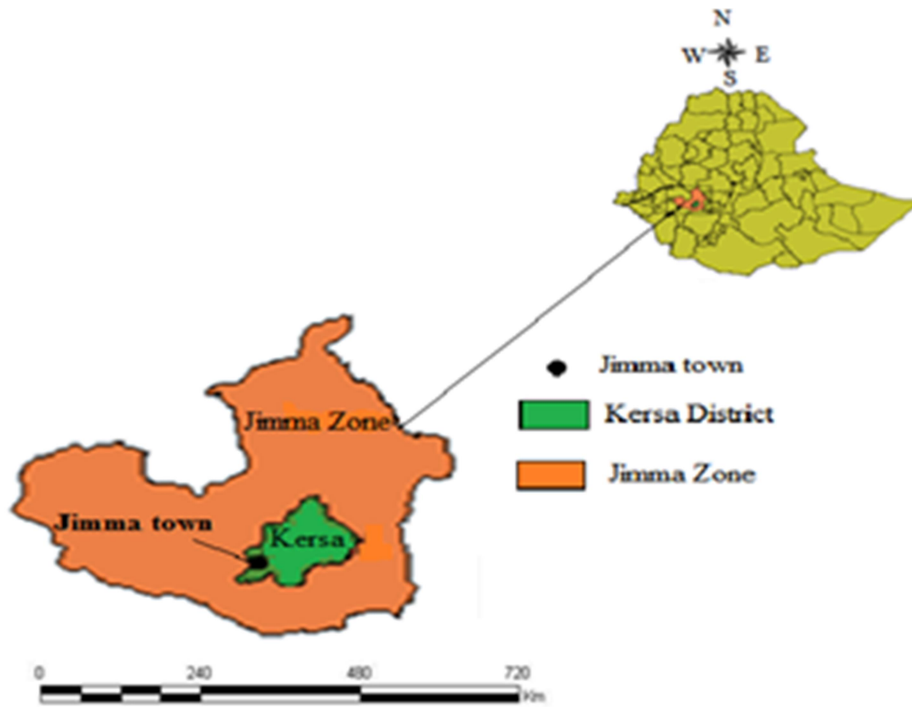
## 3. METHODOLOGY

### 3.1. Description of the Study Area

The geographic area of this study is Jimma Town which is the capital of Jimma Zone of the Oromia Regional State, located 352km away from the country capital Addis Ababa in south west of Ethiopia. Based on the 2007 census, Jimma Town has a total population of 120,960 of whom 60,824 were men and 60,136 were women, but according to the recent information on the population of Jimma town is 207,573 in 2012 and the town has 17 “Kebeles” (CSA, 2010) and the town is located at 7° 40’N latitude and 36° 00’E longitudes. According to the master plan of the town, the total area of land of the town is 4623 (46.23km<sup>2</sup>) hectares. The mean annual rain fall in the town is 1332.1 mm. The temperature of the town is high at March (30.4°C) where the average at this season is 27.5°C and low at January (8.5°C) where the average is 12.5°C. With mean daily temperature of 19.5°C (CSA, 2007).

Awettu River is crossing at the center of the town. The main economic activities in the town are commerce (trading and catering services) and small-scale manufacturing enterprises. The industries in the town are small-scale and cottage industries like grain mills, oil mills; wood and metal workshops, coffee hullers, hollow block manufacturing, bakeries and pastries, and multipurpose shops (Alemu et al., 2011).





**Figure 3. 1.** Map of the Study area.

### **3.2. Data Type and Source**

Primary data used for this study was collected from households who were residents of Jimma town. Information on the demographic and socio-economic condition of the households was collected through structured questionnaires by close end instruction format with open end follow up questions. The structured questionnaires were positioned to the heads of the households with face-to-face interviews. Interviews contained studies about demographic and socio-economic aspects: - age, sex, marital status, household family size, household head education level, interest rate, monthly income, and monthly expenditure and credit access in the study area.

Secondary data obtained directly or indirectly from Jimma town administration offices, investment office and finance office or internet. Both quantitative and qualitative data types were used to analyze determinants of household saving as they complement each other.

### 3.3. Sampling Technique and Sample Size Determination

A sampling technique used to address representative (sampling) households from the whole house hold. In this study sample of households were the basic sampling units in order to get quantitative and qualitative data on the determinants of household saving in the study area. A two stage sampling technique was employed to get the required primary data. At the first stage, Jimma town was selected, and then simple random sampling method was applied to draw five samples Kebele. Second stage, systematic random sampling techniques were used to the sampled Kebele in order to draw a total sample size of 354 households from whole house hold of 3050 in sample kebeles.

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

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

N = the number of total households in the town means the number of total households select kebele found in the town.

n = sample size and e = level of precision which is equal to 0.05.

I was decided to take the true margin of error 5% with confidence level 95%.

$$n = \frac{N}{1 + N(e)^2} \text{ ----- (3.1)}$$

Table3.1. The number of house holdings in select kebeles.

No.	Kebele Names	Number of households
1	Mendera kochi	840
2	Ginjo Guduru	575
3	Ginjo Ketema	630
4	Jiren	485
5	Awetu Mendera	520
Total		3050

Whereas;  $N = 3050$ , and margin error ( $e$ ) = 5%

Therefore,  $n = N / (1 + N(e^2))$ ,  $n = 3050 / (1 + 3050(.05^2)) = 3050 / 8.625 = 353.6231$

**$n = 354$**

### 3.4. Method of Data Analysis

To achieve the objectives of the study the researcher employed both descriptive and econometric analysis. Descriptive analysis used percentages, graphs and tabulations to explain different socio economic characteristics of the households and binary logit model was used to identify the effect of explanatory variables on household saving in the study area. Tools and statistics used in descriptive and econometric are generated with the help of econometric software.

When the dependent variable in regression is binary the analysis could be conducted by using linear probability and index models i.e. logit or probit. But the result of linear probability model might produce predicted values less than zero or greater than one, which violate the basic principles of probability. However, the index model's logit or probit models generate predicted values between 0 and 1; they fit well to the nonlinear relationship between the probabilities and the explanatory variable. But selected logit model because of logit model is preferable to probit model as it has more believable feature such as simplicity: The equation of the logit is very simple, inverse linearing transformation for the logit model is directly interpretable as log-odds,

while the inverse transformation probit model does not have a direct interpretation (Gujarati, 2009). So that binary logit model selected.

### A. Binary logit model (BLM)

The choice of the logit model is lead on the fact that ordinary least squares assume a continuous dependent variable while in the case of Household saving the response is a binomial process taking the value 1 for saving and 0 for non-saving. The parameters of this model were estimated by using the maximum likelihood estimation rather than the movement estimation in which OLS regression technique rely on. The logit method may give parameter estimates that are asymptotically efficient and consistent (Gujarati, 2009). Probability of saving is specified as the value of the cumulative distribution function which is specified as function of the explanatory variables.

$$p_r = \frac{e^{\beta_0 + \beta_1 x_1}}{1 + e^{\beta_0 + \beta_1 x_1}} \text{ Or equivalently } p_r(event) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1)}} \text{----- (3.2)}$$

Where,  $\beta_0$  and  $\beta_1$  are coefficients to be estimated from data,  $X_i$  is the independent variable  $e$  is the base of the natural logarithm.

For ease of exposition the model can be written as (for more than one independent variables)

$$P_r(event) = e^{z_i} / 1 + e^{z_i} \text{ or equivalently } P_r(event) = 1 / 1 + e^{-z_i} \text{----- (3.3)}$$

This particular study is deal about the probability of saving or not saving and this expression expressed in mathematical form as follows:

The probability of saving (an event occurring) as the form:

$$(y = 1/x) = (Y = 1) = e^{z_i} / 1 + e^{z_i} = 1 / 1 + e^{-z_i} \text{----- (3.4)}$$

$$Z = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \text{-----} + \beta_k x_k + \varepsilon \text{----- (3.5)}$$

Note: - the error term  $\varepsilon$  also follows logistic distribution

For a not-Saving cumulative logistic distribution, representing the probability is just  $(1-p_i)$  i.e.

$$1 - p_r(y = 1/) = ) e^{-z_i} / 1 + e^{-z_i} \text{----- (3.6)}$$

Therefore, by dividing equation (3.4) by equation (3.6) we can result in the odds-ratio in binary response, which is as stated below:

$$p_r (y = 1 / x) / [1 - (y = 1 / x)] = (Y = 1) / 1 - (Y = 1) = 1 / 1 + e^{-z_i} / e^{-z_i} / 1 + e^{-z_i} = e^{z_i} \text{ ----- (3.7)}$$

When we take the natural logarithm of odd-ratio of equation (3.7) could result in logit model as we can see below.

$$Li = (((Y = 1)) / (1 - P(Y = 1))) = Zi = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \beta_9 x_9 + \beta_{10} x_{10} \text{ ----- (3.8).}$$

Therefore, logit model for probability of saving or not-saving of a household and determinants of saving as follows: -

$$Y_i = \beta_0 + \beta_1 Ag + \beta_2 Sex + \beta_3 FS + \beta_4 Mrs + \beta_5 Edu + \beta_6 MI + \beta_7 MExp + \beta_8 Crd + \beta_9 r + \epsilon_i \text{ ----- (3. 9)}$$

Therefore  $Y_i = 1$  if household is saving and  $=0$  if household is not saving,  $\beta_i$  is regression parameters,  $\epsilon_i$  is the error term and the explanatory variables describes the following (Table)-.

**Table 3.1.** Variables name and the variable description

<b>Variable name</b>	<b>Description of variable</b>	<b>Measurement</b>	<b>Expected out come</b>	<b>Result of sing</b>
Saving	Probability of Saving	Dummy (1= saving, 0 = not-saving)	Dependant	Dependant
Ag	Age of the household head	Continuous variable measured in years	+	+
Sex	Sex of the household head	Dummy(0=male,1=female)	+	+
Fs	Family size of the households	Continuous variable measured in number	-	-
Mrs	Marital status of household	Dummy (1=married,2= single, 3= divorced ,4=widowed)	+	-
Edu	Education level	Dummy(1= illiterate, 2= pr, edu,3= sec. edu, 4= ter and above. edu	+	-
MI	Monthly Income	Continuous measured in birr	+	+
R	Interest rate	Dummy(1,if the household has been interest rate, 0 otherwise	+	-
Mexp	Monthly expenditure	Continuous measured in birr	-	-
Crd	Household access to credit	Dummy(1,if the household access credit, 0 otherwise)	+	+

# CHAPTER FOUR

## 4. RESULTS AND DISCUSSION

### 4.1. Introduction

This chapter gives the results of the survey data obtained from questionnaires and interviews. The data was analyzed, presented, and discussed in this chapter. This chapter discusses the analytical results of the study. The first section of this chapter presents the descriptive results of the study. This is followed by the discussion of the econometric model results.

### 4.2. Descriptive Statistics Results.

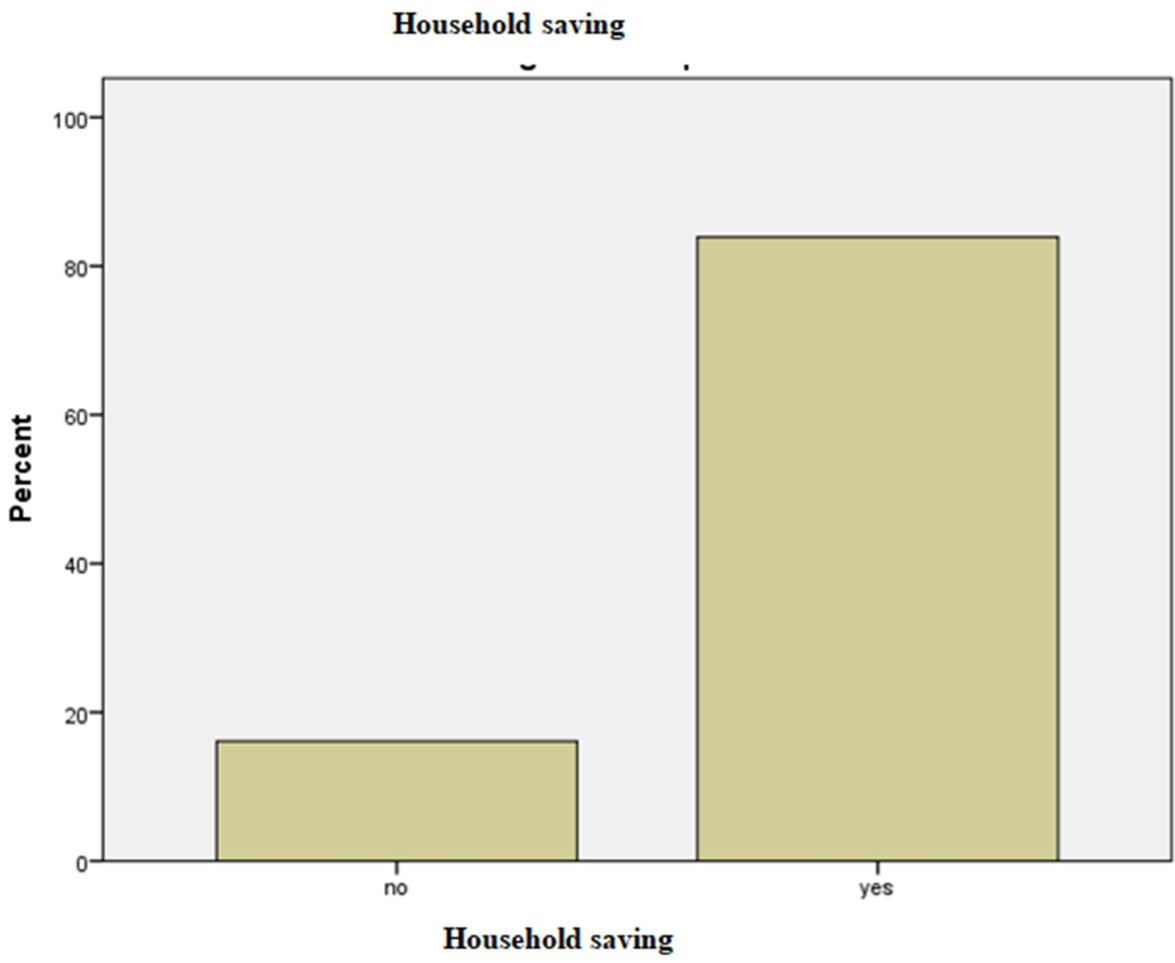
#### 4.2.1. Measuring the household saving in the study area

As already reviewed in literature review part of this paper, there is a different definition of saving which is defined by different economists. However, saving is greatly contributing for economic growth at individual, communities, national and international level. Following this definition, from the total 354 sample households only 57 households were not saving while the remaining 297 saving. In other case, 83.9 percent of the households were saving and the remaining or 16.1 percent were not saving (Table 4.1)

**Table 4.1.** Reflex of the respondents.

The respondents		Frequency	Percent
0	Not saving	57	16.1
1	Saving	297	83.9
	Total	354	100

Source: Own computation from survey data, 2021



Source: Own Survey, 2021

**Figure 4.1.** Household saving or was not.



## 4.2.2. Socio-demographic characteristics of sample respondents

**Table 4. 2.** Sex of the respondents

Sex	Frequency	Percent	Saving	
			Yes	No
Male	253	71.5	210 (59.4%)	43 (12.1%)
Female	101	28.5	87 (24.5%)	14 (4.0%)
Total	354	100	297 (83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

### Sex

Sex was determinants of household saving. 253 (71.5%) respondents were male (out of these 59.4% were saving and 17.9% were not saving) and 101(28.5%) female (out of these respondents 24.5% are saving and 4.0%were not saving). As it was clearly indicated by table 4.2 above male more save than female or Even if the average saving of male is more than the average saving of female because of female more expenditure on various responsibility and most of value for life standard.

**Table 4. 3.** Age of the respondents

Age	Frequency	Percent	Saving	
			Yes	No
18 to 25	46	13.0	36 (10.2%)	10 (2.8%)
26 to 35	114	32.2	92 (26.0%)	22 (6.2%)
36 to60	179	50.6	155 (43.8%)	24 (6.8%)
> 60	15	4.2	14 (4.0%)	1 (0.3%)
Total	354	100	297(83.9%)	57(16.1%)

Source: Own computation from survey data, 2021

## Age

As it was indicated in table 4.3 above, 46(13.0%) of respondents were under age category 18 to 25 (out of these 10.2% were saving and 2.8% were not saving), 114(32.2%) of respondents under age category 26 to 35 (out of these 26.0% were saving and 6.2% were not saving), 179(50.6%) of respondents under age category 36 to 60 (out of these 43.8% were saving and 6.8.0% were not saving) and 15(4.2%) of the respondents age greater than 60(out of these 4.0% were saving and 0.3% were not saving) . Large number of the respondents' age category was 36 to 60 and their response to saving was higher than the rest of age category. It is due to as age increases households would acquire knowledge and experience through continuous learning which help them to actively participate in different activities that help them to generate income and when income increases people save more.

**Table 4. 4.** Marital statuses of the respondents

Marital status	Frequency	Percent	Saving	
			Yes	No
Married	307	86.7	261 (73.7%)	46 (13.0%)
Single	5	1.4	5 (1.4%)	0 (0.0%)
Divorced	15	4.2	11 (3.1%)	4 (1.1%)
Widowed	27	7.6	20 (5.7%)	7 (1.9%)
Total	354	100	297(83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

## Marital status

As it was indicated in table 4.4 above, 307(86.7%) of respondents were married (out of these 73.7% were saving and 13.0% were not saving), 5(1.4%) single (out of these 1.4% were saving and 0.0% were not saving), 15(4.2%) divorced (out of these 3.1% were saving and 1.1% were not saving) and 27(7.6%) widowed (out of these 5.7% were saving and 1.9% were not saving) . Large number of the respondents' married and their response to saving was higher than the rest of respondents due to their multiple sources of income.

**Table 4. 5.** Education levels of the respondents

Education level	Frequency	Percent	Saving	
			Yes	No
Illiterate	68	19.2	57 (16.1%)	11 (3.1%)
Primary education	108	30.5	95 (26.8%)	13 (3.7%)
Secondary education	104	29.4	84 (23.7%)	20 (5.6%)
Tertian education and above	74	20.9	61 (17.2%)	13 (3.7%)
Total	354	100	297(83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

### **Education level of respondents**

Education level play major role in determining saving level of households through improvement of income; increase knowledge of the household to use new technology, help to participate in different income generating activities, family planning and improve management of resources. All those lead to good productivity of the household and can enhance income level which is directly related to saving. But, due to the lack of access to education, the greater number of the respondents saves less due to poor management of resources, poor family planning low awareness to technology. As the table 4.5 above shows, 68(19.2%) of the respondents were illiterate (out of these 16.1% were saving and 3.1% were not saving), 108 (30.5%) completed primary education (out of these 26.8% were saving and 3.7% were not saving), 104(29.4%) completed secondary education(out of these 23.7% were saving and 5.6% were not saving) and 74 (20.9%) of the respondents education level was tertian education and above (out of these 17.2% were saving and 3.7% were not saving) , the finding clearly indicates that illiterate household's saving level was low due to low awareness to life style, lack of awareness to saving, less involvement of other income generation activity.

**Table 4. 6.** Number of family size of the respondents

No of family size	Frequency	Percent	Saving	
			Yes	No
1 to 3	309	87.3	262 (74.0%)	47 (13.3%)
4 to 6	26	7.3	17(4.8%)	9 (2.5%)
>6	19	5.4	18 (5.1%)	1 (0.3%)
Total	354	100	297 (83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

### Family size

Family size was a major determinant of household saving in the study area. 309(87.3%) respondents were having family size 1 to 3 (out of these 74.0% were saving and 13.3% were not saving), 26(7.3%) households with family size 4 to 6 (out of these respondents 4.8% are saving and 2.5% were not saving) and 19(5.4%) with family size greater than 6(out of these 5.1 were saving and 0.3% were not saving). As it was clearly indicated by table 4.6 above Households with large family save less where as households with lower family size save more .The result is due to the fact that large family size resulted due to lack of awareness to family planning in the study area. Possible interpretation for the finding is for large family size, it is difficult to feed by one household head and their consumption level is greater than saving. Typically, large family size has the significant relationship with lower saving, an increase in the household size; the demand for household consumption increases and at the same time saving decreases.

**Table4. 7.** Monthly incomes of the respondents

Monthly income	Frequency	Percent	Saving	
			Yes	No
<3000	95	26.8	57 (16.1%)	38 (10.7%)
3001-6000	117	33.1	104 (29.4%)	13 (3.7%)
6001-9000	59	16.7	54 (15.3%)	5 (1.4%)
>9000	83	23.4	82 (23.2%)	1(0.3%)
Total	354	100	297(83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

## Monthly income

Monthly income was a major determinant of household saving in the study area. 95(26.8%) respondents were monthly income under category 1 < 3000 (out of these 16.1% were saving and 10.7% were not saving), 117(33.1%) monthly income under category 3001 to 6000 (out of these respondents 29.4% are saving and 3.7% were not saving) and 59(16.7%) monthly income under category 6001 to 9000 (out of these 15.3% were saving and 1.4% were not saving and 83(23.4%) monthly income greater than 9000 (out of these 23.2% were saving and 0.3% were not saving). As it was clearly indicated by table 4.7 above show, an increase in incomes of households increases their tendency to participate in saving and the amount they save. This is because such households would have income left for saving after paying for consumption expenditure.

**Table 4. 8.** Monthly expenditures of the respondents

Monthly expenditure	Frequency	Percent	Saving	
			Yes	No
<2000	67	18.9	58 (16.4%)	9 (2.5%)
2001-4000	125	35.3	99 (28.0%)	26 (7.3%)
4001-6000	67	18.9	53 (15.0%)	14 (4.0%)
>6000	95	26.8	87 (24.6%)	8(2.3%)
Total	354	100	297(83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

## Monthly expenditure

Monthly expenditure was a one determinant of household saving in the study area. 67(18.9%) respondents were monthly expenditure under category 1 < 2000 (out of these 16.4% were saving and 2.5% were not saving), 125(35.3%), category 2001 to 4000 (out of these respondents 28.0% are saving and 7.3% were not saving), 67(18.9%) , category 4001 to 6000 (out of these 15.0% were saving and 14.0% were not saving and 95(26.8%) , greater than 6000 (out of these 24.6% were saving and 2.3% were not saving). As it was clearly indicated by table 4.8 above shows, increases in expenditure of households decrease in saving and the amount they save. Therefore saving of households was decreased.

**Table 4. 9.** Interest rates of the respondents

Interest rate	Frequency	Percent	Saving	
			Yes	No
No	94	26.6	79 (22.3%)	15 (4.2%)
Yes	260	73.4	218 (61.6%)	42 (11.9%)
Total	354	100	297 (83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

### Interest rate

Interest rate was a one determinant of household saving. 94(26.6%) respondents were not getting interest rate from saving (out of these 22.3% were saving and 4.2% were not saving) and 260(73.4%) getting interest rate from saving (out of these 62.6% are saving and 11.9%were not saving). As it was clearly indicated by table 4.9 above show, the respondents were not getting interest rate from saving is less saving, but getting interest rate from saving is more saving. So that interest rate one of determinant of household saving and it is of the individuals on a view to encourage people towards saving.

**Table 4. 10.**Credit accesses of the respondents

Credit access	Frequency	Percent	Saving	
			Yes	No
No	102	28.8	79 (22.3%)	23 (6.5%)
Yes	252	71.2	218 (61.6%)	34 (9.6%)
Total	354	100	297 (83.9%)	57 (16.1%)

Source: Own computation from survey data, 2021

### Credits access

Credits access also a one of the determinant of household saving. 102(28.8%) respondents were not to use credit access (out of these 22.3% were saving and 6.5% were not saving) and 252(71.2%) to use credits (out of these 61.6% are saving and 9.6%were not saving). As it was clearly indicated by table 4.10 above show, the respondents were not to use credit access is less

saving, but to use credits is more saving. Therefore to use credits access very important of household saving and an encourage people towards saving.

**Table 4. 11.** The source of income and monthly expenditure of respondents

<b>Variable</b>		<b>Frequency</b>	<b>Percent</b>
The main source of income of the respondents	From Salary	93	26.3
	From Rent	72	20.3
	From non-agricultural activities like, petty trading and catering services	83	23.4
	Others	106	29.9
	Total	354	100.0
Monthly expenditure increasing of the respondents	No	17	4.8
	Yes	337	95.2
	Total	354	100.0
Problem of month expenditure increasing of the respondents	Lack of control the market	134	37.9
	Change in the family size of household	51	14.4
	Foreign currency problems	46	13.0
	Others	123	34.7
	Total	354	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.11 the main source of income of the respondents in this study area were getting from salary, rent, non-agricultural activities like, petty trading and catering services and others, but the most frequently observed category of monthly income was salary (n = 93, 26%.3). In this show that most of monthly income of the respondents was getting from salary. The most frequently observed category of the respondents was yes 337(95.2) .Show that the monthly expenditure increasing year to year of the respondents the reason an impact were coming from lack of control the market, change in the family size of household, foreign currency problems and other, but most monthly expenditure increasing year to year the matter come from lack of control the market 134(37.9) see from above table 4.11.

**Table 4. 12.**Household saving, how household saving and proportion income saving.

<b>Variable</b>		<b>Frequency</b>	<b>Percent</b>
Household saving	No	57	16.1
	Yes	297	83.9
	Total	354	100.0
how house holding saving	Not exist	57	16.1
	Very bad	31	8.8
	Bad	45	12.7
	Good	124	35.0
	Very good	67	18.9
	Excellent	30	8.5
	Total	354	354
Proportion income saving of the respondents in percent	Not exist	57	16.1
	<10	55	15.5
	11 to 20	90	25.4
	21 to 30	57	16.1
	> 30	95	26.8
	Total	354	100.0
Places the house holding to save money	Not exist any place( is not saving)	57	16.1
	Bank	129	36.4
	credit union	60	16.9
	Iqqub	85	24.0
	Home	15	4.2
	Trusted Friend	8	2.3
	Total	354	100.0
How often do house hold save money	Not exist ( is not saving)	57	16.1
	monthly	171	48.3
	weekly	42	11.9
	yearly	15	4.2
	any time	69	19.5



	Total	354	100
Purpose house hold saving of the respondent	Food	44	12.4
	Health	58	16.4
	Education	32	9.0
	House construction	93	26.3
	Others	70	19.8
	Total	297	100
Increasing monthly regular savings from time to time	no	315	89.0
	yes	39	11.0
	Total	354	100.0
The main reasons not to increase monthly saving of the respondents	Income is low	112	31.6
	High credit commitments	60	16.9
	Family expenditure commitment	50	14.1
	High cost of living	72	20.3
	Lack of confidence on financial institutions	9	2.5
	Others	51	3.7
	Total	354	31.6

Source: Own computation from survey data, 2021

As the table 4.12 above show, the most frequently observed category of do you have a saving was yes (n = 297, 83.9%) and the most frequently observed categories of saving were good 124(35.0%). In this show that saves exist, but didn't enough to save. For proportion income saving, the most frequently observed category of proportion income saving was 11 to 20 (n = 90, 25.4%). Indicate that the proportion they save using different saving institutions and traditional methods of saving was very low. However they explained that they had a potential to save but they didn't enough to save. There is a large gap between what they save and what they can save. For places of the house holding to save money, the most frequently observed category of places of the house holding to save money was bank (n = 129, 36.4%). In show that most of the respondents were saving money in bank more than other institutions. For how often do house hold save money, the most frequently observed category of how often do the respondents save

money was monthly (n = 171, 48.3%). It shows that most of the respondents were saving money by would be monthly. For purpose of house hold saving, the most frequently observed category of purpose of the house hold saving money was house construction (n = 93, 26.3 %). Indicate that the most of the respondents were saving purposely to house construction. For regular increasing monthly savings from time to time, the most frequently observed category of regular increasing monthly savings from time to time of the respondents was no (n = 315, 89%). Show that there was not regular increasing monthly savings from time to time of the respondents the reason an impact were coming from income was low, high credit commitments, family expenditure commitment, high cost of living, lack of confidence on financial institutions and other, but didn't most regular increasing monthly savings from time to time the matter come from income is low 112(31.6%) see from above table 4.12.

**Table 4. 13.** Interest rate / how/much interest rate of the respondents

Variable		Frequency	Percent
Interest rate get from saving of the respondents	No	94	26.6
	Yes	260	73.4
	Total	354	100
How interest rate get from saving of the respondents	Satisfactory	85	24.0
	Good	88	24.9
	Very good	60	16.9
	Excellent	27	7.6
	Total	260	100.0
How much interest rate get from saving of the respondents	100–600birr	90	25.4
	601-1000birr	83	23.4
	Greater than 1000 Birr	87	24.6
	Total	260	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.13 the most frequently observed category of interest rate get from saving of the respondents was yes (n = 260, 73.4%) and the most frequently observed category of how interest rate get from saving of the respondents was good (n = 88, 24.9%). In general show that how interest rate get from saving most of exist, but didn't enough how interest rate get

from saving that means how interest rate was get from saving of the respondents as good and the most frequently observed category of how much interest rate was getting from saving of the respondents was 100 to 600 birr (n = 90, 25.4%). Indicate that much interest rate get from saving of the respondents in one year only found in this interval.

**Table 4. 14.** Purpose/ face problems/kind problems credit access of the respondents

Variable		Frequency	Percent
Credit access of the respondents	No	102	28.8
	Yes	252	71.2
	Total	354	100.0
The purpose of taking the loan of the respondent	For trade	79	22.3
	For household goods	53	15.0
	For house construction	59	16.7
	For Consumption	61	17.2
	Total	252	71.2
The face of the problem ask of the loan of the respondents	No	119	33.6
	Yes	235	66.4
	Total	354	100.0
The kind of problems of the loan of the respondents	Doesn't problems of the loan	119	33.6
	Asset collateral	63	17.8
	Personal Guarantees	49	13.8
	Group Guarantees	39	11.0
	Permitted less amounts from what you have asked	79	22.3
	Others	5	1.4
	Total	354	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.14, the most frequently observed category of credit access of the respondents was yes (n = 252, 71.2%). The purpose of taking the loan of the respondents in this study used to: for trade, for household goods, for house construction, for consumption and others, but the most frequently observed category of purpose of taking the loan of the

respondents was trade (n = 79, 22.3%). For the face of the problem ask of the loan of the respondents, the most frequently observed category of the face of the problem ask of the loan of the respondents was yes (n = 235, 66.4%) and the kind of problems of the loan of the respondents when would be ask:- asset collateral, personal guarantees, group guarantees and permitted less amounts from what you have asked, but the most frequently observed category of kind of problems of the loan of the respondents was permitted less amounts from what you have asked (n = 79, 22.3%).

**Table 4. 15.** Suggestions of the respondents on improve the saving.

<b>Variable</b>		<b>Frequency</b>	<b>Percent</b>
In order to save, I often compare prices before I make a purchase	strongly disagree	23	6.5
	disagree	51	14.4
	undecided	36	10.2
	agree	206	58.2
	strongly agree	38	10.7
	Total	354	100.0
In order to save, I often consider whether the real necessity before I make a purchase.	strongly disagree	18	5.1
	disagree	70	19.8
	undecided	42	11.9
	agree	173	48.9
	strongly disagree	51	14.4
	Total	354	100.0
In order to save, I always follow carefully monthly budget.	strongly disagree	27	7.6
	disagree	39	11.0
	undecided	53	15.0
	agree	160	45.2
	strongly agree	75	21.2
	Total	354	100.0
I always have money available in the event of emergency	strongly disagree	36	10.2
	disagree	51	14.4
	undecided	79	22.3

	agree	116	32.8
	strongly agree	72	20.3
	Total	354	100.0
In order to save, I plan to reduce my expenditure.	strongly disagree	26	7.3
	disagree	35	9.9
	undecided	49	13.8
	agree	160	45.2
	strongly agree	84	23.7
	Total	354	100.0
I save to achieve certain goals	strongly disagree	32	9.0
	disagree	52	14.7
	undecided	42	11.9
	agree	149	42.1
	strongly agree	79	22.3
	Total	354	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.15, the most frequently observed category of the variable in agreement level saying in order to save, they often compare prices before they make a purchase was agree (n = 206, 58%). The most frequently observed category of In order to save, I often consider whether the real necessity before I make a purchase was agree (n = 173, 48.9%). The most frequently observed categories of in order to save, I always follow a careful monthly budget was agree (n = 160, 45.2%). The most frequently observed category of I always have money available in the event of emergency was agree (n = 116, 32.8%). The most frequently observed category of in order to save, I plan to reduce my expenditure was agree (n = 160, 45.2%). The most frequently observed category of I save to achieve certain goals was agree (n = 149, 42.1%).

**Table 4. 16.** Households were given suggestion on access to credit.

Variable		Frequency	Percent
I obtain interest rate from it	strongly disagree	78	22.0
	disagree	130	36.7

	undecided	38	10.7
	agree	89	25.1
	strongly agree	19	5.4
	Total	354	100.0
I get loan and easily access to credit, I will create a job opportunities and then my saving ability will be improved.	strongly disagree	63	17.8
	disagree	122	34.5
	undecided	53	15.0
	agree	93	26.3
	strongly agree	23	6.5
	Total	354	100.0
It increases how to create alternative business opportunities.	strongly disagree	64	18.1
	disagree	108	30.5
	undecided	65	18.4
	agree	93	26.3
	strongly agree	24	6.8
	Total	354	100.0
Used for household consumption	strongly disagree	58	16.4
	disagree	88	24.9
	undecided	62	17.5
	agree	104	29.4
	strongly agree	42	11.9
	Total	354	100.0
Eventually it creates investment.	strongly disagree	65	18.4
	disagree	65	18.4
	undecided	61	17.2
	agree	110	31.1
	strongly agree	53	15.0
	Total	354	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.16, the most frequently observed category of I obtain interest rate from it was disagree (n = 130, 36.7%). The most frequently observed category of I get loan and easily access to credit, I will create a job opportunities and then my saving ability will be improved was disagree (n = 122, 34.5%). The most frequently observed category of access to credit increases how to create alternative business opportunities was disagree (n = 108, 30.5%). The most frequently observed category of access to credit used for household consumption was agree (n = 104, 29.4%). The most frequently observed category of eventually access to credit creates investment was agree (n = 110, 31.1%).

**Table 4. 17.** Households were response idea on the income.

Variable		Frequency	Percent
Properly awareness on income is used to improve an existing of saving	strongly disagree	24	6.8
	disagree	51	14.4
	undecided	68	19.2
	agree	155	43.8
	strongly agree	56	15.8
	Total	354	100.0
Full of information in the line of income generating activities	strongly disagree	19	5.4
	disagree	43	12.1
	undecided	69	19.5
	agree	150	42.4
	strongly disagree	73	20.6
	Total	354	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.17, the most frequently observed category of properly awareness on income is used to improve an existing of saving was agree (n = 155, 43.8%). The most frequently observed category of full of information in the line of income generating activities was agree (n = 150, 42.4%).

**Table 4. 18.** Suggestions of the respondents on the problems of expenditure

Variable		Frequency	Percent
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Increasing expenditure without additional income reduced saving	strongly disagree	30	8.5
	disagree	44	12.4
	undecided	45	12.7
	agree	156	44.1
	strongly agree	79	22.3
	Total	354	100.0
As day to day expenditure increases without additional income, it reduces saving	strongly disagree	29	8.2
	disagree	32	9.0
	undecided	51	14.4
	agree	161	45.5
	strongly disagree	81	22.9
	Total	354	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.18, the most frequently observed category of Increasing expenditure without additional income reduced saving was agree (n = 156, 44.1%). The most frequently observed category of as day to day expenditure increases without additional income, it reduces saving was agree (n = 161, 45.5%)



**Table4. 19.** The others determinants of household saving in this town

Variable		Frequency	Percent
The others determinants of household saving	inflation	92	26.0
	there is not continuous occupation	61	17.2
	religion	54	15.3
	situation market	61	17.2
	Improperly use addiction or without plan to use it	56	15.8
	Increasing unemployment year to year	30	8.5
	Total	354	100.0

Source: Own computation from survey data, 2021

As indicated in above table 4.19, the others determinants of household saving in this town:- inflation, there is not continuous occupation, religion, situation market, improperly use addiction or without plan to use it and increasing unemployment year to year, but the most frequently observed category of the others determinant of household saving in this town was inflation (n = 92, 26.0%). In this show that the most exist in others determinant factors affect on the household saving in this town was inflation.

### **4.3. Econometric Analysis**

In addition to descriptive analysis, the binary logistic regression model was employed to identify the determinants of household saving in the study area. Before regressing variables included in the model were tested for the existence of multi-co linearity and heteroscedasticity problem.

#### **4.3.1. Data Cleaning**

The problems of multicollinearity and heteroscedasticity are existing in cross-section data. Therefore, the data should be cleared before it is going to be used for the analysis purpose. However, for logit model it is difficult to test heteroskedasticity problem. Thus, we assumed the presence of heteroskedasticity and applied robust during analysis to correct the problem for saving of house hold. The problem of multicollinearity is detected by looking VIF for continuous independent variables and Contingency coefficient for the discrete variables.

## **A. Multicollinearity**

Before to running the Logit, the presence or absence of multicollinearity has to be checked. There was suggested to test the existence of multicollinearity. These are: Variance Inflation Factor (VIF) for association among the continuous explanatory variables and Contingency Coefficients (CCs) for dummy variables. As a general rule, if the VIF of a variable exceeds 10, there is multicollinearity. According to Gujarati (2009), to avoid serious problems of multicollinearity, it is quite essential to omit the variable with value 10 and more from the Logit analysis. Thus, the Variable Inflation Factor (VIF) was employed to test the degree of multicollinearity among the continuous variables. The values of the VIF for four continuous variables were found to be small (i.e VIF values less than 10) indicating that the data have no serious problem of multicollinearity, (see appendix II). Hence, all the four continuous explanatory variables were retained and entered into the Binary Logit model for analysis. Similarly, Contingency Coefficients were computed from survey data to check the existence of high degree of association problem among discrete independent variables. The decision rule for Contingency Coefficients states that when its value approaches 1, there is a problem of association between the discrete variables, i.e., the values of contingency coefficients ranges between 0 and 1, with zero indicating no association between the variables and the values close to 1, indicating a high degree of association. The result of the Contingency Coefficient reveals absence of multicollinearity or high degree of association problem among independent variables. Hence, all the five discrete explanatory variables were retained and entered into the binary logit model for analysis. When there was checked the model free from heteroscedasticity and multicollinearity problem. All the independent variables, therefore, were decided to be included in the model analysis. The dependent variable is the house hold saving and Logit model was employed to estimate the effects of the hypothesized independent variables on house hold saving. In doing so a total of nine independent variables were included in the model. These are: sex of household head, age of household head, education level of household head, family size, monthly income, monthly expenditure, interest rate, access to credits and marital status. The included variables were selected, based on literature, observation and the relevance of the variables.

**Table 4. 20.** Binary logit estimates of the determinants of house hold saving

<b>Logistic regression</b>		Number of obs= 354	
Log likelihood = -117.34025		LR chi2 (9) = 71.11	
Dependent variable: house hold saving		Prob> chi2 = 0.0000	
		Pseudo R <sup>2</sup> = = 0.2325	
<b>Explanatory variables</b>	<b>Coefficient</b>	<b>P&gt; z </b>	<b>Marginal effect</b>
Age of household head in year	.0149523	0.377	.00101
Sex of household head	.4573448	0.246	.0285448
Marital status of household head	-.1331592	0.442	-.0089948
Education level of household head	-.1556393	0.353	-.0105133
Family size of household head in number	-.2823238	0.016	-.0190708*
Monthly Income	.0006625	0.000	.0000448 **
Monthly Expenditure	-.0003613	0.009	-.0000244**
Interest rate	-.1386461	0.744	-.0091219
Household access to credit	.8845356	0.022	.0711328*
cons	.2058093	0.821	

(Source: Stata result, 2021)

\*\* And\* represent significant at less than 1%, and 5%, probability level, respectively

### 4.3.2. Interpretation of econometric Analysis

From table 4.20, the regression result revealed shows variables that are positively related with the probability of saving are household head sex, age, credit access and monthly income. The variables that are negatively related with the probability of household saving are family size, monthly expenditure, interest rate, marital status and education level. In this table out of 9 independent variables, 4 variables: family size, credit access, monthly income and monthly expenditure have a significant effect on household saving at 1 percent and 5 percent. The negative values of explanatory variables in the table indicates that when the unit change in independent variable lead to decrease in probability of household saving.

### Marginal Effect for Logit Regression

The logit model we employed for regression analysis is not linear, the marginal effect of each independent variable on the dependant variable is not constant but it depends on the value of the independent variables. Thus, marginal effects can be a means for summarizing how change in a response is related to change in a covariate. For categorical variables, the effects of discrete changes are computed, i.e., the marginal effects for categorical variables show how  $P(Y = 1)$  is predicted to change as  $X_k$  changes from 0 to 1 holding all other  $X_s$  constant. Whereas for

continuous independent variables, the marginal effect measures the instantaneous rate of change, i.e. we compute them for a variable while all other variables are held constant. That means in this study change in the probability of household saving with a unit change in continuous independent variable. Thus, opposed to linear regression case, it is not possible to interpret the estimated parameters as the effect of the independent variable up on saving. However, see from above table 4.20, it is possible to compute the marginal effects at some interesting values of the significant explanatory variable.

### **Family Size**

The family size of household was negatively related with probability of household saving and the coefficient is statistically different from zero at 5 percent significance level. Holding all other variables constant at their mean values, when household family size increase by one, probability of households saving decrease by about 1.91%. This is result due to the fact that when family size increases with its existing high rate of fertility, less employment opportunity, weak work habit members of the family become unemployed and coupled with low rate of payment. Therefore, additional household member shares the limited resources that lead the household to save less. This result is consistent with the findings of Nigus (2015) regarding the influences of family size of household on saving behavior of households. food requirements increases with the number of persons in the household, food and non- food expenditure increases with increase in household size and this could reduce the saving of the household, which indicates that family size have a negative influence on saving of households. Also agree with Bendig et al. (2009), Family size affects household savings. There are men, women, young, and old people in household. It is not necessary that every member of household is taking part in economic activity. In some families, maximum members of family are working but most of the times, only single person is participating actively and rest of the members are dependent. In such circumstances, family size was to be negatively affecting household savings.

### **Monthly Income**

In this study monthly income of the household was positively related and coefficient is significantly different from zero at 1 percent level. Other things remain constant, when monthly income of the household increase by a unit, probability of household saving increase by 0.0045 percent. This is due to the fact that when income increases households' tendency to save increase

it means as income increase proportion of income saved also increases which are because share of income consumed decreases. This result is consistent with the findings of both *Hailesellasi* et al.( 2013) and Lidi et al.( 2017) regarding the factors of income of household on saving of households. An increase in incomes of households increases in saving and the amount they save and this could increase the saving of the household, which indicated that incomes have a positively related with household saving.

### **Monthly Expenditure**

Monthly expenditure of the household was negatively related and coefficient is significantly different from zero at 1 percent level. Other things remain constant, when monthly expenditure of the household increase by a unit, probability of household saving decrease by 0.0024 percent. This is due to the fact that when increases in expenditure of households decrease in saving and the amount they save. Therefore saving of households was less. This result is consistent with the findings of Rehman et al. (2011) regarding the influences of monthly expenditure on household saving. The increases in expenditure of households decrease in saving of the household saving and this could reduce the saving of the household, which indicated that monthly expenditure have a negative influence on saving of households.

### **Credit access**

One of the model variables in this study is households' access to credit. As it was hypothesized the variable is positively related and coefficient is statistically different from zero at less than 5 percent level. Holding other variables constant, when access to credit change from "no access" to "credit access" probability of saving increases at about 7.11 percent. The result was due to the fact that access to credit can increase an opportunity to invest and participate in different income generating activity which can enhance income and saving level at the same time. This result is inconsistent with the findings of Kibet et al.( 2009) regarding the influences of access to credit of household on saving behavior of households. According this result when got to an improvement in credit access will cause a reduction in saving, which indicates that access to credit have a negative influence on saving of households.

# CHAPTER FIVE

## 5. CONCLUSIONS AND RECOMMENDATIONS

### 5.1. Conclusions

The study was conducted to identify factors affecting households saving in Jimma town. Data for the study was collected from 354 household of residents from five Kebeles. To data analysis used to method descriptive and econometric analysis to identify the effect of explanatory variables on dependent variable.

With descriptive percentages, graphs, charts and tables were used to present factors affecting household saving. In logistic regression analyses the variables that are positively related with the probability of house hold saving are household head age, sex, credit and monthly income. The variables that are negatively related with the probability of house hold saving are family size, education level, marital status, interest rate and monthly expenditure. From nine explanatory variables, four of the variables: family size of the household, credit access, monthly income and monthly expenditure have a significant effect on households saving at 1 percent and 5 percent significance level.

The other factors affecting households saving in the study area are: inflation, there is not continuous occupation, religion, situation market, improperly use addiction or without plan to use it and increasing unemployment year to year.

### 5.2. Recommendations

Based on the above conclusion the following recommendations were forwarded.

Access to credit was positively correlated with household saving in the study area. It helps households to improve their participation in different activities and enhance productivity, create job, to smooth consumption flows but with a prior saving used as pre requisite to succeed for credit in the form of group lending delays credit access to households with lower income in the area. However, respondents find group lending inconvenient to access credit from MFI since they are rejected from the group by better offs on one hand and pre requisite saving requirement on the other. Therefore, accommodative credit policy should be employed; meaning that MFIs and other development agencies need to introduce credit policies targeting poorest of the poor.

The family size of household was negatively related with probability of household and households with large family save less whereas households with lower family size save more. The result is due to the fact that large family size resulted due to lack of awareness to family planning in the study area. Possible interpretation for the finding is for large family size, it is difficult to feed by one household head and their consumption level is greater than saving. Typically, large family size has the significant relationship with lower saving, an increase in the household size; the demand for household consumption increases and at the same time saving decreases. So that should be to give an aware of family planning to household saving in the study area. Therefore, low fertility result small family size.

Monthly expenditure of the household was negatively with probability of household saving. Show that the monthly expenditure increasing year to year of the respondents the reason an impact were coming from lack of control the market, change in the family size of household, foreign currency problems and other, but most monthly expenditure increasing year to year the matter come from lack of control the market 134(37.9) see from above table 4.11. In order to reduced monthly expenditure most of to controlled market, follow a careful monthly budget and to used a plan.

Income is the major determinant of saving then, due attention should be given to increase income of households. Income could be increased by implementing policies that increases the employment opportunities and reduce underemployment and concealed unemployment.

The data analysis the most of the respondent given response to save and explained that they had a potential to save but they didn't enough to save in this study area. There is a large gap between what they save and what they can save. The reasons impact come from: low income, high credit commitment, family expenditure commitment, high cost of living, lack of confidence on financial institutions. Also, inflation, occupation, religion, situation market, improperly uses addiction or without plan to use it and increasing unemployment year to year. In order to save or solve problems of saving: often compare prices before they make a purchase, consider whether the real necessity before make a purchase, always follow a careful monthly budget, the money available in the event of emergency, to reduce expenditure and to use plan.

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# Appendices

## Appendix –I

### Regression result

```

Logistic regression              Number of obs   =       354
                                LR chi2(9)       =       71.11
                                Prob > chi2        =       0.0000
Log likelihood = -117.34025      Pseudo R2      =       0.2325
    
```

saving	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
age	.0149523	.0169264	0.88	0.377	-.0182228 .0481275
sex	.4573448	.3938071	1.16	0.246	-.3145029 1.229193
marital	-.1331592	.1732494	-0.77	0.442	-.4727218 .2064034
educord	-.1556393	.167704	-0.93	0.353	-.4843331 .1730544
fasize	-.2823238	.1169949	-2.41	0.016	-.5116295 -.053018
income	.0006625	.0001314	5.04	0.000	.0004049 .0009201
expenditure	-.0003613	.0001387	-2.60	0.009	-.0006332 -.0000894
interestrate	-.1386461	.4244655	-0.33	0.744	-.9705831 .693291
credit	.8845356	.3851572	2.30	0.022	.1296413 1.63943
_cons	.2058093	.9095341	0.23	0.821	-1.576845 1.988463

. mfx

Marginal effects after logistic

```

y = Pr(saving) (predict)
= .92714242
    
```

variable	dy/dx	Std. Err.	z	P> z	[ 95% C.I. ]	X
age	.00101	.00116	0.87	0.384	-.001265 .003285	38.113
sex*	.0285448	.02293	1.25	0.213	-.016388 .073478	.285311
marital	-.0089948	.01184	-0.76	0.448	-.032206 .014217	1.32768
educord	-.0105133	.01143	-0.92	0.358	-.032919 .011893	2.51977
fasize	-.0190708	.00789	-2.42	0.016	-.034528 -.003614	2.4774
income	.0000448	.00001	4.96	0.000	.000027 .000062	6326.26
expend-e	-.0000244	.00001	-2.34	0.019	-.000045 -4.0e-06	5021.56
intere-e*	-.0091219	.02724	-0.33	0.738	-.062508 .044264	.725989
credit*	.0711328	.03689	1.93	0.054	-.001166 .143432	.711864

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



**APPENDIX-III**  
**JIMMA UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTMENT OF ECONOMICS**

**QUESTIONNAIRES DESIGNED FOR DETERMINANTS OF HOUSEHOLD SAVING:  
THE CASE JIMMA TOWN RESIDENTS JIMMA ZONE, OROMIA, SOUTH WEST  
ETHIOPIA, 2021**

**❖ General Instruction**

- Circle the number for the closed question
- Write short answer in black space
- Please tick ( √ ) in space provided

**Part I**

**A. Household characteristic information**

1. Age of household head \_\_\_\_\_
2. Sex of household head \_\_\_\_\_ 0) Male 1) Female
3. Marital status \_\_\_\_\_ 1) Married 2) Single 3) Divorced 4) Widowed
4. What is your level of educational \_\_\_\_\_?  
1) Illiterate 2) Primary education 3) Secondary education 4) Tertiary education and above

**B. Family size**

5. How many your family size at current time; \_\_\_\_\_?

**C. Income**

6. What is your average monthly income? \_\_\_\_\_ Birr
7. What is your main source of income? 1) From Salary 2) From Rent

3) From non-agricultural activities like, petty trading and catering services 4) Others, Specify \_\_\_\_\_

#### **D. Expenditure**

8. What is your monthly expenditure? \_\_\_\_\_ in birr

9. Is your monthly expenditure increasing year to year?

1) Yes            0) No

10. On question 9 if yes, what is the problem?

1) Lack of control the market

2) Change in the family size of household.

3) Foreign currency problems. 4) Others, Specify \_\_\_\_\_

#### **E. Saving**

11. Do you have a habit of saving?

1) Yes            0) No

12. On question 11 if yes how do you your saving habit is

1) Very bad 2) bad 3) Good 4) Very good 5) Excellent

13. What proportion of your income do you save in percent? \_\_\_\_\_

14. Where do you usually save your money?

1) Bank 2) Credit union 3) Iqqub 4) Home 5) Trusted Friend

15. When do you save?

1) Monthly 2) Weekly 3) Yearly 4) Any time

16. For what purposes do you save?

1) Food 2) Health 3) Education 4) House construction 5) Others, Specify \_\_\_\_\_

17. Are you increasing your monthly regular savings from time to time?

1) Yes 0) No

18. If the answer is no, what are the main reasons not to increase your monthly regular savings?

1) Income is low 2) High credit commitments

3) Family expenditure commitment 4) High cost of living

5) Lack of confidence on financial institutions 6) Others, Specify \_\_\_\_\_

#### **F. Interest rate**

19. Is the interest rate you get from saving?

1) Yes 0) No

20. On question 19 If yes, is how?

1) Satisfactory 2) Good 3) Very good 4) Excellent

21. How much Interest rate do you get from saving for one year in number?

1) 100–600birr 2) 601-1000birr 3) Greater than 1000 Birr

#### **G. Access to Credit**

22. Have you accesses to credits?

1) Yes 0) No

23. If yes, what was the purpose of taking the loan?

1) For trade 2) For household goods 3) House construction 4) For Consumption

24. Did you face any problem when you ask the loan? 1) Yes 0) No

25. If yes, what kind of problems have you faced?

1) Asset collateral 2) Personal Guarantees 3) Group Guarantees

4) Permitted less amounts from what you have asked 5) others (please specify) \_\_\_\_\_

**Part II**

**For questions 26 to 40 tick under; 5=strongly Agree, 4=Agree, 3=undecided, 2=Disagree, or 1=strongly Disagree**

	<b>Suggestions of the respondents on improve the saving</b>	1	2	3	4	5
26	In order to save, I often compare prices before I make a purchase					
27	In order to save, I often consider whether the real necessity before I make a purchase.					
28	In order to save, I always follow carefully monthly budget.					
29	I always have money available in the event of emergency					
30	In order to save, I plan to reduce my expenditure.					
31	I save to achieve certain goals					

	<b>Households were given suggestion on access to credit.</b>					
32	I obtain interest rate from it					
33	I get loan and easily access to credit, I will create a job opportunities and then my saving ability will be improved.					
34	It increases how to create alternative business opportunities.					
35	Used for household consumption					
36	Eventually it creates investment.					

	<b>Households were a response idea on the income</b>					
37	Properly awareness on income is used to improve an existing of saving					
38	Full of information in the line of income generating activities					

	<b>Suggestions of the respondents on the problems of expenditure</b>					
39	Increasing expenditure without additional income reduced saving					
40	As day to day expenditure increases without additional income, it reduces					



	saving						
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**Part III**

41. Write any other comment on the following provided space regarding on the impact of determinant on household saving in your town or on you?

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This is the end of my questionnaire. Thank you again for participating in this study!