The determinants of saving behavior among household in Bishoftu Town, 2024

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Abstract

This research aimed to investigate the determinants of household saving behavior in Bishoftu town, Oromia region. A Survey design was chosen for this research, utilizing both primary and secondary sources of data. A simple random sampling technique was employed to select 65 respondents. The study examined the influence of demographic characteristics such as age, sex, family size, and marital status on saving patterns. Additionally, correlation analysis and multiple regression models were used to explore the relationships between income, consumption, education, age, marital status, sex, occupation, and savings.

Based on the discussion part there are factors which describe the demographic characteristics of the Households. Among this determinants some of them are significantly affect the saving patterns of Households. These demographic characteristics are; age, sex, family size and marital status but family size is a significant determinant variable. The multiple regression models revealed that approximately 69% of the explanatory variables, obtained from the final regressed value of R-square=0.697, explain household saving behavior. The remaining 31% are likely influenced by unseen factors. The analysis confirmed a negative relationship between family size and savings ($p = 0.018$), as well as between consumption and savings ($p = 0.002$). On the other hand, income exhibited a highly positive influence on savings ($p < 0.001$). Factors such as education, age, marital status, sex, and occupation did not have a statistically significant impact on saving behavior in this study. However, the research highlighted the low saving patterns observed in the communities, which were attributed to low occupational status, low income, and high consumption levels. Constraints affecting household saving behavior included limited access to saving and credit institutions, low awareness of saving patterns, inadequate educational opportunities, low community income levels, and neglect of health status.

Keywords: Household, Saving, Determinants of saving, Income, Consumption.

INTRODUCTION

Ethiopia, a developing nation, has experienced a consistent increase in its national saving rate since independence, although significant year-to-year fluctuations exist. This study focuses on the determinants and patterns of saving behavior among rural Household in Ethiopia, a crucial aspect of the country's economic growth and development (Tesfaye, 2021).

Saving, a cornerstone of economic well-being plays a vital role in both individual and national prosperity. Classical economists, including Adam Smith, David Ricardo, and J.S. Mill, recognized saving as a crucial driver of economic growth. Savings serve as a safety net for individuals, providing a cushion against unforeseen circumstances and uncertain futures. Furthermore, higher savings contribute to a higher marginal propensity to save, which is essential for the multiplier process and overall economic growth (Berassa, 2018).

However, significant disparities exist in saving patterns between rural and urban regions. While saving is a critical variable for economic growth in any nation, poor countries like Ethiopia face a stark reality of a savings and investment

gap. This gap hinders their ability to finance necessary investments for growth through domestic savings (Taddese, 2017).

As a result, these countries often rely on short-term solutions like domestic government borrowing or foreign loans and grants. However, these measures can lead to increased debt burdens and are not sustainable long-term solutions. Despite the significance of savings and investment, these variables are often overlooked in development interventions, particularly in Africa, and Ethiopia in particular (Abamagal, 2019).

This oversight stems from several factors: limited research focusing on developing economies, resulting in inadequate understanding of the unique challenges in these contexts; overreliance on macroeconomic approaches, neglecting the potential differences between individual and aggregate saving behavior; and inconsistent and inconclusive findings from existing empirical research on rural Household savings and investment in Africa (Abokyi, 2021).

The saving level in Ethiopia, particularly in rural areas, remains low, and empirical understanding of its patterns and determinants is limited. According to (Melkamu, 2020), Rural savings in Ethiopia primarily stem from agricultural activities, characterized by seasonal and irregular cash flows from agricultural produce and limited access to consistent work. This volatility makes it challenging for rural Household to accumulate savings or effectively respond to incentives promoting savings.

However, rural Household do engage in saving, both in the form of tangible assets and financial instruments, which hold significant potential for utilization by savings institutions and investments. This study aims to assess the determinants of saving behavior among Household in Bishoftu town, specifically examining their saving patterns and identifying the major factors that affect their saving behavior. This study aims to assess the determinants of saving behavior among Household in Bishoftu town, specifically examining their saving patterns and identifying the major factors that affect their saving behavior. The research will address the

following questions: What is the saving status of Household in Bishoftu town? What are the major determinants of saving behavior among Household in the study area?

Scope and limitation of the study

The study was conducted in Bishoftu town that focus on the determinants Household of saving behavior assessment. The limitations that faced during the study were, mainly in the collection of data which are relevant to my study. In collecting data, absence of relevant, accurate and specified secondary and primary data in the study area were one of the obstacles to analysis. It is focused on identifying the determinant factors that force people to their saving behavior and using saving of institutions. In this area; As far as the time limit is concerned these studies were focuses on the current situation of Households of saving.

Significance of the study

There are not many studies conducted or available relating to the determinants of saving pattern of the rural and semi urban people of Ethiopia at the micro level. Most of the studies on saving pattern of rural and semi-urban people are based on secondary data which sometimes does not prove to be adequate for the study. Most of the data available does not serve the needs of Ethiopia in a ground level prospective. The study was taken on pattern of saving in the Households behavior that provides an important indicator for economic development of the country. This study was also help to define the factors influencing the saving pattern and to analyze certain constraints in the saving attitude in the rural and semi-urban areas.

The conceptual framework

The conceptual framework for the study is presented below Figure 1

RESEARCH METHODOLOGY

Research Design

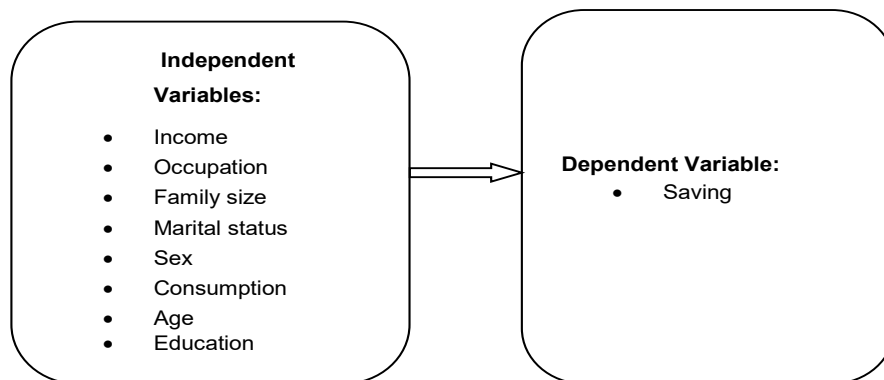This study employs a descriptive research design. The

Figure 1. Conceptual Framework of the Study Source: owns design, 2024.

primary objective is to comprehensively explore and elucidate the prevailing saving patterns and behaviors among household residing in Bishoftu town. The research focuses on systematically gathering data to provide a detailed account of the current state of Household saving practices within this specific context. This approach aims to generate a thorough understanding of the existing landscape of Household saving behavior in Bishoftu town without manipulating variables or testing hypotheses (Gorard, 2013).

Research approach

This research utilizes a mixed methods approach, integrating both quantitative and qualitative data collection techniques to provide a comprehensive understanding of Household saving behavior in Bishoftu town (Creswell, 2013). The quantitative component focuses on gathering numerical data regarding income, saving amounts, and consumption patterns, providing a measurable understanding of saving practices. Complementing this, the qualitative component delves into the underlying motivations, perceptions, and factors that influence saving decisions among Household, providing rich insights into the "why" behind observed patterns. By combining these approaches, the study aims to capture a nuanced and multifaceted picture of Household saving behavior in Bishoftu town, encompassing both the measurable aspects and the underlying motivations driving these practices.

The target population

The target population of this study encompasses all household residing in Bishoftu town, Ethiopia. This demographic encompasses a significant segment of the Household population and is considered relevant for understanding current saving behaviors and influencing factors (Kothari & Wathen, 2013). Additionally, the study may delve into specific segments of this target population, such as Household who are employed or actively seeking employment, or those enrolled in educational institutions. These sub-groups offer valuable insights into how economic status, educational pursuits, and other factors shape saving practices among Household in Bishoftu town.

Sampling Technique and Sample size

The sample size for this study was 65 Households, selected from a target population of 100 Households in Bishoftu town. The sample size was determined using the simplified formula developed by (Yamane, 1967) at a 95% confidence level. The formula used was $n = N/1 + N(e)^2$, where N was the target population and e was the significance level. However, due to constraints such as time, budget, and distance factors, the sample size was reduced from the calculated 80 to 65.

The sampling technique employed was purposive sampling due to the proximity of the study area to the campus, facilitating data collection. To ensure accuracy and validity of information, simple random sampling was used to avoid bias in the selection process. The study involved both male and female heads of Household households in various sectors such as farming, government employment, and private sectors. The research design was descriptive, and a cross-sectional study was conducted to investigate the determinants of household saving in Bishoftu town. Data were collected from the randomly selected respondents using the conceptual structure of the study Table 1.

Data Collection Methods

The study utilized a combination of quantitative and qualitative data collection methods to gather information on the determinants of household saving in Bishoftu town. The main instruments used for data collection included questionnaires, interviews, organizational documents for quantitative data, and key informant interviews for qualitative data.

Quantitative research was conducted to provide an overview of the monthly and yearly income earned by Households, the amount allocated for saving, and the portion dedicated to consumption. On the other hand, qualitative research aimed to delve deeper into the reasons behind Households' saving behaviors.

The primary data collection sources included focus group discussions and individual interviews with selected respondents. Questionnaires were designed with a mix of structured and open-ended questions to gather relevant information. Interviews were conducted to obtain detailed insights into Household saving behaviors, factors influencing these behaviors, and income levels.

Secondary data was also collected from various sources such as annual reports, internet resources, and published and unpublished documents to complement the primary data. Before administering the structured interview schedules, respondents were briefed on the survey objectives. The interview schedule was pre-tested with non-sample respondents to refine it for the actual data collection process. Two enumerators were trained to ensure

Table 1: Sample distribution of Respondents.

	Bishoftu town
Target of Households	100
Sample size selected	65

consistency in data collection procedures. In addition to structured interviews, data was supplemented with focus group discussions involving small groups of both male and female participants randomly selected from Bishoftu town.

Key informant interviews were conducted with four individuals knowledgeable about the study area, including elders, experts from Bishoftu University, and development agents working in the kebele. These interviews provided valuable insights into various aspects such as Household awareness of saving practices, access to financial institutions, and saving patterns in Bishoftu town. Checklists were used during focus group discussions to maintain focus and control the flow of ideas. The data collected through these methods helped in understanding the dynamics of Household saving behavior in Bishoftu town comprehensively.

METHODS OF DATA ANALYSIS

In this study both descriptive and econometric analyses were used to conduct determinants Household of saving behavior. An econometric model was used to identify factors affecting the saving of Households behavior data collected from a cross-section of samples. To describe the characteristics of Households who have saving behavior' descriptive statistics like mean, percentage and frequency was employed.

Analysis of Descriptive Statistics

Descriptive statistics describe the main features of a collection of data quantitatively. It aims to summarize a data set quantitatively. Descriptive statistical was used to describe coefficient of variation, standard deviation, etc.

It was trying to use the descriptive statistical analysis simply to describe what is going on in the data and to present the quantitative description of the Households. For descriptive statistical analysis, it has used percentage, average, minimum and maximum values to the quantitative data numerically.

Econometric Analysis

To analyze the determinants Household of saving behavior multiple linear regression models of OLS (ordinary least square) estimation was used. It is an essential method of econometric analysis to recognize and realize patterns of the influencing factors. The most important variables that was determine Households to save include family size, age of the Household, monthly income, gender, primary occupation, marital status, Household consumption level and level of education According to (Waja, (2017) inferential statistics allows to infer from the data through analysis the relationship between two or more variables and how several independent variables might explain the variance

in a dependent variable. The following inferential statistical methods has used in this study.

Linear regression is a method of estimating or predicting a value on some dependent variable given the values of one or more independent variables. Like correlations, statistical regression examines the association or relationship between variables. Unlike correlations, however, the primary purpose of regression is prediction (Asiedu & Gyadu-Asiedu, 2020). In this study multiple regressions have employed. Multiple regression analysis was considering the inter-correlations among all variables involved. They added multiple regression analysis, which means more than one predictor is jointly regressed against the criterion variable. This method is used to determine if the independent variables were explaining the variance in dependent variable.

The equation of regressions on this study was generally built around two sets of variables, namely dependent variable (saving) and independent variables (age, family size, education, occupation, income, sex, consumption and marital status,). The basic objective of using regression equation on this study was to make the study more effective at describing, understanding and predicting the stated variables.

MODEL SPECIFICATION

The econometric model specified for the study includes the following variables:

$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8$

Where:

Y_i = amount of saving in monthly (or yearly) basis

β_0 = the constant term

X_1 = age of the Households

X_2 = family size

X_3 = income

X_4 = gender (sex)

X_5 = primary occupation

X_6 = level of education

X_7 = marital status

X_8 = Household consumption level

The model aims to investigate the relationship between the amount of saving and the specified independent variables, including age, family size, income, gender, and primary occupation, level of education, marital status, and Household consumption level. The coefficients (β_1 to β_8) represent the impact of each independent variable on the amount of saving, holding other variables constant.

DEFINITIONS OF VARIABLES AND HYPOTHESIS

Dependent variable

Saving: is a basic instrument in the improvement of Household's life or in the poverty alleviation effort as it helps to smooth consumption. It is also usually the entry point for a potential user in interacting with financial service providers. The saving of the Households in the study area was asked. Hence, due to low saving Households, the vital role of financial capital seems inadequate. When individuals have saved some amount of money, the performance of their income becomes improved. More saving money would mean more capital (James, 2015).

Independent variables

Income: were approached from expenditure side and saving. This is because Households are assumed to reveal their true behavior when they are asked about their expenditure. Thinking that they will be reluctant to reveal their actual income, their expenditure on both food and essential non-food items are considered. And a monetary value is attached to each to have an aggregate indicator. In this study, it is assumed to be used to know who more saved in the sectors and the more is saved would mean the more income he/she has generated. Consumption is typically measured by total expenditures, which track the value of money, time and assets spent on both food and non-food goods and services (Demise, 2011).

Age: Study findings supports consideration of age of an operator as a factor that may affect firm survival and growth.

Sex: Sex of a respondent is one of the variables that can be considered in the model, being categorized as (0) female (1) male.

Education: Education and skills are needed to run micro and small enterprises. Research shows that majority of the lot carrying out micro and small enterprises in Ethiopia are not quite well equipped in terms of education and skills. Older, more educated owners seem to have a better chance for business success than younger and less educated people. There is a believed that older people bring more maturity to

a situation and those with more education also have more experience to save. This means when educational status of Households increases, their income increases significantly. Studies are also asserted that the more educated people become successful in their business (Ayalu, 2016).

Family size: When the number of family size of the Household increases their saving, performance is declined. They consume more rather than to save. The most probable explanation could be more family size could mean they consume more and decrease their Income and they do not motivate to save (Cameron, 2011). In addition, when family size increases, their income also increases.

Occupation: is a task or an employment whether governmentally or privately in order to safeguard the life time of oneself. It is one of the determinant factors in the saving of the community.

Marital status: It is one of the determinant variables that influence the saving of Household is subject to test i.e., to confirmation or rejection on empirical grounds Table 2.

RESULT AND DISCUSSION

This chapter analyses the result of the determinants to develop Household of saving behavior by using descriptive statistics and econometrics model (multiple linear regression). The former were used to description purpose while the later was used to analyze determinates of Household of saving. Under this section there are demographic characteristic factors which describe the total background of the respondents. Such factors are; age of respondents, sex, marital status and family size.

Demographic characteristics of respondent

Age Groups

Table 3 Age is the most determinant factor that affects Household of saving positively. As discussed in the above description, from the total observation the average of the respondent's age is 29. From this observation minimum age 20 and maximum age 50. Among this, most of the respondents are falling under the age of 20-30, those who are the more productive stages. And also from the graphical

Table 2: Hypothesis.

Determinants of saving	Continuous	Categorical	Effects of each factor on Household saving behaviors
Income			Positively
Occupation			Positively
Family size			Negatively
Marital status			Negatively
Sex			Negatively
Consumption			Negatively
Age			Positively
Education			Positively

description (Figure 2), the least Number of respondents falls under the age of 40-50. Respondents under this age save higher relative to others. Because age affects saving of Households positively that means if the age of Households increase, the amount they save also increases Table 4.

Out of the sample Households taken for the study 60% are male and 40% are female. Under those respondents 35 of them are males and 30 of them are females. The sex of the head of the Household emphasizes the impact of saving as it is shown that the male population are more and suppose to involve themselves in different occupational status are inclined to save more. The sex of the population determines the income to as larger extent as the wage paid to male population is more than that of female population which is again reveals the differences in the saving behavior of the population. The consumption pattern also signifies the differences in saving.

Marital Status of the Respondents

Marital status is also factors that affect Household of saving positively, i.e. unmarried respondents save more than married people. The marital status of the respondents and the head of the Households also determine the saving behavior of the rural Households. The married population is subjected to more liabilities which discourage them to save more as role in the model of saving pattern. From the above description 34% of respondents married and those 66% of respondents are unmarried, who have higher saving habit than married respondents. From the total respondents 42 of them are unmarried and 23 of them are married Table 5.

Family Size

Table 6 Family size is one of the continuous variables that affect Household of saving. That means if the number of

Table 3: Age of Respondent.

Variable	Obs.	Mean	Std.dev.	Min	Max
Age	65	29	6.930389	20	50

Source: Survey result 2024
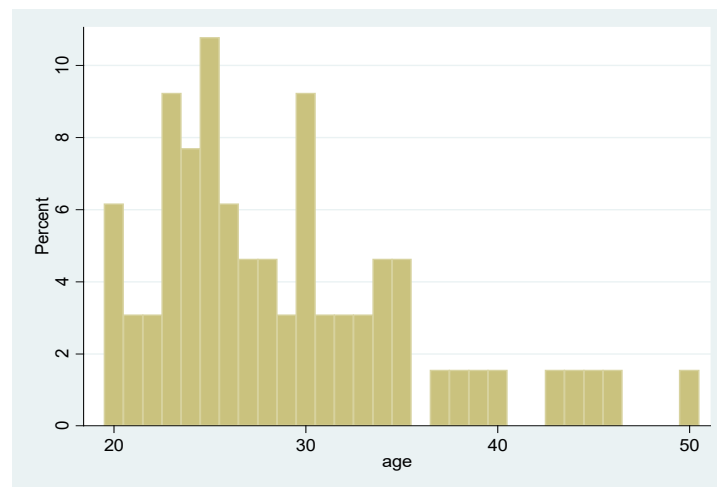
Figure 2: Description of age of the respondent.

Table 4: Sex of Respondent.

Sex	Freq.	Percent	Cum.
Female	30	40	46
Male	35	60	100
Total	65	100	

Source: Survey result 2024

Table 5: Marital Status of Respondent.

Marital Status	Freq.	Percent	Cum.
Unmarried	42	66	64
Married	23	34	100
Total	65	100	

Source: Survey result 2024

families increase they runs to consume more instead to save. Large Household size could lead to increase in non-farm business expenses such as payment of school fees, hospital bill, clothing, feeding as well as the purchase of other Household consumable items. This could detrimental to increase production in the rural and semi-rural economy, a disinvestment resulting from un-saving. As we can see from the statistical description the average number of families from the total observation is about 5 members from which maximum number of families are 13 and minimum number are 1 members. From the above graphical description most of the respondents have 0-5 family members and a small number of respondents have 10-15 family members those who develop their saving habits figure 3.

In addition to the above categorical variable, the following are the description of all continues variables Table 7.

Household Income and Expenditure Patterns

Table 8 This survey result shows that the average income of the respondent is 1900birr with standard deviation of birr 1167.969 with maximum earning of 6000 birr and minimum earning of 190 birr per month. The respondent who has higher income saves more than respondents that has less income. Savers have higher on-farm as compared to their counterparts. The total consumption expenditure of sample Households ranged from Birr 100 to 3200per month and the mean expenditure was 1380 birr with standard deviation of 884.352. From all the expenditures of sample Households, expenditure for food items, farming inputs, non-food items and ceremonial purposes are the major one on which the respondents spend their incomes.

Correlation matrices

Table 9 As above tables shows correlation analysis revealed a strong positive correlation (r=0.7436) between income

Table 6: Family size of the respondent.

Variable	Obs.	Mean	Std.dev	Min	Max
Family size	65	5	2.900845	1	13

Source: Survey result 2024
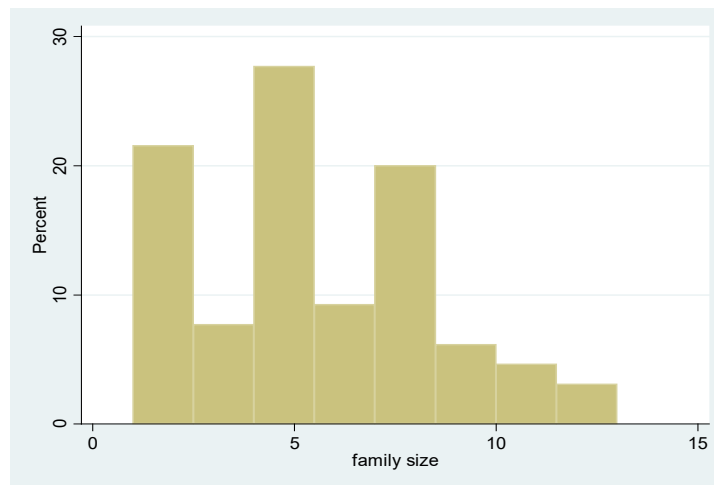
Figure 3: Description of family size of the respondent.

Table 7: Summary of all Continues Variable.

Variable	Mean	Std Dev.
Age	29	6.930389
Family size	5	2.900845
Income	1900	1167.969
Consumption	138	884.352

Source: Survey result 2024

Table 8: Income and consumption of the Households.

Variable	Obs.	Mean	Std.dev.	Min	Max
Income	65	1900	1167.969	190	6000
Consumption	65	1380	884.352	100	3200

Source: Survey result 2024

Table 9: Correlation matrices.

(obs. = 65)	Saving (Y)								
65	1.0000								
Education	-0.0609	1.0000							
Age	0.3245	-0.1052	1.0000						
Marital status	0.5754	-0.0944	0.2821	1.0000					
Family size	-0.5148	0.0007	-0.1527	-0.5702	1.0000				
Occupation	0.2109	0.1028	-0.0762	0.1359	-0.0359	1.0000			
Sex	0.4863	-0.0915	0.3138	0.6851	-0.4198	0.1198	1.0000		
Income	0.7436	-0.1231	0.4505	0.5711	-0.3519	0.231	0.5863	0.5152	1.0000	
Consumption	0.5258	-0.1369	0.4543	0.4629	-0.2476	0.1664	0.5575	0.4966	0.76	1.0000

Source: Survey result 2024

and savings, indicating that higher earners tend to save more. A moderate positive correlation was observed for marital status (r=0.5754) and sex (r=0.4863), suggesting married individuals and one particular sex (requiring further clarification based on variable coding) tend to report higher savings. Conversely, family size showed a moderate negative correlation (r=-0.5148), implying that larger families might have reduced saving capacity. Age (r=0.3245) and occupation (r=0.2109) displayed weak positive correlations with savings, while consumption exhibited a moderate positive correlation (r=0.5258), possibly reflecting higher saving and spending among those with greater incomes. Interestingly, education demonstrated a very weak negative correlation (r=-0.0609), prompting further investigation into this unexpected relationship.

Econometric Analysis

In this section, we focused on the econometric analysis of saving behavior and other significant independent variables. Saving was influenced by various factors, which could have had a positive or negative impact and varying levels of significance in econometric analysis. By examining the following econometric equation, we were able to identify the factors that had a significant impact on the saving habits of households.

$$Y = \beta 0 + \beta 1_{EDU} + \beta 2_{AGE} + \beta 3_{MAR\_STA} + \beta 4_{FAM-SI} + \beta 5_{OCCU} + \beta 6_{SEX} + \beta 7_{INC} + \beta 8_{CONSu} + e_u$$

Where;

$\beta 0$ = constant term

EDU= education

AGE= age

MAR-STA= marital status

FAM-SI= family size

OCCU= occupation

SEX= sex

INC= income

CONS= consumption

e_u = error term

Table 10

Number of obs= 65

R-squared= 0.6954

Adj. R-squared= 0.6519

Mean VIF= 2.61

The final econometrical regressed question for significant variables expressed as follow;

$$Y = 80.90088 - 33.08764_{famsize} + 0.4079191_{income} - 0.2729015_{consumption}$$

Table 11 The above table indicates the final results that carry out the final research proposal in order to identify the determinants to develop Household habits of saving in Haromaya town. As it can see from the above result there are significant and insignificant factors and also the R-square value is 0.693 that means 69% of the model is good BLUE (best linear unbiased estimator). In other word almost 69% of the independent significant variables describe the dependent variable. But the other 31% of the factors which are not seen but they affect the dependent variable at 1% significance level. And also from the above question, the standardized beta coefficient column shows the contribution that an individual variable makes to the model. The VIF values of all continuous and demy variables in the model are much less than 10 that shows that there is no problem of multi-co linearity, but if the VIF value is greater than 10 there may be Multi-co linearity problems.

A total of 8 explanatory variables were considered in the econometric model out of which 3 variables were found to be significantly influence the saving performance (habit) of the sample Households. These variables were found to have significant influence on the amount savings for the whole respondents. Among this there are three significant variables those affects saving positively and negatively. Such variables are family size, income and consumption.

Table 10: The final regressed (econometric) result of the whole factors.

Y	Coef.	Std. Err.	T	P>|t|
Education	3.902	65.50251	0.06	0.953
Age	2.013	5.308583	0.38	0.706
Marital status	56.781	104.9558	0.54	0.591
Family size	-33.088	13.54521	-2.44	0.018*
Occupation	29.676	67.90705	0.44	0.664
Sex	0.234	93.96288	0	0.998
Income	0.418	0.066563	6.13	0.000*
Consumption	-0.273	0.081911	-3.33	0.002*
Cons	80.9	175.0658	0.46	0.646

Source: Survey result 2024

Table 11: VIF (variance inflation factors) of factors.

Variable	VIF	1/VIF
Income	5.96	0.167664
Consumption	5.18	0.193124
Marital status	2.52	0.396163
Sex	2.2	0.454739
Family size	1.52	0.656372
Age	1.34	0.748683
Occupation	1.13	0.882418
Education	1.04	0.957636

Source: Survey result 2024

The Most Significant Factors Which Affect Household of saving behaviors

In order to identify the most determinant variables in this study, an attempt has been made by using multiple linear regression methods. Before estimating the chance of the event using multiple regression model, goodness of fit of the model and multi-co linearity diagnoses were made.

Multi-co linearity Problem

Before interpret the result, it is necessary to check whether the variables have multi-co linearity problem or not.

As it can producing multiple correlations and regression model it needs to be aware of certain features of the multi-co linearity. That means, when two or more independent predictors are highly correlated with each other this is known as multi-co linearity. In order to identify the multi-co linearity problem of the quantitative variables researcher used VIF (variance inflation factor). As general rule of thumb, the VIF of each quantitative variable less than 10 indicates the absence of series problem of multi-co linearity in the regression equation as indicated in the above Table 11.

Goodness of Fit

One of the techniques used to assess the goodness of fit of a model is R square and T-test. The test is used to accept or reject the alternative hypothesis "the model adequately describes the data". If the significance level of the test is less than 0.05, it indicates that the alternative hypothesis is rejected and the null hypothesis is accepted. In the case of this study, the significance level of the test was found to be less than 0.05 (Table 12). The R square is also greater than 50%.

Number of abs= 65

$F_{(8, 56)}$ = 15.98

Prop > F= 0.0000

R-squared= 0.6954

Adj R-squared= 0.6519

Root MSE= 254.67

The Coefficient analysis revealed several significant determinants of household saving behavior. A statistically significant negative relationship between family size and savings ($p = 0.018$) was confirmed, indicating that larger families may face greater consumption demands, leaving less income available for saving. For each additional family member, savings decreased by approximately 33 Birr, as reflected in the coefficient of -33.08764. Consumption levels also played a significant role, with a statistically significant negative relationship between consumption and savings ($p = 0.002$), implying that higher consumption leads to lower savings. The coefficient of -0.2729015 indicates that for each unit increase in consumption, savings decreased by approximately 0.27 Birr. Conversely, income exhibited a highly statistically significant positive influence on savings ($p < 0.001$), confirming the expected pattern of higher earners

saving more. The coefficient of 0.4079191 implies that a one-unit increase in income led to an approximate 0.41 Birr increase in savings. However, education, age, marital status, sex, and occupation were not statistically significant predictors of saving behavior in this study, suggesting that these factors did not have a consistent influence on saving patterns within the context of this research Table 13.

This survey result shows that the average income of the respondent is1900birr with standard deviation of birr 1167.969 with maximum earning of 6000 birr and minimum earning of 190 birr per month. The respondent that who have higher income saves more than respondents that have less income. Savers have higher on-farm as compared to their counterparts.

The total yearly consumption expenditure of sample Households ranged from Birr 100 to 3200per month and the mean expenditure was 1380 birr with standard deviation of 884.352. From all the expenditures of sample Households, expenditure for food items, farming inputs, non-food items and ceremonial purposes are the major one on which the respondents spend their incomes Table 14.

Reasons for Savings

Why do Households save their valuable money that they not spend on food, water, and other daily expenses? None of the members choose earning interest as a motive to save, from different alternatives. Unlike what is assumed in

theory, Households not only save for future consumption but also for future investment. This may explain the reason for insensitivity of saving to interest rates as found in numerous empirical studies. If the Households have the opportunity to deposit money at cooperative, their prime reason is not the inter-temporal substitution motive-earning interest but simply to have access to loan and stored safely. This concurs with the studies by Ajah et al., (2017) showing that interest on savings does not motivate saving amongst rural Households. The three most common saving motives for both men and female members were: to obtain loans, for emergencies and for housing building. The propensity to save to obtain loan and for emergencies correspond with the result of the study of Karlan, et al., (2017) about micro saving in Philippines, which was also for emergencies and loan. These results show that poor Households need different types of deposits to deal with different needs. Accessible products such as the voluntary saving accounts allow withdrawals at any time for emergencies, and compulsory saving accounts enable Households to accumulate money for expected expenses, such as to obtain loans and housing building.

Determinants of Savings among Households

The preceding section has provided some descriptions concerning the relations between saving and household socio-economic variables. However, the weakness of the descriptive statistical analyses is that each determinant has

Table 12: Regressed tables.

Source	SS	DF	MS
Model	8290575	8	1036322
Residual	3631939	56	64856
Total	11922513.8	64	186289

Source: Survey result 2023

Table 13: Test of coefficients.

Y	Coef.	Std. Err.	T	P>|t|	95% Conf. Interval	
Education	3.91193	65.5025	0.06	0.953	-127.3054	135.1292
Age	2.01247	5.30858	0.38	0.706	-8.621903	12.64684
Marital status	56.7806	104.956	0.54	0.591	-153.4712	267.0323
Family size	-33.0876	13.54521	-2.44	0.018	-60.22196	-5.953322
Occupation	29.67569	67.90705	0.44	0.664	-106.3585	165.7099
Sex	0.235095	93.96288	0.000	0.998	-187.9952	188.4654
Income	0.407919	0.066563	6.13	0.000	0.2745772	0.541261
Consumption	-0.2729	0.081911	-3.33	0.002	-0.4369888	-0.1088142
Cons	80.90038	175.0658	0.46	0.646	-269.7986	431.5994

Source: Survey result 2023

Table 14: Total descriptions of significance variables.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Family size	65	5	2.90085	1	13
Income	65	1900	1167.97	190	6000
Consumption	65	1380	884.352	100	3200

been calculated without varying other determinants. This section analyzes the determinants of Household savings behavior with binary logit model estimation technique that takes the effects of all determinants at the same time in to account. (Table 10) shows the regression estimates for determinants of savings by Households. The explanatory power of regression model is measured by R2 (0.69), shows that 69 % of the variations in members net saving were explained by explanatory variables included in the model. The coefficient of total Household monthly income (THI) was significant and positively related to savings. Results show that one Birr increase in income tends to raise Household savings by 0.4087 Birr because Households' capacity to save increases with rise in income level.

The study were found by Njung'e, (2013); Bashir, (2017); Markos, (2015); Stephan and Schrooten, (2019) showing that income positively influences Household savings. The results of the study also show that Household savings were affected by gender. Considering the gender dummy, we conclude that men Households save more than women Households. Consistent with several empirical studies Linh, et al., (2020), this finding suggests that the level of saving among rural Household positively related with credit.   In this study, the Household family size does have significant impact on savings. The coefficient of this variable is negative but significant at 1%. It can be interpreted, as a rise of one family member is associated with decline of savings by 33 Birr. It is socially evident as well that only one person is responsible for all type of financial matters for the family in this study area.

If family size is much large Households cannot save much amount of money than having small family size. Family size is also a major cause of fewer saving. This result is consistent with Idrees, et al., (2020), which suggests that the larger the Household size, the higher the expenditure and the smaller the amount of saving by the Household.

Income and Saving Pattern of the Households

Income is an important determinant of the saving patterns of the rural Households. Income is a positive factor that analyses the savings of a country or a Household. The rural Households experience a very low level of income as many of the rural families earn their livelihoods from the agriculture, many are daily wage workers, petty traders and other self-employed activities. The level of income is very low but the marginal propensity to consume is very high among the Households. So, the saving rate of those Households is very low.

As seen the data get from Oromia credit and saving institution (OCSI) in the study area, Most of the Households do not accrue a sufficient level of income which makes on their part to borrow some amount of money to sustain

their livelihood. Very less people often take loans from the financial institutions. Out of fear and incapability of repaying the loan most of the Households do not take any loans. As the survey study shows that 74 percent of people have not taken any loans from any financial institutions and only 26% (percent) of the Households have taken loan.

Contribution of Income towards Savings

Income is an important determinant of saving. Income is positively related with savings. When the income of the individuals increases, savings also increases and when the income of the individuals decreases the rate of savings also decreases. The change in income signifies the changing growth rate in savings. The present study revealed that 390 Birr is the average amount that an individual saves out of his related income. The more the amount, the more is the standard of savings.

Change in Savings

Savings contributes a positive relation with the income of the Households. If the income increases the savings also increases and vice versa. There may be a lot of fluctuations experienced in the savings, investment and in owing the physical and financial assets of a Household.

Investments in unincorporated business, professional practices, farms or rental properties including major improvements, for example land improvements and share in the case of partnership, increase or decrease in cash held in accounts in banks, trust or loan companies, and cash in hand in form of savings, increase or decrease in money owed to Households by Persons outside Household, increase or decrease in money deposited in banks and other institutions for future security are estimated to examine the change in the savings rate.

Mode of Savings of the Individuals

Most of the rural people have awareness towards saving, but their saving does not much develop. Saving may be in form of physical or financial. In the study areas most of the people save in the form of cash. As we can see there are no peoples to use different forms of saving like; in the form of liquid asset or cash in hand, some save in form of gold, silver, and other precious metals, rather they use in cash form.

Savings and Accounts Available at the Financial Institutions Where People Save

As the study survey information from Oromia credit and saving institution (OCSI) the financial institutions available nearby encourages the people to save where the preference of saving over a year signifies short term, middle term and on a long term basis where short term saving accounts to daily, monthly and quarterly and medium term saving

accounts to half yearly, yearly and more than one year where as long term saving are applied on a two year, five year and on above five year basis. But most of the people's interest and preference towards the amount of saving in different period is below 400 birr. As the survey result some of the Household saves in weekly and some of them save monthly.

The Main Constraints in the Household of saving behaviors in the Study Area

Constraints are obstacles which resists something or someone from doing specific tasks. There are constraints which faces the Household performance of saving in the study area. This problems are governmental, social and economical and others. Such problems are; backward awareness of Households, less education levels, insufficient income earning power of the community, lack of adequate infrastructure, insufficient accessibility of saving and credit institutions etc the major once which are surveyed in the study area.

CONCLUSION

This research aimed to investigate the determinants of household saving behavior in Bishoftu town, Oromia region. The study examined the influence of various demographic characteristics, such as age, sex, family size, and marital status, on saving patterns. Additionally, correlation analysis and multiple regression models were used to explore the relationships between income, consumption, education, age, marital status, sex, occupation, and savings.

Based on the discussion part there are factors which describe the demographic characteristics of the Households. Among this determinants some of them are significantly affect the saving patterns of Households. These demographic characteristics are; age, sex, family size and marital status but family size is a significant determinant variable.

The multiple regression models revealed that approximately 69% of the explanatory variables, obtained from the final regressed value of R-square=0.697, explain household saving behavior. The remaining 31% are likely influenced by unseen factors. The analysis confirmed a negative relationship between family size and savings (p= 0.018), as well as between consumption and savings (p= 0.002). Income, on the other hand, exhibited a highly positive influence on savings (p< 0.001).

Factors such as education, age, marital status, sex, and occupation did not have a statistically significant impact on saving behavior in this study. However, the research highlighted the low saving patterns observed in the communities, attributed to low occupational status, low income, and high consumption levels. Constraints affecting household saving behavior included limited access to saving and credit institutions, low awareness of saving patterns, inadequate educational opportunities, low community income levels, and neglect of health status.

RECOMMENDATION

Based on the findings of the study on the determinants of household saving behavior in Bishoftu town, the following recommendations are proposed to improve savings patterns and promote sustainable economic development:

The government and relevant organizations should provide family planning services to households to help them manage and limit family size, thereby reducing financial strain and enabling better allocation of resources.

Households should be encouraged to minimize consumption levels in order to allocate more resources towards savings, thereby promoting a culture of saving for future needs.

Efforts should be made to extend the reach of savings and credit institutions, such as Oromia Credit and Savings Institutions (OCSI), to rural areas, enabling households to access formal financial services and increase their savings.

Government agencies should conduct educational programs to raise awareness about the importance of saving and financial management among households, empowering them to make informed decisions about their finances.

The government can consider subsidizing the prices of inputs and supporting the prices of agricultural outputs to enhance household income capacity, particularly in rural areas where agriculture is a primary source of livelihood.

Government and non-governmental organizations should collaborate to provide promotional assistance such as access to infrastructure, educational support, and income enhancement programs to improve the overall economic well-being of households.

SUGGESTIONS FOR FURTHER RESEARCH

To address the limitations of this research, the researcher recommended that further research can be conducted to investigate the factors on household saving behavior. Since this research is only limited to Bishoftu town and researchers can use it as a benchmark for the study of another similar research.

The scope of this study was cross-sectional, whereas the researchers were advised to follow longitudinal to ensure that the findings were more comprehensive and the research result contribution was maximized. Further research should also be conducted using another variable such as, attitudes and beliefs, applying behavioral economic and social influences.

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