DETERMINANTS OF HOUSEHOLD CONSUMPTION EXPENDITURE: IN THE CASE OF NEKEMTE TOWN, OROMIA REGIONAL STATE OF ETHIOPIA

A Research Thesis Submitted to School of Postgraduate Studies as a Partial Fulfilment for the Award of [MSc Degree in Economic Policy Analysis]

By:

Wabi Bekela Bekuma

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

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JUNE 2021

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Under the Guidance of

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DECLARATION

I, Mr. Wabi Bekela, hereby declared and affirmed that the research thesis entitled "Determinants of Household Consumption Expenditures" was my own work conducted under the supervision of Leta Sera (PhD). I followed all the ethical principles of scholarship in the preparation, data collection, data analysis and completion of the research thesis. All scholarly matters that was included in the thesis given recognition through citation. I adequately cited and referenced all the original sources. I also declared that I have adhered to all principles of academic honesty and integrity and I have not misrepresented, fabricated, or falsified any idea /data/fact/ source in my research thesis submission. The research thesis was submitted in partial fulfillment of the requirement for Masters of Science degree in Economic Policy Analysis from Department of Economics at Jimma University, and I further declared that the research thesis did not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

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Date of submission 18/06/2021

Department: Economics

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CERTIFICATE

This was to certify the research thesis entitled as, “Determinants of Household Consumption Expenditure” accepted in partial fulfillment of the requirements for the award of the Degree of Master of Science in Economic Policy Analysis. Department of Economics at Jimma University through the College of Business and Economics, carried out by Wabi Bekela Bekuma under the supervision of Leta Sera (PhD). The matter embodied in the research thesis work had not submitted earlier for the award of any degree or diploma.

Wabi Bekela Bekuma _____ _____

Name Signature Date

The assistance and help received during the course of preparation of the research thesis have duly acknowledged. Therefore, I recommended that it could be acceptable as fulfilling the research thesis requirements.

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2. Internal Examiner Signature Date

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3. Advisor Signature Date

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4. Co-advisor Signature Date

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ACRONYMS AND ABBREVIATIONS

ADB	African Development Bank
AGDI	African Governance and Development Institute
AIH	Absolute Income Hypothesis
APC	Average Propensity to Consume
CLRM	Classical Linear Regression Model
CST	Central Statistical Agency
CTONT	Cultural and Tourism Office Nekemte Town
ENFCS	Ethiopian National Food Consumption Survey
FBM	Food Budget Manager
FDREMoE	Federal Democratic Republic of Ethiopian Ministry of Education
GDP	Gross Domestic Product
HCB	Household Consumption Behavior
HCE	Household Consumption Expenditure
ICT	Intertemporal Choice Theory
IFS	Institute for Fiscal Studies
LCH	Life Cycle Hypothesis
LSMS	Living Standard Measurement Study
LUAs	Low Urban Areas
MPC	Marginal Propensity to Consume
NBER	National Bureau of Economic Research

NBSN	National Bureau of Statistics of Nigeria
NREGS	National Rural Employment Guarantee Scheme
OECD	Organization of Economic Cooperation and Development
OLS	Ordinary Least Square
PIH	Permanent Income Hypothesis
RIH	Relative Income Hypothesis
SDGs	Sustainable Development Goals
USA	United States of America
USDA	United State Development of Agriculture
VIF	Variance Inflation Factor
WBG	World Bank Group

ABSTRACT

The Household consumption expenditure is the monetary value spent by households to purchase different types of commodities (food and non-food items) for their needs within a certain period. The consumption is one of the important economic activities; however, there was not enough researches undertaken on it in the area. The objective of the study was to identify the determinants of household consumption expenditure in Nekemte Administrative Town, Oromia Regional State of Ethiopia. Therefore, the researcher used the cross-sectional data and stratified the town into seven sub-towns. Then, three hundred seventy nine (379) of the households purposively selected by using simple random sampling technique and Kothari 2004 formulae. The study used explanatory research design through multiple linear regression models with Ordinary Linear Regression Method to identify the determinants of household consumption expenditure by using Stata software version 14. The empirical result revealed that the annual disposable income, age, age dependency ratio, family size, and education level of the respondents had positive significant impact, whereas the annual saving and the housing status of the respondents had negative significant impact on annual Household consumption expenditure. On the other hand, the marital status, employment status, and sex composition of the respondents had insignificant influence on household consumption expenditure in the area. The average annual food expenditure was about 53,879.13 birr with the minimum of 8,530 birr to the annual maximum expenditure of 181,814 birr. The average annual food expenditure was about 43,518.47 birr with the minimum of 6,310 birr to the annual maximum expenditure of 222,187 birr. Hence, the government gives attention to improve the households to reduce family size and dependency ratio and to develop saving habits by reducing unnecessary consumption expenditures.

Keywords: *Households, Household Consumption Expenditure, Multiple Regression Model, Ordinary Least Square, Stata version 14, Nekemte, Ethiopia*

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Consumption is the use of goods and services in the satisfaction of human needs and wants. It used in commonly and in the economic sciences covers two distinct things: (i) the expenditure of money, and (ii) the use of wealth, Kyrk (1923). Household consumption patterns causes to the climate change especially in most affluent countries like Finland. Therefore, an understanding of the drivers of household consumption (food, housing, travel, services, and tangibles) and the related carbon footprint is crucial for policy design, Salo, and *et.al.*, (2020). In today world, the consumption is a very important component of the GDP of any country, which is related with saving, investment, production and employment, Corrales and Mejía (2009). The growing need and increasing urgency for more and better information concerned with the food consumption dietary patterns change with the global malnutrition, (Fiedler & Mwangi, 2016).

The purchasing power of the middle income classes of the population of the Asian countries increases dramatically and the region's consumer potential is going to become driver of the regional economic development. The study compared the consumer patterns in three East Asian countries and nine Asian members with other larger countries and identified differences in the influence of the same factor variables on the Asian and global private consumption expenditures of the households, Arapova (2018). The Household consumption expenditure is the value of expenditure made by households to purchase different types of commodities (food and non-food items) for their needs within a certain period. The Consumption expenditure in the Javan sub-city has been affecting by non-food consumption expenditure, while the Batak consumption expenditure is dominating by food consumption expenditure. The sugar and beans are the dominant food expenditure in Java and the expenditure of oil and fat, and nuts are the dominant food expenditure in Batak, Utami and Ayu (2017). The result shown there was strong relationship between income and consumption for low and high income countries compared to middle income groups, and there was strong association between consumption, income, and GDP for low and middle income countries, (Diacon and Maha, 2014).

Household Consumption is one of the welfare indicators of a given nation or a society. As cited by World Bank Group in December 2017, the household incomes or the household consumption is the most commonly used welfare indicators. As the WBG report, the Myanmar welfare indicator, based on the household consumption rather than the household incomes because of stable in the consumption and the seasonal income fluctuation. Household income is difficult to measure in the context of the high self-employment and subsistence in agriculture, WBG (2017). Basole and Basu disaggregated that the consumption expenditure on non- food items categorized into seven: spending on fuel, health care, education, consumer services, conveyances, clothing and foot wear, and durables. Expenditures on education, health care and durables have very high Gini coefficients. The smallest increases in Gini coefficient have been expenditures on clothing and fuel in rural India. They indicated most of the increases in consumption expenditure inequality occupied by non-food commodities need the great policy implication to improve public provisioning of education, health care, transportation, and housing services in rural India. Inequality in non-food expenditure is greater than that of the food expenditure. The increase in the real purchasing power of the people is associated with an increase in the non-food consumption expenditure like expenditure on health care, education and other services. An increase in non-food expenditure causes to decreases in the food consumption expenditure. Due to an increase both in non-food spending inequality and in the share of non-food budget, the consumption expenditure in urban areas of India is increased (Basole & Basu, 2015).

Consumption expenditure patterns vary among the poor and the rich individuals of the societies of the world. The rich spends more on the consumption of goods and services and the poor spends less on the commodity consumed. In the four African countries like Botswana, Mauritius, Seychelles and Swaziland, the real consumption expenditure on food items was more than three times higher than that of the all other African countries on average, ADB (2012). Among the factors affecting consumption expenditure, the disposable income of the households is the most influential one. As people's income increase, their choices to purchase more goods and services are also increase and their consumption expenditures are increase, (Khan and Ahmad, 2014).

In spite of the fact that the consumption is the one of the important macroeconomic activities, there is no general agreement within economic school of thought on the theory that represents the consumer behavior. Every school of economics proposed different theories of consumption on their own views. The permanent income hypothesis is commonly used theory of consumption,

Park (2016). The study conducted in Nigeria on the determinants of aggregate consumption expenditure stated that the gross consumption expenditure influenced by explanatory variables: income, interest rate, exchange rate, inflation rate, and price level. It shows the positive relationship between consumption expenditure and income and conforms to the Keynesian consumption model. Similarly, the price level, interest rate and exchange rate were significantly explained the behavior of the consumption expenditure in Nigeria, Ezeji and Ajudua (2015).The study conducted in Nigeria examined there is positive significant relationship in between consumption expenditure of households and inflation in the period from 1981 to 2018, (Obinna, 2020).

1.2 Statement of the Problem

Since consumption is one of the fundamental economic activities, different economists studied the major factors affecting the consumption level and consumption patterns of the people. Among the important factors, income is the most dominant variable that can determine the level of consumption and the spending patterns of the people. Not only income; the consumption pattern also depending on the household's family size, age of the household heads, and sex composition of the people. It meant peoples could purchase different things at different ages, family sizes, and sex, Bajari, and *et.al.* (2013). On the other hand, the level and behavior of the consumption itself can determine the saving or investment level of a country/ a society. That means in developed nations peoples interested on investment than consumption, in opposite to this in developing societies peoples preferred on consumption than investment or saving, Asimakopulos (1986). Though different food and non-food commodities imported to a country from the foreigners to fill the demands of the people, it caused to depreciate in the country's currency that leads to increase in the household consumption expenditure. The expansion of the entrepreneurship results in an increments of retail trade turnover and increase in the nominal monthly wages of the people. This means that the corporate tax rises in the household consumption expenditure. Value added tax is the most important consumer tax positively affects the HCE. The other economic factors like disposable income and personal income tax have insignificant impact on the HCE in Azerbaijan, (Zeynalova and Mammadli, 2020).

When the income earned is not adequate to purchase goods and services to meet demand, the households become vulnerable to poverty. Based on place of residence, urban residents were

relatively better than rural residents were. However, the household lives in the rural areas were prone to cash deficit, Alemzewud (2020). Food consumption is the part of consumption expenditure, which is associated with poverty. This means the consumption behavior and consumption level of a nation determine the living standards of the society as a whole and that of the households in particular. Ethiopia is one of the few African countries with representative data both at regional and administrative level for individual dietary intake. The socio-economic and demographic characteristics of the households were educational level, family size, income, women's autonomy, working status of parents, living standards, place of residence, better condition of water supply and sanitation measure the child and maternal consumption status that they are among the groups most at risk in the nine Ethiopian regions and the two administrative cities, Amha (2013). The daily food consumptions of the Ethiopian households based on the cereal agricultural products that need the government attention to the sector to increase production and marketing through accelerated investment in infrastructure and adoption of better seed varieties and fertilizer technology to solve the living standards of the society of the country, WB (2007). The Ethiopia government has to taking policy measurements to improve the living standards of the society. These policy procedures are credit facilities; extension services provisions, provisions of improved seeds and fertilizers, and decontrolling the agricultural marketing institutions, (Tiliku, 2001).

The research conducted in Addis Ababa city showed the personal disposable income and the numbers of family size were the main determinants of the household consumption behaviour. However, it needs more independent variables, which affect the household consumption expenditure, Zelalem (2005). According to Zeynalova and Mammadli (2020), the disposable income and personal income tax have insignificant impact on the household consumption expenditures in Azerbaijan. The study done in Tepi town shown the age and education level of household heads had insignificant effect on Determinants of Household Consumption Expenditure in Tepi Town, SNNPR, Ethiopia, Wegayehu and *et.al.* (2020). However, in Debre Markos town and Sekela woreda of Amara region, the age and education level negatively affect the HCE, Zehiwot and Marisennayya (2019), Alemzewud (2020). Households that have their own residential houses have more consumption expenditure than households who live in rented houses (Shimeles and Ndlovu, 2020).

The study made an important addition to the existing literatures through identifying the determinants of the households' consumption expenditure in Nekemte town of East Wollega Zone. However, there were several studies carried out on the topic, there was not enough research previously conducted on the major factors affecting the household consumption expenditure in the study area. In Ethiopia, several researches conducted in Amhara region and some parts of southern nation nationality and peoples of Ethiopia. Several studies conducted so far have overlooked on the production, marketing, poverty, and micro financial institutions. However, the consumption is one of an economic activity, which was not undertaken in the study area. Therefore, the paper gave attention on the determinants of household consumption expenditures. Peoples do not have a plan and enough understanding on what and how much to spend for their daily, monthly and annual consumption from their income. What made the study different from the previous studies was that it made people's understanding on their income and spending in the study area. Therefore, it filled the important contextual, conceptual, as well as knowledge gaps based on the factors affecting the Households' annual expenditures.

Therefore, the study has answered the following questions:

1.3 Research Questions

In general, the study will answer the following basic research questions:

- What are the demographics and socio-economic factors affecting the household consumption expenditures in the study area?
- What is the households' consumption expenditure pattern in the study area?

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of the study was to identify the Determinants of the Household Consumption Expenditures in Nekemte Administrative Town of East Wollega Zone.

1.3.2 Specific Objectives

The specific objectives of the study were the following:

- To identify the demographics and socio-economic factors affecting the household consumption expenditures in the study area
- To analyzes the households' consumption expenditure pattern in the study area.

1.5 Hypothesis of the study

We can divide the hypothesis in to two categories. The null hypothesis states that there is no significant relationship between the dependent and independent variables. Whereas, the alternative hypothesis shows there is significant relationship between the dependent and independent variables. In order to attain the objective of the study, the null hypotheses developed based on review of relevant and related literatures on the determinants of household consumption expenditures. Ten testable null hypotheses formulated in the study were:

1. **H_0:** Income of the Household heads (measured in Ethiopian birr) has insignificant impact on household consumption expenditure.
2. **H_0:** Age of the Household heads (measured in years of living) has insignificant impact on household consumption expenditure.
3. **H_0:** Sex of the Household heads (dummy variable) has insignificant impact on household consumption expenditure.
4. **H_0:** Family size of the Household heads (measured in number of persons per household) has insignificant impact on household consumption expenditure.
5. **H_0:** Educational level of the Household heads (measured in years of schooling) has insignificant impact on household consumption expenditure.
6. **H_0:** Marital status of the Household heads (dummy variable) has significant impact on household consumption expenditure.
7. **H_0:** Job status of the Household heads (dummy variable) has insignificant impact on household consumption expenditure.
8. **H_0:** Saving level of the Household heads (measured in Ethiopian birr) has insignificant impact on household consumption expenditure.
9. **H_0:** Age Dependency Ratio, (is the ratio between the number of persons aged less than 15 ages and above 65 ages per 100 persons of working age (15-64)) has insignificant influence on household consumption expenditure.

10. **H_0:** Housing Status of the respondents (dummy variable) has insignificant impact on household consumption expenditure.

1.6 Significance of the Study

The significance of the study was to provide a better knowledge and understanding of the factors that affect household consumption expenditures, the study might help in designing measures to improve the household consumption expenditures in the study area. It is important to note that this study was the beginning in the study area. Results of the study will be important in providing information for the government and the concerned bodies who are concerned with the society's consumption issues. However, there were many researches had done on this topic in different areas. What makes the study to be different from the previous studies was that it filled an important knowledge gap, time and place gaps and empirical gap in the study area. In addition, the research will use as a reference for those who are interested in making further investigation in the same area of research in the future. Additionally, a better understanding of the paper will serves the policy makers and planners to design appropriate policies and strategies to improve the living standards of the households in the country.

1.7 Scope of the Study

The study carried out in Nekemte Town, which is the Administrative Town of East Wollega zone of Oromia regional state. The study mainly focused on identifying the factors that affecting household consumption expenditure in the Town. The core idea was disclosed household consumption expenditure problems by using the cross-sectional data gathered from the household head respondents.

1.8 Limitations of the Study

The study itself limited to cross-sectional data on the determinants of household consumption expenditures in Nekemte Administrative Town, East Wollega Zone, and Oromia regional state of Ethiopia. The study faced the following limitations: although the study employed different data quality control measures to get accurate information, the majorities of respondents hesitate and failed to give accurate information on their annual income, consumption and saving. Another problem faced the researcher during the gathering data was unavailability of the household heads

in their home during the survey day time and some respondents delayed to respond the question paper on the requested time. Generality of the independent variables that affect consumption expenditure and the limitation of similar literature because there was no similar study in the area on the topic were the other problems that restricted the researcher during the study.

1.9 Organization of the study

The study organized into five chapters: The first chapter described with introductory part that included background of the study, statement of the problem, objective of the study, research questions or hypothesis, scope of the study, limitations and organization of the study. The second chapter dealt with introduction, theoretical related review of literature, empirical related review of literature, conceptual framework of the literatures. The third chapter presented introduction, Data sources and Data type, Date Analysis, Model Specification, Definition of Variables, the chapter four explained about the data analysis, interpretation and discussion, and the last chapter five was all about the result conclusion and recommendation. In addition, it included the references and appendices. Appendices embraced the regression result tables and the research questionnaires.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Theoretical Literature Review

This chapter is devoted to the literature on the factors affecting the household consumption expenditure. It has divided into three main sections. The first section explores the theoretical literature. The second section reviews empirical studies related to the subject of the topic and finally conceptual framework of the study. This sub topic contains the concepts, definitions, theories concerning the consumption expenditure of households and related literatures.

As David [Romer] cited in his book, Advanced Macroeconomics, the theory of the traditional Keynesian consumption function shows that the consumption is the function of the disposable income. Keynes argued that there is stable relationship between aggregate income and aggregate consumption. The permanent income hypothesis predicts the determinants of the slope of the estimated consumption function, MPC, is the relative variation in the permanent and transitory income. An increase in income results in an increase in consumption but not in equal proportion, Romer (1996). The consumption is a very important component of the GDP of any country which is associated with the macroeconomic variables viz., saving, investment, production and employment, Corrales and Mejía (2009). For its role in determining aggregate demand and economic growth, consumption decision is the crucial both in the short run and in long run analysis respectively. Since consumption take about two third (2/3) of the GDP, its fluctuation is the key element of business cycle especially of booms and recessions, (Mankiw, 2009).

Consumption pattern of a country shows the aggregate demand of goods and services, and it constitutes about sixty percent (60%) of the GDP of the country. It is also depicts the level of welfare and poverty that a country is experiencing. Consumption pattern of a household is the combination quantities, qualities, acts, and tendencies showing a society's use of resources for comfort, survival, and enjoyment. It contributes for social and economic policy of a country. In developed countries, the consumption pattern skewed to the non-food items and in developing countries; it skewed to the food items. Consumption and income are the most important approaches in determining the living standards. Consumption data are much easier to collect than the income data, (NBS, 2019).

Household consumption expenditure is one of the major components aggregate demand or aggregate expenditure in an economy. Households spend their income on consumption of final goods and services for the satisfaction of their basic wants. In short, households on final goods and services define consumption as the expenditure. It is a part and directly depends on income. The main elements of consumption expenditure are expenditures on food, housing, clothing, transportation, medical care etc., (Bansal, and *et.al.,* E. C 2003).

2.1.1. Theory of Consumer Behaviour

The microeconomic consumer behavior theory provided the framework for analyzing and understanding the consumer's behavior. They defined the theory as the consumer's behavior that display in searching for purchasing, using, evaluating and disposing of goods, services, and ideas. The Theory of Consumer Behavior studies about how, when and why people buy what they consume, Schiffman and Kanuk (2000). The theory focused on factors affecting the individual decision making process both at individual and household level to provide skills and knowledges to the marketers which are necessary to deal with consumer analyses that used for both understanding markets and developing marketing strategies, Hamansu (2008). Buyers face trade-offs in their buying decisions that their income is constrained and their wants are unlimited. Consumers should make balances among their budgets and preferences to purchase the commodities they want. It supposes that the buyer is rational and aims to fulfill the highest possible level of satisfaction at the given level of his/her income and the market price. The consumer spends his/her income in which he/she gains the maximum level of pleasure**,** (Colander, 2008).

2.1.2. The Evolutionary Theory of Household Consumption Behavior

Until a recent period, economists have studied consumer behavior chiefly through the theory of utility maximizing individuals, Stigler (1954). The evolutionary theory of Household Consumption Behavior is an alternative to the neoclassical theory of consumption. The evolutionary economists offer us the novel approaches to the analysis of consumption behavior. A consumer can learn by studying the nature of what consumers learn in the context of novelty. During the process of consumption, consumer learning extends the characteristics space of consumer goods; which is far from negligible and varies across product types, (Qaoumi, and *et.al.,* 2017).

Evolutionary economics badly needs a behavioral theory of household consumption behavior, but, to date only limited progress made on the front. Both neoclassical and behavioral theory see human actors as purposeful, and trying to do as best they can give what they know of the situation they are in and the constraints they face. The strategy behind neoclassical theorizing is that the households making consumption decisions in this case choose optimally while, the strategy of behavioral theorists is to try to construct an abstract but realistic model of what they actually do. The advocates of neoclassical theory do not care about what processes actually determine what economic actors do. The strategy is to ignore process and argue that what they do can be explained by the proposition that they behaved "as if" they acted to maximize their wellbeing. This theoretical strategy is rationalized most explicitly many years ago by Milton Friedman 1953, in his response to critics of the theory that the prices firms set maximized their profits who argued that firms went through no maximizing calculations, but rather had a set of relatively simple rules for setting prices. It is also clear that neoclassical theory does a much less adequate job of explaining and predicting responses to large changes in prices. The problem is that that theory represses the uncertainties, and the time involved, for households to make significant changes in their patterns of behavior, particularly when these entail learning about and learning to do new things, (Nelson and Consoli, 2010).

The two important weaknesses of neoclassical theory is the assumption that households have well defined preferences regarding goods and services they never have experienced and is failure to recognize that even awareness of choice sets is to a considerable extent dependent on what has in fact been chosen and the process of choosing. As the behavioral evolutionary theorists, because of lack of empirical support makes reluctant to build into a theory propositions about what people to do. And the theory is capable of dealing with a wide range of questions of interest to economists, and have had to be somewhat terse in our treatment of different ones it is putting forth to sketchy, (Nelson and Consoli, 2010).

2.1.3. Absolute Income Hypothesis (AIH) Theory

According to Onanuga and Michael (2015), Parker (2010); Mankiw (2009), John M. Keynes originally proposed the AIH in 1936 after the world great depression. He studied his consumption theory based upon the macroeconomic level, but he left out the microeconomic stage for the future generations. The Keynesian consumption function represents the functional

relationship between total consumption and the gross national income. The consumption function assumed stable and static; the all expenditures passively determined by the national income, and the consumer spending determined by income and change in income. Ceteris paribus, an increase the national income causes to increase the total consumption, but not as much as income increases, Ibid.

In an economy, at any point of time in the short run there is some fixed amount of consumption, which the population of a country spent on consumption even if income is zero. This part of consumption is called autonomous or fixed consumption that is a constant and can take any numerical value. For example in a family, children depend on their working parents to consume goods and services. An old person depends on the income of his son or daughter or pension from the government to consume things he needs now, Ibid.

Consumption = some fixed amount and MPC times the current level of income. Mathematically: $C = a + MPC * Y$ Where: C – Consumption; a - fixed consumption/ autonomous consumption i.e. Consumption at zero level of Income), Y - Disposable Income, and MPC - marginal propensity to consume.

Thus the Keynes's conjecture of the short run consumption function is:

- Marginal propensity to consume (MPC) is between one and zero.
- Average propensity to consume (APC) falls as income increases. At the low level, people will spend a higher proportion of their income. They spend everything they have and the APC is one or greater than one.
- Income is the most influential factor affecting consumption.

2.1.4. Permanent Income Hypothesis (PIH) Theory

Friedman generalized the two period cases to an indefinitely long horizon rather than to a remaining lifetime span. He also introduced the concept of the concept of present period planned of permanent consumption, C^p, and permanent income, Y^p. A good purchased whether for an attractive sale price or for a normal purchased deferred due to unavailability of the good is an example of negative and positive transitory consumption. The permanent income is the mean income regards as permanent by the household in which it depends on it. A consumer's permanent income in any one year is in no sense indicated by its current income to be received over a long period stretching out over a number of future years. According to the theory, the

permanent consumption is the function of the total wealth of the present period, W and an interest rate, r (Mankiw, 2009), (Mankiw, 2006), and (Friedman M. , 1957), (Friedman M. , 1972).

$$Cp = f(W, r)$$

In the C^p of the Friedman formulae, the total wealth is the discounted sum of all the future receipts including income from non-human assets. Friedman divided the annual family income into permanent income and transitory income. The measured (actual) income is smaller or greater than its permanent income based upon the sum of positive and negative transitory income components. Similarly, the measured consumption, C, is divided into permanent consumption, C^P, and transitory consumption, C^T. Thus, we have $Y = Y^P + Y^T$& $C = C^P + C^T$. Further the consumption function is held to be proportional: $C^P = kYp$, where is k is the proportionality factor and it relies on the interest rate, (r), the ratio of non-human to total wealth (w) and variable u – which states the age and tastes, thus, k = f(r, w, u).

2.1.5. Life Cycle Hypothesis (LCH)

Franco Modigliani, Albert Ando and later by Brumberg have been developed the LCH. Both LCH and PIH have in common the primary idea that the consumer plans his/her consumption not based on income received currently, but based on long-term income expectation. Both they imply that households adjust their consumption patterns to the total resources which they can draw on for spending over life times, (Friedman M. , 1972); (Deaton, 2005).

The LCH theory is other attempt to explain the difference between cyclical short run consumption function and secular long run consumption function. The LCH approach is essentially a permanent wealth hypothesis rather than a permanent income hypothesis. According to this hypothesis, the consumption of the individual consumer depends on the resources available to him, the rate of return on capital, the spending plan, and the age at which the plan is made. Income varies systematically over people's lives and saving allows consumers to move income from those times in life when it is high to those when it is low. Age demographic structure of the population is an important determinant of consumption pattern of different consumers in an economy.

Consumption over his/her lifetime cannot beyond his/her lifetime income unless the person is born wealth. Most people plan to stop working at the age of 65, and they expect their incomes to fall when they retire. The life cycle story is one in which the wealth of nation is passed around; the very young have little wealth, middle-aged people have more wealth, and peak wealth is reached just before people retire. As they live through their golden ages, retirees sell off their assets to provide for food, housing, and recreation in retirement. In its most recent formulation, the households are assumed to determine the amount available for consumption over life, which is the sum of the household's net worth at the beginning of the period plus the present value of its non-property income minus present value of planned bequests, (Modigliani, 1986), (Deaton, 2005), and (Mankiw, 2009).

The equation of the LCH is that: $Ct = kVt$.

C_t – the current consumption by individual households, k represents the proportionality factor, V_t is the present value of resources accruing to the individual over the rest of his/her life.

2.1.6. Relative Income Hypothesis (RIH) Theory

An economist James Duesenberry (1949) introduced the Relative Income hypothesis in 1949. According to him, an individual's consumption relies not on his/her absolute income but on her/his relative income that means current income in relation to which he/she is accustomed. J. Duesenberry pointed out there is non-proportionality in between a particular phase of the business cycle and consumption. However, over the entire business cycle, their relation is proportional. Thus, in the long-run, the marginal propensity to consume (MPC) is constant and equal to the average propensity to consume (APC) and the APC of a family based on the family's level of income relative to the neighborhood's income with which he/she identifies. When income declines, the attained consumption standard will not be immediately foregone. This is known as 'ratchet effect' phenomenon and is based on the following two facts:

a) Individual's consumption behavior is not independent of the behavior of every other individual, and
b) Consumption relations are irreversible over time.

2.1.7. Intertemporal Choice Theory (ICT)

The seventh edition of Macroeconomics written by Mankiw stated that an economist Fisher developed the model which illustrates consumption depends on a person's lifetime income. According to the model, the constraint consumers' face, the preference they have, and how these constraints and preferences together determine their choices about consumption and saving. The reason that people consume less than what they desire is, that their consumption is limited by their income. Because of this income constraint, people decide to consume less than or equal to the budget they have on hand. When they decide how much to consume today versus to save for the future, they face an intertemporal budget constraint. A Consumer live for two periods: Period one represents consumer's youth age and period two represents the consumer's old age. In period one; consumers earn income Y1 and consume C1, and in period two; they earn income Y2 and consume C2. The people's consumption in a single period can be greater or less than income in the period because of the consumers' chance to borrow and save, (Mankiw, 2009).

In period one, income less consumption equals saving $S = Y1 - C1$

In the period two, the accumulated saving plus the interest rate earned on the saving, and the second period income gives the consumption. That is $C2 = (1 + r)\,S + Y2$

In the period one; if consumption is less than income, consumer is saving and saving is greater than zero. In addition, if consumption is greater than income, the consumer is borrowing and saving is less than zero with the same rate of interest in cases. To derive the consumer's budget constraint, combine the two equations above to obtain $C2 = (1 + r)\,(Y1 - C1) + Y2$

To make it easier to interpret, rearrange it to $(1 + r)\,C1 + C2 = (1 + r)\,Y1 + Y2$

Now divide both sides by 1+r to obtain $C1 + C2/(1 + r) = Y1 + Y2/(1 + r)$

This equation relates the consumption in the two periods with income in the two periods and it is the standard way of expressing the intertemporal budget constraint. The factor (1+r) is the discount rate of the future income and consumption, and 1/1 + r is the price of C2 measured in terms of C1.

2.1.8. Factors Affecting Households' consumption expenditures

Consumption is the part of national income, which is not saved, and the use of money in the purchases of goods and services to maximize the consumer's utility, Beckhart (1936). Measuring consumption expenditure is not easy, but despite the difficulties, we strongly believe it is worth the effort, Browning, and *et.al* (2015). Household expenditure is the total money spent on final goods and services for personal use and enjoyment in an economy. Contemporary measures of consumer spending include all private purchases of food and non-food items. Consumer spending can be regarded as complementary to personal saving, investment spending, and production in an economy. Income is not the only determinant of consumption expenditure one, but other factors include household size, age of the head of household, education of the head of households, (Zehiwot and Marisennayya, 2019).

A. Disposable income and Consumption Expenditures of Households

Income is the most dominant factor influence the consumption expenditure. As income increases steadily, consumption is also increases and as income falls, consumption will falls sharply. The people's consumption expenditures decision depends on the level of their income and wealth they have, Balli and Balli (2011). The change in income has significant on the overall consumption process and on the structure of consumption expenditures. The result had shown the one's consumption expenditure changes with the income changes in the same direction, (Auzina, and Pocs, 2010).

B. Family size and Household Consumption Expenditures

With an increase in the family size, saving is dwindled in absolute and relative terms as savings income ratio decreased. Contrary to this, the consumption increases with an increase in family size which states that the income diverted away from savings to consumption. Despite the mean monthly consumption, expenditure of the family size of four, five, and six members is observed to be significantly higher than that of the largest family group (7 members). Their consumption to income ratio is observed to be greater than that of all the lower family member groups, Kiran and Dhawan (2015). Households with high-income levels are over represented by those with transitory increases in income and will exhibit the low consumption income ratio. Treating

heterogeneous households symmetrically, indirectly assumes that two households with the same level of income but different family sizes are equally well off, (Samuel, 1999).

C. Housing Status and Household Consumption Expenditures

Research linking the housing market to household consumption and, by implication, to cyclical movements in the nation's economy has typically focused on the mechanisms through which housing prices affect consumer spending, Ivanchev (2017). The empirical results showed that the stock price index has had a significant positive effect on consumption, whereas interest rates have played a minimal role in consumption. Results also showed that rising house prices have had a negative effect on consumption, indicating that high housing prices trigger the crowding-out effect on consumption and in turn contribute to sluggish economic growth, Lin, and *et.al* (2019). It proved that the composition of asset portfolios significantly affects households' consumption. Asset levels and asset prices have positive influences on household consumption. Furthermore, various household assets have different impacts on household consumption patterns, divided into living type, developing type, and enjoying type of consumption, especially there is a larger wealth effect on developing type of consumption, (Han and Si, 2020).

D. Educational level and Household Consumption Expenditures

Consumption expenditures have strong correlation with the level of schooling. As the level of one's education increases, his/her income increases with the person's skill, and mental and professional quality. In addition, the qualified person earns more and expends more on their wants and desires. Moreover, that higher Household income levels leads to higher educational expenditures, Michael (1975). According to Alves (2011), the educational level causes the increases in income inequality in Portugal. Education is one of the basic services allows the individuals to attain better skill and knowledge which boosts an economic growth and alleviate poverty, and which is based upon the household's income level, Bayar and Ilhan, (2016). Household education expenditures are often included in consumption based poverty and inequality measures and it is the critical element in monitoring education financing indicator of the sustainable development goals (SDGs), (Oseni, and *et.al.,* 2018).

E. Job status and Household Consumption Expenditures

An employment is one of the macroeconomic variables, which can determine the economic growth of a country. In industrial and service sectors, an employment is mostly associated with educational status and which has direct impact on the consumption expenditures. The aggregate unemployment rate is a valuable measure of aggregate income uncertainty. Due to the large part to precautionary saving motives, the relationship between consumption and unemployment is negative, Malley and Moutos (1996). The Dynamic Random Effects Tobit model to the longitudinal data found that the changes in consumption expenditure allocation due to the improvement of income and occupation status of the subjects in the sample, Colella and Soest (2013). The study employed in Australia during 2013 showed the job insecurity was found to have a significant and negative effect on food consumption whereby a one standard deviation increase in unemployment risk is estimated to reduce food consumption by 3.01 per cent based on the dataset from 2005 to 2011, (Bowman, 2013).

Unemployment causes a large and short-lived drop in income generating a need for liquidity. It is a good setting to test alternative consumption models because of a large change in income. At the first stage, unemployment negatively affects income, and then consumption, Ganong and Noel (2015).The model developed in the paper predicts that consumption changes following unemployment spell should be small for workers the higher are their layoff and recall probabilities, Dynarski and Sheffrin (1987). The study conducted in U.S.A. examined the fact that consumer spending decreases substantially more as unemployment becomes long term suggests that there may be a need for better insurance against long-term unemployment, possibly at the expense of short-term unemployment insurance. The logic would be that, in the short term, households can finance spending from their own resources but in the long term, their resources are depleted, (Hurd and Rohwedder, 2016).

F. Saving level and Household Consumption Expenditures

The households' savings are the crucial component of individuals and society's wellbeing. Peoples save their part of income for unforeseen contingencies, to smooth consumption due to fluctuations in income, to enjoy interest and the gradual increase in expenditures, (Ando and Modigliani, 1963). Since saving is the deduction of consumption from disposable income, it is negatively affecting the consumption, OECD (2016). Saving is income not spent to finance

consumption, which has negative effect on consumption expenditures. Because just a fraction c of any change in income spent on consumption, the remaining fraction 1-c of any change in income is saved. The marginal propensity to save is MPS = $\Delta S/\Delta Y$ is 1-c. A change in income changes planned consumption and planned saving, and MPC +MPS = one, Curtis and Irvine (2021). Saving is the part our disposable income left from consumption. Mutyaba F. defined in his dissertation the difference between household income and consumption is saving, (Mutyaba, 2013).

G. Age of the Household heads and Household Consumption Expenditures

Households varied in income, age, family size, employment status, educational level, race, etc. The positive coefficient of age composition of household heads shown the age has direct significant on the consumption of rice and housing, but, it has negative significant impact on the consumption of processed food and drinks, tobacco, and clothing. The higher the age of the households, the more likely the households had to consume home prepared food and less likely to consume processed foods and drinks, and young family members spend mostly on education, while old group want to put a good amount of money into health insurance, (Ritonga, 1994).

Age has a great impact on the household consumption. The consumer demand of the population varied with their age structure, and the age structure affects the consumer demand and the consumption structure of a country or a region, Li and Li (2014). Due to difference in income and testes and preferences, the generations or age groups exhibit expenditure patterns. The report reveals the younger cohorts spend more than older cohorts on food away from the home, Blisard (2001). In Germany, the reallocation of age group shares until the 2030 is large enough to observe changes in the consumption expenditures. The coefficient of age variable indicated that the age significantly affect the consumption, (Stöver, 2012).

H. Sex Composition and Household Consumption Expenditures

Biological attributes of humans including physical features, chromosomes, including physical features, chromosomes, gene expression, hormones and anatomy. The female income from the program prompts a significant increase in the expenditure share of children's clothing and footwear consumption, and that this positive spur happens on account of a significant increase in the expenditure share for boys. Male NREGS income, on the other hand, has no impact on

children expenditure for the considered categories, Bhupal and Sam (2014). Evidence is mounting that household expenditure patterns have affected by the share of household income accruing to women, holding overall household income constant. These results tend to hold for both earned and non-labor income. This has led many policy makers and donors to conclude that women should target for credit and small enterprise pro- grams not only because their income boosts household income, but also because it meets global societal objectives such as increased spending on food and children's goods, (Hopkins, and *et.al.,* 1994).

2.2. Empirical Literature

The study conducted in Malaysia based 'Decomposing inequality in household consumption expenditure' showed that the age, family size and their educational level were positively significantly affect the per-capita consumption expenditure, Ayyash and Sek (2020). The research conducted on a micro econometric analysis of household consumption expenditure determinants for both rural and urban areas in Turkey stated the household income, age, a single marital status, insurance engagement, and family size had significant impact on the household consumption expenditures. In the urban areas, the relationship between the HCE and the household's age is positive; while negative in the rural estimates, (Caglayan and Astar, 2012).

The income of households and the inflation (consumer price index) are the variables affect the behavior of the consumption expenditure of the households in Malasia. The effect of inflation is inelastic and negative on CEH. A one percent increase in CPI decreases in CEH by 0.001 percent. The annual household income is the most dominant variable that affects the consumption expenditure of households to rises or decreases. The stable increases in income causes to increases in consumption expenditure of households, (Bakri, and *et.al*., 2017).

The study conducted in the southeast Sulawesi province of Indonesia on factors affecting household food consumption expenditure portrayed people spent more on food commodities than non-food items. The food consumption expenditure positively and significantly affected by their income, family size, the price the fish, cassava yield, and education level, (Saediman, and *et.al.,* 2019). There is positive significant relationship between per capita expenditure and per capita calorie consumption in Vietnam, (Hoang, 2009).

Consumption expenditure of households in 11 ECDO countries influenced both by macroeconomic and demographic variables like inflation, interest rate, disposable income, government spending, the number of population and education level of the population, Varlamova and Larionova (2015). Value added tax, corporate tax, and exchange rate significantly affect the household's consumption expenditures. A one percent increase in an exchange rate causes to increases in household consumption expenditure by 63.04 percent. As different food and non-food commodities imported to a country from the foreigners, caused to depreciate in the country's currency, which leads to increase in the household consumption expenditure. The expansion of the entrepreneurship results in an increments of retail trade turnover and increase in the nominal monthly wages of the people. This means that the corporate tax rises in the household consumption expenditure. Value added tax is the most important consumer tax had positively affected the HCE. The other economic factors like disposable income and personal income tax have insignificant impact on the HCE, (Zeynalova and Mammadli, 2020).

The empirical analysis on the household expenditure on the consumer behavior affected by both social and demographic variables like location, marital status, education household composition and age along with cultural structures and development policies. The urban households have higher expenditure than the rural households at the lower quantiles and increases at the upper quantiles in Malawi, Maguza-Tembo and Edriss (2014). The study conducted on the economic determinants of household consumption expenditures in West African sub region, Ekong and Effiong (2020) identified its crucial determinants like gross national income, inflation rate, saving and interest rate. The gross national income and inflation rate exerted positive significant effect at one percent of significance level.

Among some West African countries, the GDP per capita, exchange rate, remittances, and domestic credit to the private sector positively affect the household consumption. While the analysis has shown that inflation negatively, affect the household consumption, Iheonu and Nwachukwu (2020). The study assessed based on some statistical descriptive and 2SLS method shown the socio-economic and demographic features of the respondents occupied by male middle age workers, more than seventy percent of their educational level with majority of moderate family size and about seventy six point eight percent (76.8%) of the respondents were belonging to the local cooperative society. The regression result depicted that the workers'

salary, tax, family size, non-food consumption expenditure, and the farm income influenced the food consumption expenditure of rubber plantation estates' workers in cross-river state of southern Nigeria, (Akpan, and *et.al.*, 2013).

The research studied in Malawi on the determinants of household expenditure by using a simultaneous quantile regression approach stated income, age, education, marital status, and family size were the influential factors affecting household expenditure. Age, income, family size, and education positively significantly affect household consumption expenditure at five percent. However, the marital status was significantly negatively affecting household expenditure, Maguza and Edriss, (2014). In low urban areas (LUA), the major component of total household consumption expenditure is food commodities. These food commodities can bring larger nutritional outcome to the vulnerable groups, Ikudayisi and Omotola (2019). The monthly household food expenditures positively influenced by household income, family size, household's age, employment status and educational level, and negatively affected by the marital status in South Africa, (Sekhampu, 2012).

The study conducted in Nigeria on the determinants of aggregate consumption expenditure stated that the gross consumption expenditure influenced explanatory variables like income, interest rate, exchange rate, and inflation rate, and price level. It shows the positive relationship between consumption expenditure and income and conforms to the Keynesian consumption model. Similarly, the price level, interest rate and exchange rate were significantly explained the behavior of the consumption expenditure in Nigeria, Ezeji and Ajudua (2015). The multiple regression model (MRM) reveals the monthly expenditure on food and total monthly expenditure on animal protein positively affect the total monthly expenditure on fish, and the Chi-square (X^2) shown the significant relationship between the household's income and their expenditure on fish, Adeniyi, and OO (2012). The level of household heads and their educational attainments have positive significant effect on household expenditures on children's education in Egypt, Rizk and Owusu-Afriyie (2014). The study conducted on the determinants of Pork Consumption among rural households in Rivers State, Nigeria found the consumption level of pork significantly affected by cultural belief, household size, cost and supply, (Mathhews-Njoku, and *et.al.*, 2008).

The econometric models revealed that the family size and disposable income have direct relationship with consumption expenditure, and the saving status has negative impact on the

HCE's of food, clothing, housing, transport, telephone and water services, Zehiwot and Marisennayya (2019). The child fertility negatively affects the per capita consumption expenditure of the households. Per-capita Consumption expenditure decreases with an increase in the number of children in both rural and urban areas of the Amhara Region, (Chalachew, 2014).

The multiple regression model pointed out that the household income, family size, an additional income and the marital status were significantly affected the monthly household food expenditure at 5 percent of significance level. Whereas, age, occupation, religion, mother education level, father education level, is there high price of food, reason for high price change and decision-making had insignificant impact on household consumption expenditure, Wegayehu, and *et.al*. (2020). The household consumption level was significantly correlated with that of the household income, family size, education level of food budget managers (FBM), age of FBM, residences of households, ownership of dairy cattle, monthly expenditure on dairy products, average daily milk production per household, and price of milk products, (Kassahun and Fekadu, 2009).

Expenses by households have important role in the family consumption expenditure. The households spend more on children's education, vegetables/ fruits and milk. More importantly, the household consumption expenditure is affecting by household income, family size and education, Khan and Ahmad (2014). Among economic factors; value added tax; corporate tax, and exchange rate significantly affect households consumption expenditure. A one percent increase in an exchange rate causes to increases in household consumption expenditure by 63.04 percent.

Expected income generated, family size, education level and owning residential house positively affect the consumption expenditure conducted in Amara reginal state. Based on place of residences, the rural households spend more than the urban household heads. Households who had married have more consumption expenditure than the single households do. At 75^{th}, 90^{th} and 95^{th} quantiles, male-headed households have more expenditure on consumption than the female counterparts do, and the illiterate households spend less than the educated households do. Peoples who have their own house expend more than households who rented houses from the government, NGOs, kebeles, relatives, and non-relatives, (Shimeles and Ndlovu, 2020).

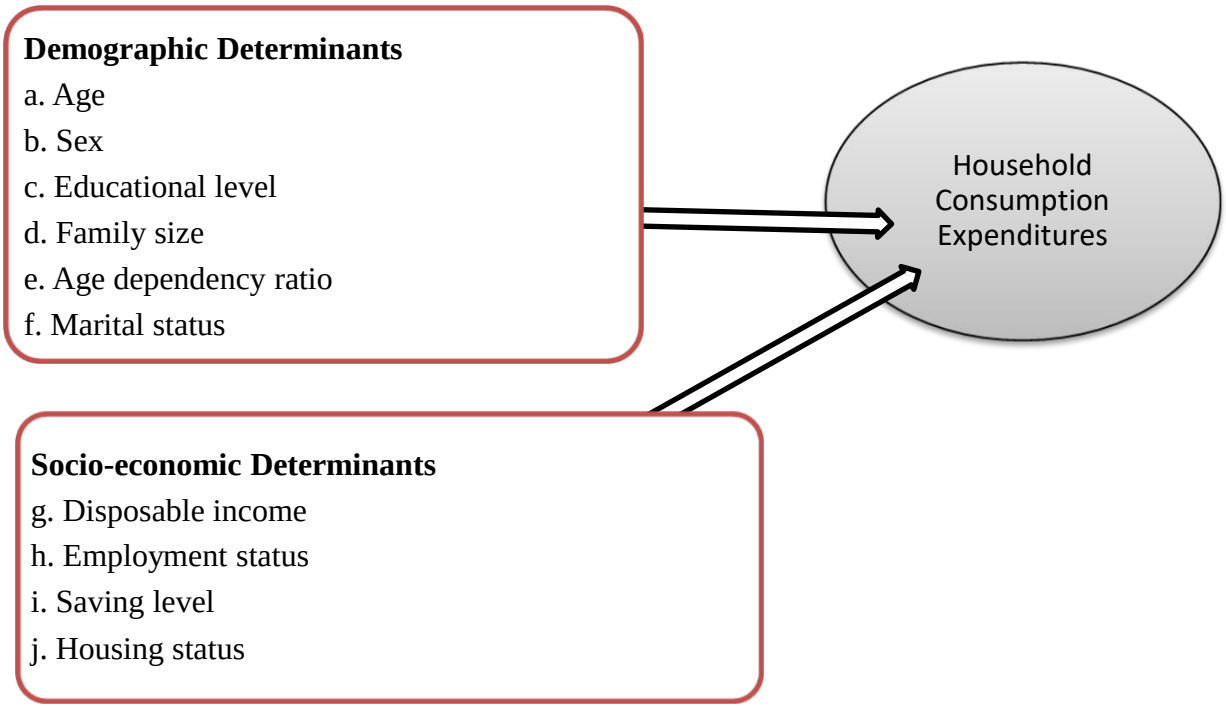
The double hurdle model result for teff consumption indicated that household sizes, dependency ratios, education, employment status, sex, age, income and prices were significantly determine both the decision to consume and the level of teff consumption in Ethiopia. It suggested that age of head of the household was determining the level of consumption while it was not important to influence the household's decision to consume, Seid (2011). From the demand side, cereals like teff, wheat, maize and sorghum are the most important diets (in terms of calorie intake) for Ethiopian households that the consumptions of each item was affected by the household income, (Rashid, 2010).

The Household consumption expenditure positively affected by personal disposable income, family size, education level, age and gender, and negatively affected by saving status of the household heads in Debremarkos town, Zehiwot and Marisennayya (2019). The study based on the patterns and determinants of Household consumption Expenditure of female headed Households, in the case of Sekela district, Amhara regional state of Ethiopia by Alemzewud (2020) showed annual quantity, other household expenditure, Source of income, place of residence, sex, and household size were significantly affect the household consumption expenditure.

2.3 Conceptual Framework

Based on the literature, (Ayyash and Sek, 2020); (Bakri, and *et.al*., 2017); (Maguza and Edriss, 2014); (Shimeles and Ndlovu, 2020); (Seid, 2011) above, every reader of the paper can understand which microeconomic variables influence the consumption expenditure at household levels. In examining the literature on the factors affecting household consumption expenditure, important theoretical literature and related empirical studies reviewed to link the study with what are documented. Those empirical studies reveal how different methodologies and different data sets in various environments used to give the result that might be of great importance to the study. However the study conducted at micro level; several researchers convinced and found that the household income level, family size, saving, employment, education level, age, food and non-food commodity prices, insurance engagement, credit services, places of residence, value added tax at individual level. Moreover, at the national; the national income, national saving, government expenditures, money supply, interest rate, inflation rate, exchange, and business cycles in general, affect the consumption expenditures.

Figure2. 1: Conceptual Framework of the Study



Source: Own Survey from the Literatures

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

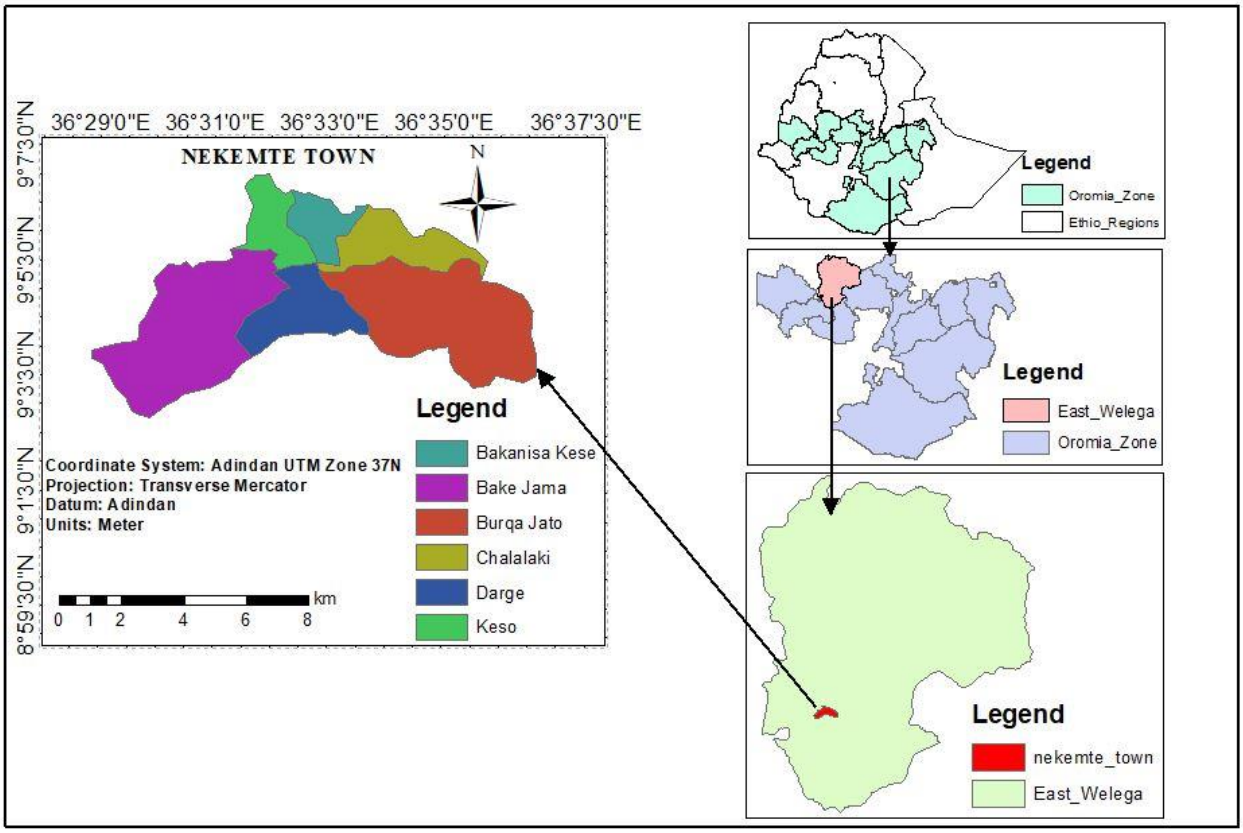
3.1 Description of the Study Area

The study conducted in East Wollega Zone particularly Nekemte Administrative Town. Nekemte town is the Administrative town of the east Wollega zone. It is one of the old towns of the country established in the 19th century and located in the western region of Oromia. Nekemte is also located from Addis Ababa at a distance of 331km along the west, 110km northeast of Gimbi, 250km North West of Jimma zone. It located in between $9^0$36'0" north and $10^0$37'0" east and its elevation is 2088 meters above mean sea level. The town is surrounded by Guto Gida district (5km) in the north and the south, Wayu Tuka district (10km) from the east and Diga district from the west, (CTONT, 2020).

Nekemte lies on an elevated topography, which forms the watershed boundary of Dedhessa River, and the climate of the town is semi-humid climate, which is comfortable for people's inhabitation. As the response given to me from the CTONT (2020), the total population of the Nekemte town was 138,127 of whom 69,400 were men and 68,727 were women. Among the population, there were 27,629 household heads in the town. The major ethnic groups were Oromo (88.66%), Amhara (5.71%), Gurage (3.15%), Tigre (1.40%), and others were about 1.08%. The majority of inhabitants were Protestants (58.53%), Ethiopian Orthodox Christianity (25.43%), Muslims (12.17%), Catholic (2.40), Waqeffata (0.88%) and 0.60% were others. In educational status, the major inhabitants in the town held their first degree (27.68%). The others were, Diploma (19.80%), 9-12 (15.13%), Certificate (12.39%), 1-8 (9.31%), Illiterates (7.34%), MA/MSc and above (4.60%), and Read and write (3.75%).

According to CTONT (2020), the total area of the city is 5,380 hectares. This area is classified into administrative areas Residential areas, Reserve for housing expansion, Commercial Services, Manufacturing and storage, Recreation, Forest, Urban Agriculture, and Infrastructures like road. There are different businesses institution in the town like banking, tourism, hotel, and include different MSE enterprise like manufacturing (food processing, metal works, engineering, & wood works).

Figure3. 1: Map of the Study Area



3.2 Research Design and Data Source

In order to accomplish the objective the study, the researcher used both descriptive and an explanatory research design. The research select the explanatory research design since the explanatory research aims to answer the question why some variables have an effect on other variables or it seeks to test a theory which is a set of logically organized and interconnected principles, rules, assumptions, statements and propositions which are employed to explain, describe and predict the phenomenon, (Melkamu, 2020).

In order to produce a representative sample, the town subdivided into seven sub-towns: Bake Jama, Darge, Chalalaki, Burka Jato, Kasso, Bakanisa Kasse and Sorga used to analyze the effect of several explanatory variables on the dependent variable to examine factors affecting household consumption expenditures in the town. To get the identified purposes, the data were collected from primary sources. The cross-sectional data were collected from the sample of the respondents in the study area through the structured questionnaire. The priory information about

the households was also gathered from the published and unpublished documents obtain from both the Administrative Town and websites, CTONT (2020); (Wikipedia: The free encyclopedia).

3.3 Target Population & Sampling Techniques

There are seven sub-towns (Bake Jama, Darge, Chalalaki, Burka Jato, Kasso, Bakanisa Kasse and Sorga) in Nekemte town. The target population for the study concerned with the Individual Household Heads of the Town. According to the CTONT of (2020), the total number of the households in Nekemte Town was about 27,629. In the study, the researcher used the stratified random sampling where the households divided into seven strata/ sub towns. Then because of the large population in the study area, and lack of time to attempt all of them, the sample households of the seven sub towns selected to represent the whole households in the study area by using simple random probability sampling. To give equal chances to the respondents, the simple probability sampling was used.

Table3. 1: Total Population of Nekemte Town by Sub-towns, 2020

No.	Sub-town	Number of zones	Number of households	Total population		
				male	female	total
1	Chalalaki	10	5673	14320	14,051	28,371
2	Burka Jato	10	4920	12390	12,230	24,620
3	Darge	10	4623	11,546	11,187	22,733
4	Bakanisa Kasse	9	4299	10,450	10,950	21,400
5	Qasso	8	3622	9,065	9,046	18,111
6	Bake Jama	6	3542	8,956	8,757	17,713
7	Sorga	3	950	2,673	2,506	5,179
Total		56	27629	69,400	68,727	138,127

Source: CTONT, 2020

To determine the sample size for the study, Kothari (2004)'s statistical formula was used. In order to determine the sample size from the total population, the following formula, Kothari (2004) used:

$$n = \frac{z^2 \,.\, p \,.\, q \,.\, N}{e^2(N-1) \;+\; z^2 .\; p \,.\, q}$$

Different researchers had been taken sample by determining the sample proportion success and not success based on the experience from previous survey research response rate, Corbetta (2003) the return or success rate 50% is "adequate"; 60% response rate is "good" and 70% rate or higher is "very good" . For this study, 50% was the response-rate, and the remaining 50% non-response rate used and sample size is determined at 95% confidence level. Thus, sample size was calculated based on the finite formula, Kothari 2(004) as the following:

$$n = \frac{z^2 \,.\, p \,.\, q \,.\, N}{e^2(N-1) \;+\; z^2 .\; p \,.\, q}$$

Where:

n - Sample size

N - Total households of the town

e - Precision level (standard error (0.05 for 95% confidence interval) = 5%

z - Confidence level (standard variate as per table of area under normal curve for the given confidence level of 95%) = 1.96

P - Proportion of success (probability to be included in the sample) = 50% = 0.5 based on most conservative sample size.

q = proportion of fail = (1-p) = 0.5 = 50%

$$n = \frac{(1.96)^2(0.5)(0.5)(27629)}{(0.05)^2(27629-1) + (1.96)^2(0.5)(0.5)}$$

$$n = \frac{26534.8916}{70.0304}$$

n = 378.91 ≈ <u>379</u>

The researcher used the method of proportional allocation under which the sizes of the samples from the different strata's/sub-towns. And they were kept proportional to the sizes of the total households by dividing the total households of the size "N" into K sub-towns of size N1, N2, N3…NK and take sample from each sub-town randomly with the following sample size proportional allocation formula.

$ni = \frac{Ni}{N} * n$ …. Where Ni= total households in each sub-town

i=1, 2, 3…K

n =n1+n2+n3…nk

n =total sample size of the households

N =total households of the town

Table3. 2: Summary of sample size determination in selected kebeles by proportional allocation

No.	Name of the sub-towns	No. of HHs in each sub-town	Selected sample size
1	Chalalaki	5,673	[5673*379/27629], 78
2	Burka Jato	4,920	[4920*379/27629], 67
3	Darge	4,623	[4623*379/27629], 63
4	Bakanisa Kasse	4,299	[4299*379/27629], 59
5	Qasso	3,622	[3622*379/27629], 50
6	Bake Jama	3,542	[3542*379/27629], 49
7	Sorga	950	[950*379/27629], 13
Total		**27,629**	**379**

Source: Own Computation

3.4 Data Collection Techniques

The data collected through questionnaire interviews from the sample household heads of Nekemte Administrative Town. The questionnaire was prepared in both closed and open-ended questions on demographic and socio-economic features and consumption expenditure pattern of the respondents in the town. For clearness and easy to understand for the respondents, the structured questionnaire interview in English and then translated into Afan Oromo.

3.5 Method of Data Analysis

The Multiple Regression Analysis is one of the most commonly used tools in econometric works. It is concerned with describing and evaluating the relationship between the explained variable and one or more than one explanatory variables. In its dictionary definition, regression is backward movement, a retreat, a return to an earlier stage of development Maddala, (1992). In the analysis of the study, both descriptive statistics and econometric analysis were employed to meet the purposes of the study. In the descriptive analysis, tables, mean, standard deviation,

minimum and maximum were used and in an econometric analysis, the multiple linear regression models was applied with Ordinary Least Square (OLS) method in order to identify the factors affecting the household consumption expenditures in Nekemte town.

3.6 Model Specification

Multiple linear regression models was used to analysis the factors affecting the household consumption expenditure in Nekemte town. A Multiple regression specifies as equation of Y on X_1, X_2… X_k is as $Y_i = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \ldots \beta_kX_k + Ui$ …… (3.1)

Where:

Y_i = refers to the dependent variable/the variable being predicted.

X_i = shows all independent variable included in the model which affect the dependent variable

β_0= the constant intercept, and $\beta 1$, β_2, β_3 … β_k are coefficients of independent variables that show the cause and effect relationship between the dependent and independent variables.

β_i = are the coefficients of all the explanatory variables.

Ui =error term/ stochastic term or disturbance term

The inferential statistics like that of Independent T-test and analysis of variance (ANOVA) tests employed to compare the means of the different groups. Through considering the mean of the dependent variable, it is used to make a conclusion based on the test between different groups, (Gujarati, 2004).

The Assumptions of Classical Linear Regression Model:

1. Linear Regression Model: The regression model is linear in the parameter. That is

$$Yi = \beta 1 + \beta 2Xi + ui$$

2. The errors have zero mean; E(ut) = 0
3. X-Values are fixing in Repeated Sampling: Values taken by the regression Xs' are considered fixed in repeated samples. More technically, X is assumed to be non-stochastic, and Variability in X Values: The X values in a given sample must not all be the same. Technically variance of X must be a finite positive number.

4. The Number of Observations" n" Must be Greater than the Number of Parameter to be estimated; alternatively, the number of observations "n" must be greater than the number of explanatory variables.
5. The variance of the errors is constant and finite over all values of x_t (Homoscedasticity); var(ut) = σ^2
6. The errors are linearly independent of one another(No serial correlation); cov(ui , u j) = 0
7. There is no relationship between the error and corresponding x variate; cov (ut , xt) = 0
8. That u_t is normally distributed; ut ∼N(0, σ2)
9. No specification bias (the model is correctly specified). Alternatively, there is no specification bias error in the model used in empirical analysis.
10. No perfect/exact collinearity between the X variables (No exact linear relationship between Xi and Xj), There is no perfect linear relationship among the explanatory variables, (Brooks, 2008); (Gujarati, 2004); (Khan S., 2018).

When one of the assumptions of CLRM fails to function, there are different tests that have their own assumptions to solve the problem properly in addition to the above-mentioned tests and econometric model. Some of these will stated as the following:

Normality Assumption

Normality assumption is one of the assumptions of the classical linear regression models that should be tested to satisfy the procedure and to reduce the error happened during an inferential test and model estimation. One of the solutions to avoid the normality problem is transforming the data into logarithm, but it applies for continuous variables.

In addition to the logarithm transformation tests of normality discussed above, consider the other alternatives: (1) histogram of residuals; (2) normal probability plot (NPP), a graphical device; and (3) the Jarque–Bera test; Shapiro Wilk test (swilk). A histogram of residuals is a simple graphic device that used to learn something about the shape of the PDF of a random variable. On the horizontal axis, we divide the values of the variable of interest (e.g., OLS residuals) into suitable intervals, and in each class interval, we erect rectangles equal in height to the number of observations (i.e., frequency) in that class interval. Normal Probability Plot is a comparatively simple graphical device to study the shape of the probability density function (PDF) of a random variable is the normal probability plot (NPP) which makes use of normal probability paper, a

specially designed graph paper. On the horizontal, or x, axis, we plot values of the variable of interest (say, OLS residuals, ˆui), and on the vertical, or y, axis, we show the expected value of this variable if it were normally distributed. Therefore, if the variable is in fact from the normal population, the NPP will be approximately a straight line. The JB test of normality is an asymptotic, or large-sample, test. This test first computes the skewness and kurtosis, (Gujarati, 2004).

The Shapiro Wilk (SW) test first developed in 1965 for the sample size of less than fifty($n \leq 50$). However in 1992,Roystonimprovedthe weights of the SW test of 1965 which used for the sample size of n which includes three up to five thousand($3 \leq n \leq 5000$). The value of W ranges between zero and one: Small value of W leads to the rejection of normality while the large value of W shows normality of the data, (Razali and Wah, 2011).

The two hypotheses fitted were:

- H_0: The data followed the normal distribution
- H_1: The data did not follow the normal distribution

Heteroskedasticity

It is important to remember that heteroskedasticity does not cause bias or inconsistency in the OLS estimators of the βˆj, whereas something like omitting an important variable would have this effect. The interpretation of our goodness-of-fit measures, R^2 and adjusted R^2, is also unaffected by the presence of heteroskedasticity. Since the OLS standard errors based directly on these variances, they are no longer valid for constructing confidence intervals and t statistics. The usual OLS t statistics do not have t distributions in the presence of heteroskedasticity, and the problem is not resolved by using large sample sizes. The heteroskedasticity-robust standard errors provide a simple method for computing t statistics that are asymptotically t distributed whether or not heteroskedasticity is present.

There are also two common ways to test for heteroskedasticity: the Breusch-Pagan test and a special case of the White test. Both of these statistics are involve to regress the squared OLS residuals on either the independent variables (BP) or the fitted and squared fitted values (White). A simple F test is asymptotically valid; there are also Lagrange multiplier versions of the tests.

OLS is no longer the best linear unbiased estimator in the presence of heteroskedasticity. When the form of heteroskedasticity known, generalized least squares (GLS), estimation can be used. This leads to weighted least squares as a means of obtaining the BLUE estimator. The test statistics from the WLS estimation are either exactly valid when the error term is normally distributed or asymptotically valid under non-normality. This assumes, of course, that it has the proper model of heteroskedasticity, Wooldridge (2013). For this assumption, there are two hypotheses. These hypotheses were hereunder:

- H_0: Error terms have constant variance
- H_1: Error terms have no constant variance

Multicollinearity

According to the (Maddala, 1992), collinearity is the situation in which the variables dealt with are subject to two or more relations. There are several measures of multicollinearity (collinearity) problem. Some these are the variance inflation factor (VIF), the condition number, and the ridge regression. The VIF is defined as VIF ($\hat{\beta}i$) = $1/(1-R_i^2)$.

Where: R_i^2 is the squared multiple correlation coefficient between xi and the other explanatory variables, and VIF compares the actual situation with the ideal situation. Conditional number is the overall measure supposed to measure the sensitivity of the regression estimates to small changes in the data. The two hypotheses fitted were:

- H_0: There is no multicollinearity problem
- H_1: There is multicollinearity problem

Model Specification Error

A multiple regression model suffers from functional form misspecification when it does not properly account for the relationship between the dependent and the observed explanatory variables. It is the much more serious problem of correlation between the error, u, and one or more of the explanatory variables. Omitting functions of independent variables is not the only way that a model can suffer from misspecified functional form. Misspecified functional form makes the estimated equation difficult to interpret. Nevertheless, incorrect functional form could detected by either link-test or computing regression specification error test (RESET), or testing

against a non-nested alternative model using the Davidson- MacKinnon test that has proven to be useful to detect general functional form misspecification. No additional data collection is needed, (Wooldridge, 2013).

The two hypotheses will fitted are:

- H_1: The model was properly specified
- H_0: The model was not properly specified

3.7 Descriptions of the Study Variables

A multiple linear regression model was employed to identify the socio-economic and demographic variables affecting the household consumption expenditures. The study consisted of the following variables and the regression model specified as:

The proposed functional linear regression model was: $loghcei = \beta 0 + \beta 1loginci + \beta 2logfsi + \beta 3logedui + \beta 4esi + \beta 5logagei + \beta 6msi + \beta 7logsavi + \beta 8sexi + \beta 9adri + \beta 10hsi + ui$

Where:

Loghcei – log of annual consumption expenditures of the households measured in ETB

Loginci – log of annual disposable income of the respondents measured in ETB.

Logfsi – log of the family size of the respondents measured in person/household

Logedui – log of education level of the respondents measured in years of schooling

Logagei – log of the age of the respondents measured in year

Logsavi – log of annual saving of the respondents measured in ETB

esi – Employment status of the respondents (i.e. 0 if the respondent was engaged on self-employed, 1 for gov't employed, and 2 for other employed)

msi – marital status of the household heads (0 if the hh was single, 1 represented for married, and 2 for other marital statuses)

adri – age dependency ratio that existed a given household measured as the ratio of the productive age groups (15-64) to unproductive age groups(< 15 and > 64 years old) multiplied by 100

hsi – housing status of the respondents used as a categorical variable as (0 if the respondent did not own the house, 1 for those who owned the house)

i – the number of sample size that ranged from 1 – 379

β0 – the constant/ autonomous consumption or the intercept term

β1, β2, β3 … β10 represented the slope or the coefficients of the explanatory variables

ui – the stochastic disturbance term

3.7.1 Dependent Variable

Household Consumption Expenditure (hcei): Household Consumption Expenditure is the monetary value of the consumer goods and services acquired, used and paid for it. The households paid through own account production, barter or as income in kind/ in cash in order to meet the satisfaction of their needs and wants such as food, clothing, housing (rent), energy, transport, durable goods, health costs, leisure, and miscellaneous services per year, CSA (2018). The consumption expenditure of households encompasses all domestic costs by residents and non-residents for individual needs. It refers to the dependent variable which is the total annual household consumption expenditure (in birr), i – represents the number of the respondents in the sample size starting from 1, 2, 3… 379.

3.7.2 Independent Variables

The independent variables comprise the set of measures designated in the regression equation and they are known as predictors or explanatory variables in the regression analysis.

Income (inci): In economic theory, the major factor that influences household consumption is the household disposable income as postulated in the consumption function. Income, also known as disposable personal income, is the amount of money that an individual or household has to invest, to spend or save after income taxes have deducted. It is amount left over taxes. It is one of

the main parameters in determining the consumer spending and one of the most important factors affecting demand, (Gacus, 2021).

Saving level (ssi): The saving is the money that an individual has put away for non-immediate uses that a person has left over when he/she subtract his/her consumer spending from their disposable income over a given period of time. It can be used to increases income through investing. It is the income not spent or the deferred consumption, and the difference between the consumption and income. Since saving is the deduction of consumption from disposable income, it is negatively affect the consumption, (OECD, 2016).

Job status (esi): is the state of having the paid work. It is a paid work agreement between an individual (an employee) and another entity (employer) that stipulates the responsibilities, payment terms and arrangement, rules of the work place, and recognized by the government. The employee will provide certain cervices and the employer controls what the employee does, and where the employee works. The employment level is defined as the number of people engaged in the productive activities in the economy. The two main measures used for employment are the number of persons employed or the number of employees. Meanwhile, the unemployment rates had significantly negative impact on the HCE, (Sugiarto and Wibowo, 2020).

Educational level (edui): refers to the highest level/years of schooling that a person has successfully completed. The successful completion of a level of education is the achievement of the learning objectives of that level that is validated by the assessment of acquired knowledge, skills and competencies. The level of education can measured based on the overall duration or target time of the education and the requirement level, (Obasi, and et.al., 2020).

Sex composition (sexi): The biological attributes of humans including physical features, chromosomes, including physical features, chromosomes, gene expression, hormones and anatomy. The female income from the program prompts a significant increase in the expenditure share of children's clothing and footwear consumption, and that this positive spur happens on account of a significant increase in the expenditure share for boys. Male NREGS income, on the other hand, has no impact on children expenditure for the considered categories, (Bhupal and Sam, 2014).

Age (agei): is the length of time that a person has lived or a thing has existed. It is one of the stages of life. Age is the number of years that a person has lived or a thing has existed. Age has a great impact on the household consumption. The consumer demand of the population is varied with their age structure, and the age structure affects the consumer demand and the consumption structure of an individual or households, (Li & Li, 2014).

Family size (fsi): is refers to the number of persons live in the family or per household. The economic family refers to a group of two or more persons who live in the same dwelling and are related to each other in blood, marriage, common law union, adoption or a foster relationship. It is also the fundamental social group in a society typically consisting of one or two parents and their children. The consumption increases with an increase in family size which states that the income diverted away from savings to consumption. As the number of children increases in a family, its consumption expenditure increases. This means, the relationship between consumption expenditure and family member is positive, (Kiran & Dhawan, 2015).

Marital Status (msi): The marital status is the civil status of each individual in relation to the marriage laws or customs of the country, i.e. never married, married, widowed and not remarried, divorced and not remarried, married but legally separated, de facto union. The marital status of the household head was associated with a negative impact on household expenditure, (Sekhampu and Niyimbanira, 2013).

Age Dependency ratio (adri): Dependency ratio is the ratio of number of family members who are not in labor force (young or old) to the number of family member who are in the labor force. Thus, the dependents, which constitute the youth and old, are the real burdens in Ethiopia. Dependence ratio in adult equivalent unit has negative relationship with poverty status of household heads, which causes to increases consumption expenditure the households, (Ermias and *et.al.,* 2019).

Housing Status (hsi): It is the state of having or not having the residential home. Nowadays the matter of house ownership becomes a serious issue of urban dwellers and it is supposed to play significant roles in the incidence of poverty. It was hypothesized that the housing residence significantly affects consumption expenditure. Rent causes to increase the consumption expenditure, (Shimeles and Ndlovu, 2020).

Error Term (ui): it is unpredictable element of randomness in human response, and the effect of large number of variables, which are omitted, and measurement error in the dependent variable. β_0 = autonomous consumption or the constant intercept, and $\beta 1$, β_2, β_3 … β_k are coefficients of independent variables that show the cause and effect relationship between the dependent (C_i) and independent variables (Xi), and ui is the stochastic term, (Gujarati, 2004).

3.8. Expectations

In was the expectation of the relationship between the predicted and the predictor variables (i.e., the direction of the association of the two variables).

Table3. 3: Description expectations of explanatory variables used in Multiple Linear Regression model

Explanatory Variables	Variable description	Variable code	Expected sign	Variables type	Literature (Evidence)
Hh Income	Disposable income of the respondents in ETB	inci	+ve	Continuous	(Gacus, 2021)
Saving level	Saving status of the respondents in ETB	savi	-ve	Continuous	(OECD, 2016)
Job status	Job status of the respondents: 0 if self-employed, 1 if government employed, 2 if others employed	esi	+ve/-ve	Dummy	(Sugiarto & Wibowo, 2020)
Educational Level	Educational level of the respondents in years of schooling	edui	+ve	Continuous	Zehiwot,2020
Sex	Sex composition of the respondents: 0 if female and 1 if male	sexi	+ve	Dummy	(Bhupal & A. G. Sam, 2014)
Age	Age of the respondents in year	agei	-ve/+ve	Continuous	(Li & Li, 2014)
Family size	Number of family size: person per household	fsi	+ve	Continuous	(Kiran & Dhawan, 2015)
Adr	Age dependency ratio of the households	adri	+ve	Continuous	(Ermias and *et.al.,* 2019)
Housing status	Housing status of the respondents: 1 if own house, 0 if rented house	His	-ve/+ve	Dummy	(Shimeles and Ndlovu, 2020)
Marital Status	Marital status of the household head: 0 if single, 1 if married, 3 otherwise	msi	-ve/+ve	Dummy	(Sekhampu & Niyimbanira, 2013)

Where: +ve indicated the effect of an independent variable on the dependent variable is positive, -ve shows that the effect of an independent variable on the dependent variable is negative.

3.9. Ethical Consideration

The study involved the use of human participants and ethical considerations were taken into account. Before the data gathering, task took place, negotiation was made by researcher and the organization to gain permission to conduct discussions and to gain ethically. The supported letter written by Jimma university Department of Economics to Nekemte Administrative Town Households was given. The purpose of the study was explained to the study subjects and participation was on voluntary basis. Study participants were clearly informed that they could withdraw from the study at any time if they need to do so. The right of each respondent to refuse or answer for few or all questions was respected. Names of study participants were not mentioned in the study report to ensure confidentiality. Moreover, the researcher would inform that a statement of confidentiality, need of conducting of this study, refraining from deceptive practices as well as reciprocity.

CHAPTER FOUR: RESULT AND DISCUSSION

4.1. Introduction

This chapter deals with the presentation, discussion, interpretation and analysis of results gained from the sample survey of the respondents based on the determinants of annual consumption expenditure of households in Nekemte Administrative Town. The data collected from the sample of three hundred seventy nine (379) of the household heads in Nekemte Administrative Town. The data embraced 379 cross-sectional observations based on the annual household consumption expenditure. All the descriptive, inferential statistics and econometric model result had analyzed, interpreted and discussed hereunder.

4.2. Descriptive Statistics of Demographic and Socio-economic Characteristics

In the descriptive analysis of the sample characteristics of the respondents, tables, percentage, frequency, mean, and standard deviation, minimum and maximum were shown hereunder.

4.2.1. Statistical tables of categorical variables

Sex composition of the Respondents

Sex is the nominal demographic variable that has two categories (zero if female category and one if it is male category). From the tabular description of table 4.1 below, 206 (54.35%) were male, and the remaining 173 (45.65%) of the respondents were female. That means most of the respondents were male household.

Marital Status of the Respondents

In the study area, the marital status was categorized into three by giving values, (i.e., 0 if the respondent was single; 1 represented for married, and 2 was given for both widowed and divorced). Most of the respondents 270 (71.24%) were married household heads. The others 94 (24.80%) were single and 15 (3.96%) were widowed and divorced. It showed that the majority of the respondents were dominated by married marital status. The result showed the marriage status of the respondents supported with the social issues of the community.

Job Status of the Respondents

An employment is one of the macroeconomic variables, which can determine the economic growth of a country. The researcher categorized it into three categories i.e., zero represented for self-employee that was used as a base category, 1 if the respondent was government employee, and the remaining 2 for other employees (for non-governmental employees, daily workers, etc.). From the descriptive analysis, 173 (45.65%) were government employed followed by other employed, 115 (30.34%) and self-employed, 91 (24.01%).

Housing Status of the Respondents

Housing status means the types of housing in which an individual resides or the status of having or not having a fixed residence. It was a dummy variable, which has taken the value of 1 for those who own residence and 0 if the respondent had not been living in his/her own house. In the study, the majority of the respondents, 222 (58.58%) had not own the house or had living in the rented houses and the remaining 157 (41.42%) had been living in their own dwelling.

Table4. 1: Description of dummy independent variables

No.	Variables (code)	Categories	Frequency	Percentage (%)
1	Sex (sexi)	Female	173	45.65
		Male	206	54.35
		Total	**379**	**100**
2	Marital status (msi)	Single	94	24.80
		Married	270	71.24
		Others	15	3.96
		Total	**379**	**100**
3	Job status (esi)	Self employed	91	24.01
		Gov't employed	173	45.65
		Other employed	115	30.34
		Total	**379**	**100**
4	Housing status (hsi)	Non-owners	222	58.58
		House owners	157	41.42
		Total	**379**	**100**

Source: Computed based on Stata version 14

4.2.2. Statistical summary of the continuous variables

In the regression analysis of the study, the continuous variables used were age, disposable income, family size, education level, age dependency ratio and saving levels of the respondents. It was the result of statistical description of the linear function (i.e., before transformed the consumption function into log-log functional form).

Age of the Respondents

From the statistical summary of the data, the age of the respondents ranged between 19 to 62 years old. The average year of the household heads was 33.92. The data revealed all the respondents were in their productive age group. Which meant all of them could manage their own families and earn income for survival (table 4.2).

Number of Family Size of the Respondents

In the study area, the largest family size was eight, the smallest was one person per household, and the average family size of respondents was four (4). In relation to that lies from 19-62 implied the high dependency ratio.

Age Dependency Ratio

The age dependency ratio is the demographic features of the households that positively affect the consumption expenditure. It includes the age of children which ranges from zero to fifteen (0-14) and above 65 (old). From the statistical summary, the age dependency ratio ranges from zero to three and on average, it was 0.4312.

Income of the Respondents

Income, also known as disposable personal income, is the amount of money that an individual or household has to invest, to spend or save after the deduction of his/her income taxes. It is amount left over taxes, Gacus (2021). Income is the most dominant factor influence the consumption expenditure measured in ETB. As income increases steadily, consumption is also increases and as income falls, consumption is falls with it. The people's consumption expenditures decision depends on the level of their income and wealth they have, (Balli & Balli, 2011).

On the result of the study, the average income of the household was 104,942.40 birr per annual; the maximum of income of 937,341 birr and the minimum was 10,760 birr per year.

In addition, the average annual consumption expenditure of the households was 97,398.23 birr per year. The maximum consumption expenditure of the households was 398,700 birr and the minimum was 14,400 birr per annual.

Education Level of the Respondents

Education level is the continuous variable that refers to the highest level/years of schooling that a person has successfully completed. The successful completion of a level of education is the achievement of the learning objectives of that level that validated by the assessment of acquired knowledge, skills and competencies. The level of education can measured based on the overall duration or target time of the education and the requirement level, (Obasi and *et.al.*, 2020).

Based on the statistical description of the data, the achievement of years of schooling of the household heads lies between five up to twenty-three (5 - 23) years of schooling. On the average, they had completed 16.074 years of schooling. It meant that the most of the respondents had achieved their own degree.

Saving Level of the Respondents

The saving is the money that an individual has spent away for non-immediate uses that a person has left over when he/she subtract his/her consumer spending from their disposable income over a given period. It is one of an economic variable used means to increase income through investing. It is the income not spent or the deferred consumption, and the difference between the consumption and income. Since saving is the deduction of consumption from disposable income, it is negatively affect the consumption, (OECD, 2016).

From the statistical summary of the study, the annual saving of the respondents ranged from 789 ETB to 67399 ETB with the average annual saving of 6872.75 ETB, (see table 4.2 below).

Table4. 2: Summary of the continuous variables

Variables	Obs.	mean	Std. Dev.	min	max
Expenditure	379	97398.23	60846.50	14400	398700
Income	379	104942.40	78528.40	10760	937341
Saving	379	6872.752	6305.713	789	67399
Family size	379	4.094987	1.704787	1	8
Education level	379	16.07388	3.55156	5	23
Age	379	33.92348	6.402872	19	62
Age dependency ratio	379	0.4311757	0.6178378	0	3

Source: Computed based on Stata version 14, 2021

4.3. Classical Linear Regression Models' Assumptions and Diagnostic Tests

In multiple linear regression models, there are different assumptions with their own diagnostic tests to make the result to be significant and consistent in relation to the econometric model behavior. Unless the result of the model does not fulfill the assumptions, the researcher makes the wrong conclusion, (Gujarati, 2004).

Normality Problem Test

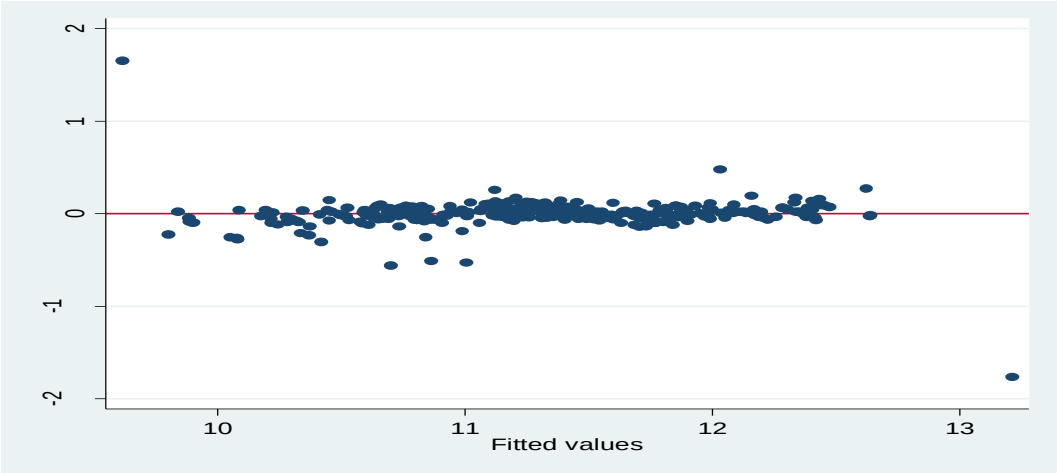
The Normality problem of the given data could be checked by both graphical and statistical tests. In the SW-test, the value of W ranges between zero and one: Small value of W leads to the rejection of normality while the large value of W shows normality of the data and the p value should greater than five percent significance level, Razali and Wah (2011). The study used, statistical test, Shapiro-Wilk test (SW-test) to check whether the data were distributed normally or not. The result (table 4.3) stated that the data normally distributed because of the value of W was closed to one (W = 0.99297, and the p-value = 0.07334). The result revealed that after the data transformation to log-log form, the error term was normally distributed, (it rejected the alternative hypothesis and accepted the null hypothesis which said the data followed the normal distribution i.e., there was no normality problem).

Heteroscedasticity Test

According to Gujarati (2004), if the variances of the error- term of the different observation are not the same, there is heteroskedasticity problem in the model. The variance of the error term should constant in regression results to reject the alternative hypothesis. To check whether the error tem has a constant variance or not, graphical and statistical methods can be used. In cross-section type of data, White test and the Breusch-Pagan or Cook-Weisberg test for heteroskedasticity can used to identify heteroskedasticity problem whether the variances of the error term is constant or not.

The researcher used both the graph and the Breusch-Pagan or Cook-Weisberg test to check heteroskedasticity problem. The figure 4.1 below stated that there was no heteroskedasticity problem. That means, the residual has a constant variance. Moreover, the table 4.3 stated the Breusch-Pagan or Cook-Weisberg test for heteroskedasticity result found P-value of 0.1116, which was more than the level of significance. It revealed that there was no evidence for the existence of heteroskedasticity problem with data, because the correlation coefficients between independent variables were small and the p- value of 0.1116 was above the significance level, which was 11.16% that was greater than α, 5%.

Figure4. 1: Graphical Heteroskedasticity Test



. rvfplot, yline(0)

Multicollinearity test

Multicollinearity problem exists when the independent variables are highly correlated to each other. This problem makes a researcher wrong conclusion of the result. It can be checked through correlation coefficient and Variance Inflation Factor. Variance inflation factor, VIF is widely used method to test for multicollinearity problem in the data; it measures the increasing in the variance of a coefficient because of collinearity among explanatory variables. For the VIF, the minimum possible value is 1.0; whereas the maximum value is 10. The greater than 10 indicates the presence of collinearity between independent factors. VIF can represent as $VIF = \frac{1}{(1-R2)}$. When the value of R^2 = one (i.e. there is a perfect collinearity, TOL = 0); and when R^2 = zero (i.e. there is no collinearity, and TOL = 1), (Maddala, 1992).

Having the guidance above and from the correlation matrix, the data were tested for multicollinearity using Stata software version 14 for each relationship testing the values of variance inflation factor (VIF). As the result, VIF results were acceptable and proved that the data was free from multicollinearity problem. The table 4.3 indicated all the results of VIF were less than 10. Based on the result, the researcher concluded that there was no multicollinearity problem in the data.

Model Specification Error Test

A multiple regression model suffers from functional form misspecification when it does not properly account for the relationship between the dependent and the observed explanatory variables. On the other hand, a model specification error can occur when one or more important variable/s is/ are omitted from the model and/or one or more irrelevant variable/s is/ are included in the model, (Wooldridge, 2013); (Gujarati, 2004).

Based on the table 4.3, there was no specification error in the study (i.e. the model was correctly specified). Because, the _hat was significant since the p-value was 0.000, and the _hatsq was insignificant as its p-value was 0.058 that means greater than significance level. Thus, the regression model was correctly specified and the assumption of model specification error was not violated.

Table4. 3: CLRM Assumptions and Diagnostic Tests

No.	**Diagnostic Tests**	**Command**	**Results**	
1	Normality test	swilk e	W	0.99297
			P	0.07334 > 5% sl
2	Heteroskedasticity test	estat hettest	Ch2(1)	2.53
			Prob > chi2	0.1116 > 5% sl
3	Multicollinearity test	Vif	vif	< 3.10
			Mean vif	1.57
4	Model specification test	link test	-hat p>|t|	0.000
			-hatsq p>|t|	0.058 >5% sl

Source: Computed based on Stata version 14

4.4. Food and Non-Food Consumption Expenditure Patterns

The consumption pattern refers to the elements or components of consumption and how they are organized among each other. It is also the amounts consumed, and the time relationship among consumption periods, Magrabi and *et.al.,* (1991). In other words, the consumption pattern is a reflection of household preference structure, defined in the budget share space and way of life, Managit and *et.al.,* (2020). Clusters of consumption patterns exhibit the intensity of budget share for particular items of expenditure. For example, the food-dominated cluster indicates that the household spends heavily on food items relative to other items. The use of budget share in identifying consumption patterns is justified because it has been confirmed that the relative importance that the household gives to a certain consumption item is stable in time and among households over a certain period, (Chung, 1998).

The households' consumption expenditure pattern is qualities, the quantities, acts and tendencies that depicting the society's use of resources for survival, comfort, and enjoyment. Consumption patterns normally contribute greatly to the social and economic policy of the country. In the developing country, the consumption pattern of the food is higher than that of non-food consumption expenditure. Whereas, in most developed countries, the non-food consumption

pattern dominated the food consumption pattern that the more developed a society, the more they spent on non-food commodities, (NNBS, 2019).

The table4.4 below showed that the consumption expenditure divided into two: the food and non-food consumption expenditure. The food expenditure consisted cereal crops, vegetables & fruits, milk & its products, meat including hens & its products, and other food consumptions. The average annual food expenditure was about 53,879.13 birr with the minimum of 8,530 birr to the annual maximum expenditure of 181,814 birr. The non-food expenditure included water & electricity, education & health, transportation & communication, clothes, housing rents & taxes, and other non-food expenditures. The average annual non-food expenditure was about 43,518.47 birr with the minimum of 6,310 birr to the annual maximum expenditure of 222,187 birr.

From the table, the consumption of cereal crops (like *teff*, wheat, barley, maize, bean, soybeans, lentil, rice etc.), was the most dominant food consumption which constituted about 33.09% of food consumption expenditure and 18.31% of the total annual expenditure resulting from the high quantity consumed from these products. Due to large demand for these cereal crops, the annual consumption expenditures of these food products increased with its preferences that agreed with the study conducted by Rashid (2010). It showed that the diet of people consists primarily of cereals in relation to other food consumptions that would needed for healthy growth including vegetables, meats, milk and its products, honey, eggs, and so forth.

The food consumption expenditures of the fruits and vegetables (viz., potatoes, tomatoes, onion, pepper, carrot, etc.) are the important food items consisted with different types of vitamins, which needed for health protection of a human being. They were the second largest food consumption expenditure that embraced 21.22% of the food expenditure and 11.74% of the total annual expenditure. The milk and its products (like milk, butter, cheese, and yoghurt) were the fourth largest food expenditure next to cereals and vegetables that constituted about 14.64% of food-consumption expenditure and 8.10% of the total annual expenditure that confirmed with, Khan and Ahmad (2014). The meat consumption pattern included hens and its product were the fifth food consumption expenditure that it occupied about 12.64% of the food-consumption expenditure and 6.99% of the total annual expenditure. The other important food consumption commodities were salt, oil, sugar, pasta, honey, vino powder, coffee and different drinking items had occupied the 18.40% of food-consumption expenditure and 10.18% of the total annual

expenditure pattern in the study area. It was similar with Ikudayisi and Omotola (2019), in low urban areas, the major component of total household consumption expenditure is food commodities. These food commodities can bring larger nutritional outcome to the vulnerable groups.

The other expenditure group was non-food consumption pattern that constituted clothes and footwear, 25.36%, which occupied the 11.33% of total annual expenditure; education and health expenditures, 25.29% and 11.29% of the total annual expenditure; water and electricity, 7.53% and 3.36% of the total annual consumption expenditure. Housing rent and tax costs constituted about, 15.31% and out of the total expenditure, they contained 6.84%; transportations and communication (9.30%), and about 4.15% share in the total. Other non-food commodities (viz., social affairs, entertainment, house equipment, repairs, and mobile phone) were about 17.23% of non-food consumption expenditure and 7.70% in the total share of expenditure consumed by the households. In general the total food consumption expenditure pattern constituted about 22256, 724 ETB/year (60.84%) and the non-food consumption expenditure was about 14, 324, 228 ETB/year (39.16%). It indicated that the consumption expenditure pattern skewed to the food commodities specially cereal crops and vegetables.

Table4. 4: Food and Non-food Consumption Expenditure patterns

no	category	expenditure groups	total-expend (ETB/year)	ave	min	max	ssge	Ste
1	Food	Cereals	6757859	17830.76	5511	52628	33.09	18.31
		Veg-fruit	4333405	11433.79	1400	40180	21.22	11.74
		Meats	2581443	6811.195	912	24897	12.64	6.99
		Milk pro	2990068	7889.361	517	29819	14.64	8.10
		Others fd	3757415	9914.024	190	34290	18.40	10.18
		Sub-Total	**20,420,190**	**53,879.13**	**8530**	**181814**	**100**	**55.32**
2	Non-food	elec-wat	1241314	3275.235	450	22643	7.53	3.36
		trans-com	1533326	4045.715	500	32491	9.30	4.15
		educ-health	4169029	11000.08	1000	47830	25.28	11.29
		Clothes	4183175	11037.40	1500	48783	25.36	11.33
		house-taxes	2524443	6660.799	560	27390	15.31	6.84
		others nfd	2842211	7499.237	2300	43050	17.23	7.70
		sub-Total	**16,493,498**	**43,518.47**	**6310**	**222187**	**100**	**44.68**
Total Annual Household Consumption Expenditure			**36,913,688 birr**	**97,397.60**	**14,840**	**404,001**	**100**	

Source: Own survey, 2021

Where: *cereals – cereal crop expend veg-fruit – vegetables and fruit expend; meats – expend for meat, hens and its products; milk-pro – milk and its product expend; other fd – other food expend. elec-wat- water & electricity expend; trans-com – transportation & communication expend; educ-health – education & health expend; clothes – clothes & foot wear expend; house-taxes – expend for housing rent & taxes; others nfd– other non-food expend; ssge – share in sub-group expend; ste – share in total expend; expend – consumption expenditure.*

4.4.1. Patterns and Comparisons of mean household consumption expenditure by sex

As it can be seen from the table below, 182 of the households were female headed while 197 were male headed. Independent t-test was made to compare whether there is sex difference between or not in consumption expenditure. The result indicated that there was a mean difference between male and female in consumption expenditure. On average, the male-headed

households consumed about 108602.60 ETB per year, and the female-headed households consumed about 84056.63 ETB per year. It indicated that the male-headed households consumed more than female-headed counterparts did. The t-test (-3.9882) and the Pr (|T| > |t|) = 0.0001 showed, as there was statistically significant sex difference expenditure between male and female at 5% significance level.

Table4. 5: Patterns and Comparisons of mean household consumption expenditure by sex

```
. ttest hcei, by(sexi)

Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	173	84056.63	3123.518	41083.47	77891.27	90221.99
1	206	108602.6	4992.305	71653.06	98759.73	118445.4
combined	379	97398.23	3125.475	60846.5	91252.73	103543.7
diff		-24545.95	6154.604		-36647.6	-12444.3

```
    diff = mean(0) - mean(1)                                      t =  -3.9882
Ho: diff = 0                                     degrees of freedom =      377

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.0000         Pr(|T| > |t|) = 0.0001          Pr(T > t) = 1.0000
```

Source: Computed based on Stata Version 14, 2021

4.4.2. Patterns and Comparisons of mean household consumption expenditure by house ownership

From the table 4.6 below revealed that the 222 of the households were residential non-owners while 157 were house owners. Independent t-test was made to compare whether there is residential ownership difference or not in consumption expenditure. The result indicated that there was no mean difference in residential ownership in consumption expenditure. On average, the residential non-owners consumed about 97084.94 ETB per year, and the residential owners were consumed about 97841.22 ETB per year.

Table4. 6: Patterns and Comparisons of mean household consumption expenditure by house ownership

```
. ttest hcei, by(hsi)

Two-sample t test with equal variances
```

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	222	97084.94	3723.843	55484.01	89746.15	104423.7
1	157	97841.22	5418.438	67892.83	87138.25	108544.2
combined	379	97398.23	3125.475	60846.5	91252.73	103543.7
diff		-756.286	6353.25		-13248.53	11735.96

```
    diff = mean(0) - mean(1)                                      t =  -0.1190
Ho: diff = 0                                     degrees of freedom =      377

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.4527         Pr(|T| > |t|) = 0.9053          Pr(T > t) = 0.5473
```

Source: Computed based on Stata Version 14, 2021

4.5. Correlation Coefficients Analysis

Correlation is a way to index the degree to which two or more variables are associated with or related to each other. The most widely used bi-variant correlation statistics is the Pearson product-movement coefficient, commonly called the Pearson correlation, which was used in this study. Correlation coefficient between two variables ranges from +1 (i.e. perfect positive Relationship) to -1 (i.e. perfect negative relationship).

The household consumption level was significantly correlated with that of the household income, family size, education level of food budget managers (FBM), age of FBM, residences of households, (Kassahun and Fekadu, 2009).

Table 4.7 bellow showed the correlation coefficients between the dependent variable and independent variables in regression model. That disposable income, adr, age, education, family size, marital status, and saving were positively correlated household consumption expenditure, while sex, housing status, and employment status were negatively correlated with HCE. That was less than 75% and it is acceptable association between dependent and independent variables.

Table4. 7: Correlation matrix of dependent and independent variables

```
. corr loghcei loginci logsavi logagei logfsi logedui adri esi hsi sexi msi
(obs=379)
```

	loghcei	loginci	logsavi	logagei	logfsi	logedui	adri	esi	hsi	sexi	msi
loghcei	1.0000										
loginci	0.9628	1.0000									
logsavi	0.4851	0.5262	1.0000								
logagei	0.6687	0.6525	0.3401	1.0000							
logfsi	0.5648	0.5444	0.3089	0.4419	1.0000						
logedui	0.5825	0.5676	0.3688	0.4452	0.3639	1.0000					
adri	0.6456	0.6287	0.4478	0.4115	0.3842	0.4155	1.0000				
esi	-0.1212	-0.1105	-0.0672	-0.1377	-0.1975	-0.0305	-0.1090	1.0000			
hsi	-0.0226	0.0060	0.0679	0.0225	0.1223	-0.1037	0.0352	-0.0433	1.0000		
sexi	0.1242	0.1038	0.1797	0.0855	0.1211	0.0946	0.1837	-0.0652	0.1254	1.0000	
msi	0.1674	0.1627	0.0775	0.1034	0.3289	0.0966	0.0394	-0.0654	0.0946	0.0208	1.0000

Source: Computed based on Stata Version 14, 2021

Measuring Goodness of Fit of the Model

The coefficient of determination, R^2 used as the measure of the proportional variation in the dependent variable that is explained by in the explanatory variable/s. it also measures the predictive ability of the model over the sample period or the measure of how well the estimated regression fits the data. The value of R^2 is equal to the squared sample correlation coefficient between the predicted yi and actual yi. As the sample correlation measures the linear association between two variables, if R^2 is high, there is close association among the yi and the value predicted by the model, y^i that the model fit the data well. However, when the value of R^2 is low, there is no close association between the actual and predicted value of the dependent (y) variable and the model does not fit the data well. The formula for the coefficient of determination is R^2 is equal to the regression sum of squares, SSR divided by the total sum of squares, SST. Then, R^2 = SSR/SST. The overall test of significance of the general multiple regression model with (K-1) independent variables and K unknown coefficients can be checked by using F-test, (Hill and *et.al.*, 2011). $F = \frac{\frac{SST-SSE}{(K-1)}}{SSE/(N-K)}$

From the result of the study (table 4.9), the value of R^2 was 0.9378, and the adjusted R-squared was 93.61. It indicated that about 93.78% variation of the dependent variable explained by the variation of the explanatory variable included in the model. Since the value of R^2 is high, there was close association between the predicted and actual value of the dependent variable in model. The remaining 6.22% of variation of predicted variable was occupied by stochastic disturbance terms. As the result of the study, the model fit the data well and it was adequate.

4.6. Results of Regression Analysis

In an econometric regression analysis, the multiple linear regression models was applied with Ordinary Least Square (OLS) method in order to identify the effect of all explanatory variables the household consumption expenditures in the study area. It applied the log-log functional form to analyze the relationship among the dependent and independent variables. The name ‘‘log-log’’ comes from the fact that the logarithm exists on both sides of the equation. In order to use the model, all values of y and x must be positive. The slopes of these forms change at every point, but the elasticity is constant and equal to βi. A useful way to think about the log-log function comes from closer inspection of its slope dy/dx = β0 + βi(y/x), (Hill and *et.al.*, 2011).

Under the following regression output, the beta coefficients were negatives or positives that indicated each variable's level of influence on the dependent variable. P-value indicated at what percentage or precession level of each variable is significant. R^2 values revealed the explanatory power of the model and in the study, the adjusted R^2 value that takes into account the loss of degrees of freedom associated with adding extra variables were inferred to see the explanatory powers of the models.

The proposed model was: $\text{loghcei} = \beta0 + \beta1\text{loginci} + \beta2\text{logfsi} + \beta3\text{logedui} + \beta4\text{es} + \beta5\text{logagei} + \beta6\text{msi} + \beta7\text{logsavi} + \beta8\text{sex} + \beta9\text{adri} + \beta10\text{hsi} + \text{ui}$

Based on the regression result of table 4.10, the model presented as follows:

$$\text{loghcei} = 1.25 + 0.82\text{loginci} + 0.19\text{logagei} + 0.088\text{logedui} + 0.067\text{adri} + 0.056\text{logfsi} - 0.042\text{hsi} - 0.036\text{logsavi} + 0.026\text{sexi} + 0.0083\text{msi} - 0.003\text{esi} + \text{ui}$$

Table4. 8: Multiple Regression Result

source	Ss	df	Ms	Obs = 379
model	135.027671	10	13.5027671	F(10, 368) = 554.48
residual	8.96155193	368	0.024352043	Prob>F = 0.0000
Total	143.989223	378	0.380923871	R2 = 0.9378
				Adj R2 = 0.9361root MSE = 0.15605

loghcei	Coef.	Std. err	t	P > |t|	interval
loginci	0.8205509	0.0218812	37.50	0.000	
logsavi	-0.0359409	0.0123626	-2.91	0.004	
logagei	0.1999923	0.059767	3.35	0.001	
logfsi	0.0555706	0.0202567	2.74	0.006	
logedui	0.0877453	0.0401089	2.19	0.029	
Adri	0.0666653	0.0172938	3.85	0.000	
His	-0.0421278	0.0168192	-2.50	0.013	
Esi	-0.0030782	0.0111986	-0.27	0.784	
Msi	0.0082731	0.0173306	0.48	0.633	
Sexi	0.026025	0.0166515	1.56	0.119	
const.	1.250077	0.2143981	5.83	0.000	

Source: Computed based on Stata Version 14, 2021

Based on the statistical regression result above, out of ten independent variables, disposable income, age, housing status, family size, education level, saving status and age dependency ratio were statistically significant factors. Among them, disposable income, age, family size, education level and age dependency ratio had positive significant effect on annual consumption expenditure; whereas the housing status and saving status were negatively significant impact on annual expenditure. Moreover, disposable income, age, family size, saving, and age dependency ratio were significant at one percent (1%) of significance level (i.e., they had high significant impact on expenditure). While the housing status and education level of the respondents had significant impact at five ($\alpha = 5\%$) percent level of significance.

The coefficient of annual disposable income implied keeping other things being constant, every one percent increase in income leads to 0.82 percent increase in annual consumption expenditure of the households. In opposite to the null hypothesis whish stated that there is no significant relationship between disposable income and consumer spending, the study showed the large and rapid increase in income tends to raise the household consumption expenditure, because households capacity to consume increases with increase in their income. The result convinced with the theory that income is the most influential factor affecting consumption. Ceteris paribus,

an increase the national income causes to increase the total consumption, but not as much as income increases, Mankiw (2009). In addition, with empirical research conducted on a micro econometric analysis of household consumption expenditure determinants for both rural and urban areas in Turkey by Çağlayan and Astar (2012); in Debre Markos town Zehiwot and Marisennayya (2019), Tepi town Wegayehu, and *et.al.,* (2020); Bakri and *et.al.,* (2017). However, it contradicts with Zeynalova and Mammadli (2020) that the disposable income and personal income tax have insignificant influence the household consumption expenditures.

Age of the household found to have positive and significant effect on the annual consumption expenditures of the households. The coefficient indicated that keeping other things constant as age of the respondent increases by one percent, his/her consumption expenditure increases by 0.20 percent on average. This implied that the sample respondents of the household heads were existed in the productive age group. In every active age period, an individual can work to earn an income in order to his/her consumption expenditure. It confirms with the study conducted in Malaysia based 'Decomposing inequality in household consumption expenditure' showed that the age of the respondent had positively significantly effect on the per-capita consumption expenditure, (Ayyash and Sek, 2020). It also convinced with life cycle theory that stated age demographic structure of the population is an important determinant of consumption pattern of different consumers in an economy (Modigliani, 1986), (Deaton, 2005), and (Mankiw, 2009).

The regression result shown education level of the respondents had a positive and statistically significant effect on household consumption expenditure. The coefficient of the value indicated that other factors remain constant, a one percent increase in the respondent's years of schooling caused to increase the consumption expenditure by 0.088 percent on average. It revealed there was positive significant relationship between consumption expenditure and education level of the respondent. The level of household heads and their educational attainments has positive significant effect on household expenditures on children's education in Egypt, (Rizk and Owusu-Afriyie, 2014).

The saving of households significantly negatively affected their consumption expenditure in the study area. From statistical result, the saving coefficient -0.036 indicated other things remain fixed, every one percent increases in saving leads to decreases the consumption expenditure by 0.036 percent. The result convinced with the life cycle hypothesis that has been widely used to

analyze household consumption-saving decisions. Generally, the life cycle model suggests that individuals save during their working years or before retirement, and deplete it after they retire, using their savings to spend for consumption, especially on health care, over the remainder of their lives, Modigliani (1986). The saving status of the households had negative impact on the Household Consumption Expenditures in Amhara region of Ethiopia, (Zehiwot and Marisennayya, 2019). The consumer does not inherit any assets and his net assets are the result of his own savings. His current savings result in future consumption that depends on the total resources available to him during his lifetime, and given the life span of an individual, his consumption is proportional to these resources. A person borrows and dis-saves in his young age; in his productive age, he saves to repay the debt and to consume in the future. In the last years of his life he dis-saves rather, he consumes what he saved in his middle lifetime (Modigliani, 1986).

The members of a given family positively affect the household consumption expenditure. As the number of person per family increases, the consumption is also increases in the direction of it. The table 4.9 above implied the family size had positive significant impact on consumption expenditure. Its coefficient 0.056 sowed a one percent increases in family size, ceteris paribus, the household consumption expenditure increases by 0.056 percent. From this result, as the family member increase the consumption expenditure of goods and services also increases. It convinced with Mathhews-Njoku, and *et.al*., (2008), Zehiwot and Marisennayya (2019), Wegayehu, and *et.al.,* (2020), Alemzewud (2020), that the number of family size positively affect the household consumption expenditure of the households.

The age dependency ratio is one of the demographic characteristics of the households, which affects their consumption expenditure and shows the incidence of poverty. In the study, the dependency ratio significantly positively affected the annual consumption expenditures of the respondents. The age dependency ratio significantly determined both the decision to consume and the level of teff consumption in Ethiopia, Seid (2011). From the result of the study, the coefficient of dependency ratio was statistically positively significant at 1% level of significance. As the ratio of the dependents to the productive age group increases, the household consumption expenditure increases by seven percent (7%), all other things being unchanged.

The housing status of the household had negative effect on consumption expenditure and statistically significant. The result revealed that households who were living in their own houses consumed less by 0.042 percent as compared to the household who were living in the rented house all other things being constant. It showed us the households who were living in their own built residential houses less consumption that should paid for the rent and save the amount. The result contradicted with the study of Shimeles and Ndlovu, (2020) which indicated that the households those were living in their own houses had more consumption expenditure than those who have living in the gift or rented houses.

The constant term (β_0) is an autonomous consumption, which is the expenditure take place when the level of disposable income is at zero. In spite of the absence of income, peoples still have expenses. It causes peoples to borrow money or withdraw from their saving accounts. From the result above, the constant term has positively significantly influenced the HCE. It indicated everybody could spend to consume and to survive when all independent factors are at zero level. Nevertheless, our concern was not the constant term to recommend rather on the explanatory variables to fit the objectives.

Moreover, the consumption expenditure of the households increase by different planned and unplanned events like festivals, birthday and wedding ceremonies, traditional and New Year holydays, leisure, commonly eating, culture of drinking and by unforeseen events. It also increases due to cultural barriers like *teskar* ceremonies.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter started by presenting a summary of the major findings from the study. Conclusions were then drawn based on the findings of the study. Next, the study presents recommendations in line with the study findings. The chapter ends with indicating future research agendas.

5.2. Summary

In the study, an attempt has made to analyze the annual household consumption expenditure in Nekemte Administrative Town by using multiple linear regression models. The important features of the analysis were to identify the socio-economic and demographic factors affecting annual consumption expenditure to analysis their significance relationship and to determine the food and non-food consumption expenditure in the area. As far as, the household consumption expenditure was concerned with, disposable income, age education, saving status and housing status, numbers of family size, and age dependency ratio were observed in the study area.

The results of the statistical software version 14, revealed us that the data normally distributed with a constant variance of the error term and there was no multicollinearity problem in it. Moreover, the annual disposable personal income, age dependency ratio, age, numbers of family size and education level of the respondents significantly and positively affected while the housing and saving status negatively influence the annual household consumption expenditure in Nekemte town. With regard to the budget share of expenditures, food commodity expenditure occupied the larger share than the non-food commodity, which accounted about 60.84% of the annual consumption expenditure. The remaining 39.16% of expenditure was shared by non-food consumption expenditure.

5.3. Conclusion

The impacts of household characteristics on household consumption expenditures are important in both evaluating the standard of living and in formulating government policies such as food assistance, income maintenance, tax treatment, and price controls in the market. In conclusion,

the study has looked at the determinants of household consumption expenditure in Nekemte administrative town of East Wollega zone. The study was used cross-sectional data for the sample of three hundred seventy nine (379) of the household heads in the town, which were the annual consumption expenditure data of 2020/21.

The study focused on identifies the determinants of household consumption expenditure in Nekemte administrative town of East Wollega zone. However, the determinants of household consumption expenditure had been many factors as different researchers, the study concentrated on annual disposable income, annual saving, and number of family size, age, education level, age dependency ratio, housing status, sex, marital status, and employment status of the respondents. About three specific objectives were articulated and the primary data summarized through descriptive statistics, Pearson correlation and multiple linear regression analysis. The results of the statistical software version 14, revealed us that the data were normally distributed with a constant variance of the error term and there was no multicollinearity problem in it.

As the previous studies conducted in different areas, the household consumption expenditure had mostly affected by the personal disposable income followed by the number of family size. Nevertheless, the other factors had a minimal effect on it. In the study area, the contribution of annual disposable income, annual saving, number of family size, age, education level, age dependency ratio and housing status had been confirmed the significant effect. From the literature review points, there were different important theories of consumption, which had stated consumption in different ways. Having sound annual disposable income, number of family size, age, education level, age dependency ratio had positive impact on annual household consumption expenditure. That means increasing disposable income, large family size, greater age and education level, and high dependency ratio caused to increase the consumption expenditure. In general, the study shown us most of the respondents in the study area were the productive age group and educated peoples who had been living in their own residences; whereas annual saving and housing status negatively affected the annual consumption expenditure in the study area. Reducing the saving amount caused to increase the consumption expenditures of the households.

With regard to the budget share of expenditures, the average annual food expenditure was about 53,879.13 birr with the minimum of 8,530 birr to the annual maximum expenditure of 181,814 birr. The average annual food expenditure was about 43,518.47 birr with the minimum of 6,310

birr to the annual maximum expenditure of 222,187 birr. Food commodity expenditure especially cereal crops, and vegetables and fruits occupied the larger share than the non-food commodity, which accounted about 60.84% of the annual consumption expenditure. The remaining 39.16% of expenditure (mostly dominated by education and health cost, and clothing costs) had shared by non-food consumption expenditure in Nekemte town.

5.4. Recommendation

Based on the results and the findings of the study, the following recommendations forwarded to control the factors affecting household consumption expenditure, and to change the effect direction of some significant variables to balance the household consumption expenditure in the study area.

The government launches and encourages income diversification programs in urban area to meet the demand of the households. It may include income-generating activities like urban agricultures (viz., poultry, enterprise producing dairy products etc.), non-agricultural enterprises (viz., small-scale manufacturing, construction, repairs, community services etc.), trade, and other related livelihood activities. From the finding, disposable income had a dominant role to determine the expenditure. Therefore, it is important to give attention for the income of the households to balance their income and consumption expenditure. Moreover, it is better to create job opportunities for active laborers to earn more to improve the living standards. Concerning these challenges, the ministries of agriculture, trade ministry, Land authority, cooperative agencies engage to mitigate the problem.

Since, the family size has a positive and significant impact on the consumption expenditure, regulating the size of the family through family planning policies and strategies is a important work. Therefore, the concerned bodies like Ministry of Health and health Bureau through health extension and family planning programs should design to minimize the size of the households. This may enable to increase the per capita income of the household, which has a direct effect on consumption expenditure, which includes the motives that encourage the households those who limit the family size through considering with their income.

The government intervention to raise the return to saving through tax-favoring saving, by matching contributions or through ensuring that the means-testing of benefits does not lower the return to saving excessively. A concerned policy is essential in an attempt to boost household

saving is to increase financial rewards to saving. The intention is that the carrot of increased future spending power for households who choose to save more will lead to greater household saving today. Lowering the cost of consumption in the future relative to consumption now will tend to boost saving, but boosting the lifetime income of savers will operate against this by tending to boost spending in all periods.

Improving the living standard of the community is the objective of the government and a healthy housing facility is essential to achieve the objective. The society's wellbeing and its productivity are closely related to housing condition. A personal investment on housing has an important role on the economy. The problems concerned with housing status of the households can be resolved when financial and legal constraints will reduced. Strengthening the housing division within the ministry of environment, construction and territorial development, as well as, Set up a national housing agency with the key role of translating government-housing policy into action.

Give emphases towards strengthening households' education through teaching and training on how to use income diversification and how to use the luxury commodities. Make awareness to the community to have transparency to tell the true information of their income and consumption expenditures since it will important for policy making purposes. Households work hard at the productive age period to shape their food and non-food consumption expenditures.

5.5. Agenda for Future Research

Finally, the paper investigated the determinants of household consumption expenditure in Nekemte Town, Ethiopia and it will serve as an input for further study. Although there were important contributions from the study, there are certain limitations. The study incorporated different demographic characteristics and socioeconomic factors that may affect farm household participation in off farm activities. However, there may be additional socioeconomic and demographic factors that can affect farm household participation in off farm activities. So, future researchers can conduct by including other internal and external variables in order to generalize. The study incorporated different demographic characteristics, socioeconomic factors demographic characteristics, and socioeconomic factors that may affect the household consumption expenditure. Thus, the future research could incorporate time-series information at country level with larger sample size to better understanding of household consumption expenditure.

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APPENDEXIES

Appendix A: List of Regression Result Analysis Tables

Appendix 1: Description of nominal explanatory variables

No.	Variables (code)	Categories	frequency	Percentage (%)
1	Sex (sexi)	Female	173	45.65
		Male	206	54.35
		Total	**379**	**100**
2	Marital status (msi)	Single	94	24.80
		Married	270	71.24
		Others	15	3.96
		Total	**379**	**100**
3	Employment status (esi)	Self employed	91	24.01
		Gov't employed	173	45.65
		Other employed	115	30.34
		Total	**379**	**100**
4	Housing status (hsi)	Non-owners	222	58.58
		House owners	157	41.42
		Total	**379**	**100**

Appendix 2: Summary of the continuous variables

```
. sum hcei inci savi fsi edui agei adri
```

Variable	Obs	Mean	Std. Dev.	Min	Max
hcei	379	97398.23	60846.5	14400	398700
inci	379	104942.4	78528.4	10760	937341
savi	379	6872.752	6305.713	789	67399
fsi	379	4.094987	1.704787	1	8
edui	379	16.07388	3.55156	5	23
agei	379	33.92348	6.402872	19	62
adri	379	.4311757	.6178378	0	3

Appendix 3: Result of Normality Test

```
. swilk e

                    Shapiro-Wilk W test for normal data

    Variable |        Obs        W           V          z       Prob>z
-------------+-------------------------------------------------------
           e |        379     0.99297       1.843      1.451     0.07334
```

Appendix 4: Statistical Heteroskedasticity Test

```
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of loghcei

         chi2(1)      =     2.53
         Prob > chi2  =   0.1116
```

Appendix 5: Multicollinearity Test using Variance Inflation Factor and Tolerance

```
. vif

    Variable |       VIF       1/VIF
-------------+----------------------
     loginci |      3.09    0.323124
     logagei |      1.81    0.551788
        adri |      1.77    0.564302
      logfsi |      1.67    0.600148
     logedui |      1.57    0.636283
     logsavi |      1.47    0.681454
         msi |      1.14    0.876216
        sexi |      1.07    0.934019
         hsi |      1.07    0.936082
         esi |      1.05    0.949633
-------------+----------------------
    Mean VIF |      1.57
```

Appendix 6: Model Specification Error Test

```
. linktest

      Source |       SS       df       MS      Number of obs   =       379
-------------+------------------------------   F(2, 376)       =   2832.14
       Model |  138.122183     2  69.0610913   Prob > F        =    0.0000
    Residual |  9.16866138   376  .024384738   R-squared       =    0.9378
-------------+------------------------------   Adj R-squared   =    0.9374
       Total |  147.290844   378  .389658317   Root MSE        =    .15616

------------------------------------------------------------------------------
       loghce |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        _hat |    1.627579   .330437     4.93   0.000     .9778428    2.277315
      _hatsq |   -.0279515   .0147053   -1.90   0.058    -.0568665    .0009634
       _cons |   -3.512318   1.853946   -1.89   0.059     -7.15772    .1330841
------------------------------------------------------------------------------
```

Appendix 7: Correlation matrix of dependent and independent variables

```
. corr loghcei loginci logsavi logagei logfsi logedui adri esi hsi sexi msi
(obs=379)
```

	loghcei	loginci	logsavi	logagei	logfsi	logedui	adri	esi	hsi	sexi	msi
loghcei	1.0000										
loginci	0.9628	1.0000									
logsavi	0.4851	0.5262	1.0000								
logagei	0.6687	0.6525	0.3401	1.0000							
logfsi	0.5648	0.5444	0.3089	0.4419	1.0000						
logedui	0.5825	0.5676	0.3688	0.4452	0.3639	1.0000					
adri	0.6456	0.6287	0.4478	0.4115	0.3842	0.4155	1.0000				
esi	-0.1212	-0.1105	-0.0672	-0.1377	-0.1975	-0.0305	-0.1090	1.0000			
hsi	-0.0226	0.0060	0.0679	0.0225	0.1223	-0.1037	0.0352	-0.0433	1.0000		
sexi	0.1242	0.1038	0.1797	0.0855	0.1211	0.0946	0.1837	-0.0652	0.1254	1.0000	
msi	0.1674	0.1627	0.0775	0.1034	0.3289	0.0966	0.0394	-0.0654	0.0946	0.0208	1.0000

Appendix 8: Standardized Beta Coefficients

```
. regress loghcei loginci logsavi logfsi logedui logagei adri hsi esi sexi msi
```

Source	SS	df	MS		
Model	134.977049	10	13.4977049	Number of obs	= 379
Residual	9.01217411	368	.024489604	F(10, 368)	= 551.16
				Prob > F	= 0.0000
Total	143.989223	378	.380923871	R-squared	= 0.9374
				Adj R-squared	= 0.9357
				Root MSE	= .15649

loghcei	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
loginci	.8193964	.0219955	37.25	0.000	.7761439	.862649
logsavi	-.0340819	.0123298	-2.76	0.006	-.0583277	-.0098362
logfsi	.056301	.0203199	2.77	0.006	.0163433	.0962588
logedui	.0883814	.0402673	2.19	0.029	.0091985	.1675644
logagei	.2013773	.0599424	3.36	0.001	.0835047	.3192498
adri	.0700507	.0172203	4.07	0.000	.0361883	.1039132
hsi	-.0400661	.0168188	-2.38	0.018	-.0731391	-.0069931
esi	-.0034628	.0112306	-0.31	0.758	-.0255471	.0186215
sexi	.009815	.0163147	0.60	0.548	-.0222667	.0418968
msi	.0084158	.017392	0.48	0.629	-.0257843	.0426159
_cons	1.24681	.2163532	5.76	0.000	.8213664	1.672254

APPENDIX B: RESEARCH QUESTIONNAIRES

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

Questionnaire for Households Heads

Dear Respondents

The researcher is going to conduct the research on the topic known as **The Determinants of Household Consumption Expenditures in Nekemte Town** for partial fulfillment of requirement for Master of Science in Economic Policy Analysis. The purpose of this questionnaire is to gather relevant information regarding the main objective of the study; to identify demographic, socio-economic determinants and patterns of Household Consumption Expenditures in Nekemte Town. Therefore, to make the study easy the researcher prepared some questionnaires papers, he ask you politeness to fill each questionnaire patiently because each of your response is very useful for the study.

First and for most I would like to thank in advance for your willingness to fill this questionnaire format!

General Instruction

Please circle the appropriate answer for the questions from the given choices and fill in the black space for the open-ended questions and for extra answers.

Part I. Identification Information

1. No need of writing your name
2. Name of the Respondent's kebele/sub town _____
3. Date of the Interview _____
4. Questionnaire number _____

Part II. Information Demographic and socio-economic features of the households:

1. Sex of the respondent: _____ 1) male 0) Female
2. Age of the respondent: _____ years
3. Education status (years of schooling) of the respondent in year: _____years

4. What is your marital status?

   0) Single 1) Married 2) Other wise

5. What is the total of your family size? _____ persons.

   5.1) The number of your family members:

   a. Below 15 age: female_____, and male _____
   b. Between 15 – 64 age: female_____, and male _____
   c. Above 65 age: female_____, and male _____

6. i. In between 15 – 64 ages, how many persons have the work? _____ persons /household.
7. Do you have a work? 1) Yes 0) No
8. Currently in which of the following organization you employed and working?

   0) Self-employed 1) Government employed 2) Other wise

9.1. What is your monthly income? _____ETB *

   9.2. (Monthly income * 12 = Annual income = _____ETB)

10. Do you save from your part of income per month?

   1. Yes 0. No

11. The amount of Ethiopian birr (ETB) you save per month: _____ETB

12. Do you live in your own home/family home?

   1) Yes 0) No

13. Are there cultural barriers that affect your consumption expenditure? ___

   1) Yes 0) No

14. If you have said, yes on the 13 above, state those barriers. _____.

15. Is the habit of your neighbor households' consumption expenditure affecting your consumption expenditure? 1) Yes 0) No

16. If you have said, yes on the 15th above, state those habits:_____

17. During what period that your consumption expenditure is increases? _____

18. Household Expenditures

18.1 Household Expenditures on Food and Drink Items

No	Items	Measurement	Quanty	Expense per week (in birr)	Expense per month (in birr)	Expense per year (in birr)
1	Teff	Kg				
2	Wheat	Kg				
3	Barley	Kg				
4	Maize	Kg				
5	Bean	Kg				
6	Peens	Kg				
7	Lentils	Kg				
8	Potatoes	Kg				
9	Tomatoes	Kg				
10	Onion	Kg				
11	Salt	Kg				
12	Peppers	Kg				
13	Sugar	Kg				
14	Coffee	Kg				
15	Oil	Litter				
16	Vino powder	Kg				
17	Carrot	Kg				
18	Meat	Kg				
19	Milk	Litter				
20	Butter	Kg				
21	Cheese	Litter				
22	Hens	No.				
23	Egg	No.				
24	Honey	Kg				
25	Drinks	Litter				
26	Pasta	Kg				
27	Rice	Kg				
28	For others					
29	Total					

18.2 Household Expenditures on Non-food Items

No.	Items	Amount of expense in ETB	
		ETB Per month	ETB Per year
1	Water & Electricity		
2	Transportation		
3	Healthcare		
4	School fee		
5	Clothing and footwear		
6	Social affairs		
7	Recreation		
8	Additives		
9	Housing rent		
10	Taxes its cut before income		
11	House Equipment		
12	Mobile card		
13	Repairs		
14	Others		
Total			