Rift Valley University

Department of Development Economics

Determinants of Household Consumption Expenditure: In the Case of Lega Tafo-Lega Dadhi Sub-city, Sheggar City, Oromia Regional State of Ethiopia

A Research Thesis Submitted to the Department of Development Economics at Rift Valley University, in Partial Fulfillment of the Requirements for the Award of Masters of Science Degree in Development Economics

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Addis Ababa, Ethiopia

Declarations

First, I, the undersigned declare that this Research Thesis is my original work and that all sources of materials used for this Research Thesis have been duly acknowledged. This Research Thesis has been submitted in partial fulfillment of the requirements for the award of a Master of Science Degree in Development Economics at Rift Valley University. I solemnly declare that this Research Thesis is not submitted to any other institution anywhere for the award of any academic degree, diploma, or certificate.

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Approval Sheet

This is to certify that the Research Thesis entitled "**Determinants of Household Consumption Expenditure: In the Case of Lega Tafo-Lega Dadhi Sub-city, Sheggar City, Oromia Regional State of Ethiopia**", submitted to Rift Valley University, Department of Development Economics in partial Fulfillment of the requirements for the award of Master of Science Degree in Development Economics is a record of original Research Thesis carried out by Debela Nigusu under my supervision, and no part of the Research Thesis has been submitted for any other degree or diploma.

The assistance and help received during this investigation have been duly acknowledged. Therefore, I recommend that it be accepted as fulfilling the Research Thesis requirements.

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DEDICATION

I would like to pass my dedication to my mother for her invaluable support towards my education and teaching me the virtues of determination and hard work.

Acknowledgments

Above all, I would like to praise Waqa, the creator of me, for the inner peace, health, protection, support, and strength he gave me and the help of whom was too immense to reach this day. He has always been my only source of strength and encouragement even when things seem to fall apart. Second, I am deeply grateful to my advisor, Dr. Mekonnen Bersisa, for his invaluable guidance, support, and mentorship during the development of this thesis. His profound expertise in the field, insightful feedback, and unwavering encouragement has been pivotal in shaping this work. I am sincerely thankful for the opportunity to benefit from his wealth of knowledge and experience.

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Acronyms

ADB	African Development Bank
AGDI	African Governance and Development Institute
AIH	Absolute Income Hypothesis
APC	Average Propensity to Consume
CLRM	Classical Linear Regression Model
CSA	Central Statistical Agency
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
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

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Abstract

This study was aimed to assess the major determinants of household food consumption expenditure in the Case of Lega Tafo-Lega Dadhi Sub-city, Sheggar City, Oromia Regional State of Ethiopia. Using multiple linear regression analysis on a cross-sectional dataset, the research investigates the influence of demographic factors (sex, age, education, and marital status of the household head) and socioeconomic factors (employment status, family size, housing status, savings, credit use, and household income) on the food consumption expenditure of urban Ethiopian households. The overall model was found to be statistically significant and exhibited a high coefficient of determination, indicating that the included predictors accounted for 99.2% of the variation in the dependent variable. The findings suggest that marital status, family size, housing status, savings, credit use, and income are the most significant predictors of household food consumption expenditure in the urban context. Notably, income emerged as the single most influential factor in determining household consumption expenditure in the study area. The study also conducted correlation analysis to examine the relationships between household financial and demographic variables. The analysis found a strong positive correlation between Expenditure and Income, and between Family size and Expenditure. There was a moderate positive correlation between Age and Saving, and a moderate negative correlation between Saving and Credit use, indicating a trade-off in financial choices. These findings provide valuable insights for policymakers and practitioners aiming to address food security and consumption-related issues in urban Ethiopia by highlighting the complex interplay between household-level characteristics and food consumption patterns. The study offers a comprehensive understanding of the socioeconomic and demographic factors influencing household food expenditure in the urban context.

Keywords: Consumption, Expenditure, Income, Household, Urban

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Poverty and inequality are significant global issues that directly impact food security and economic development. The number of hungry people worldwide has surged in recent years, reaching 828 million in 2021 an increase of 46 million from 2020 and 150 million more since the onset of the COVID-19 pandemic (UNICEF, 2022). This alarming rise in global hunger is closely linked to persistent poverty, as extreme poverty and limited access to adequate food often lead to malnutrition. Ethiopia, a country with a rich cultural heritage and diverse ecosystems, faces unique challenges in addressing these issues. Despite notable economic growth in recent years, significant portions of the population still experience food insecurity and poverty. According to the World Bank, about 25% of Ethiopians live below the national poverty line, with rural areas disproportionately affected by low agricultural productivity and climate-related shocks (World Bank, 2022).

Food is one of the most basic necessities of life, essential for human existence and health. However, availability issues and a lack of awareness about balanced diets contribute to significant deprivation among both rural and urban populations. This situation can lead to various health problems, ultimately hindering a country's economic growth and prosperity (Begum et al., 2010). As noted by McCracken & Brandt (1987), food ranks at the top of Maslow’s hierarchy of needs and constitutes a key component of various welfare dimensions, including food security, nutrition, and health. In low-income countries, food typically represents the largest share of household expenditure, averaging about 50% of total budgets (Oteh et al., 2014). Drescher & Roosen (2013) emphasize the importance of food in household expenditure, noting that for most households, spending on food is the largest expense, followed by housing costs. In contrast, wealthier households allocate a smaller percentage of their income to food. Consequently, lower-income households often spend a higher portion of their income on food, leaving less available for education, housing, and transportation.

In addition to these challenges, developing nations like Ethiopia face widespread poverty and inadequate agricultural productivity, which limit households' ability to consistently access and afford sufficient nutritious food (Hirvonen et al., 2021; Stifel et al., 2016). The Ethiopian economy is heavily reliant on agriculture, which employs over 70% of the population. At the household level in low-income countries, consumption defined as the quantity of products and services consumed and consumer expenditure the money spent on those goods and services are crucial economic activities. The impact of changes in private consumption on aggregate demand is vital for short-term economic analysis, as consumption accounts for about two-thirds of GDP. Fluctuations in consumption can create economic shocks, and in the short run, the marginal propensity to consume affects the multiplier for fiscal policy.

Consumption refers to the total quantity of goods and services consumed over time, while final consumption expenditure denotes the money spent on consumer goods during that period. A consumption function is used to calculate the total consumption expenditure of an economy. Several theoretical models have been proposed to assess and evaluate consumer behavior (Park, 2016). In the context of Ethiopia, economists have not reached a consensus on the optimal model for representing and predicting consumer behavior. However, existing research has identified key determinants shaping consumption expenditure patterns, including income, household characteristics, access to markets, regional differences, and relative prices (Taffesse & Abay, 2020; Alene & Coulibaly, 2009; World Bank, 2015). Severe wealth disparities can be detrimental to a nation's economic progress, particularly in developing economies like Ethiopia (Safari et al., 2019). Reducing income gaps and improving food security are critical priorities, yet they present complex challenges. In industrialized countries, high living costs, low minimum wages, and global economic crises complicate efforts to address inequality (OECD, 2021; ILO, 2022).

1.2. Statement of the Problem

Previous research has explored trends in consumption expenditure, identifying household income and family size as significant predictors of consumption behavior (Taffesse and Abay, 2020; World Bank, 2015). However, despite the wealth of studies, significant gaps remain

unaddressed. Much of the existing literature relies on large national surveys conducted between 2011 and 2018 or even older data sources (CSA, 2018; Worku et al., 2017), which provide limited localized insights. This study aims to bridge these gaps by collecting primary data from the semi-urban area of Lega Tafo-Lega Dadhi. By focusing on this specific locale, the research provides timely, location-specific information that complements existing rural-focused studies (Bundervoet, 2022). This is especially crucial as Ethiopia experiences rapid urbanization (World Bank, 2022), emphasizing the need to investigate consumption patterns in urbanizing areas that have been understudied.

In Ethiopia, daily food consumption is predominantly based on cereal agricultural products, and the government plays a vital role in enhancing production and marketing through investments in infrastructure and the adoption of improved seed varieties and fertilizer technologies (World Bank, 2007). Such measures are essential to elevate living standards across the country. Importantly, as noted by Asimakopulos (1986), consumption behavior can influence a society's saving and investment levels. Developed nations tend to exhibit higher investment relative to consumption, while developing societies often prioritize consumption over saving or investment. In addition to economic factors, this study examines the influence of education levels, family structure, asset ownership, and other contextual characteristics that have received limited attention in Ethiopia (Ikiara, 2017; Abay, 2020; Thamae and Mahlako, 2021). Furthermore, the research investigates how locational features impact spending beyond traditional household variables (Abay, 2020).

While previous studies have predominantly employed simple regression analyses, this research utilizes a Structural Regression (SR) model to offer fresh insights into the complexities of consumption behavior (Worku et al., 2017; Thamae and Mahlako, 2021). By addressing constraints related to data, variables, and methodologies, the findings could significantly enhance policy and development measures aimed at improving household welfare in Ethiopia's urbanizing regions. Several studies have previously identified factors influencing household consumption in Ethiopia. For instance, research conducted in Addis Ababa indicated that household income and family size were primary determinants of consumption behavior (Zelalem, 2005). In contrast, a study in Tepi town, SNNPR, found that

the age and education level of the household head had minimal impact on consumption expenditure (Wegayehu et al., 2020). Conversely, in Debre Markos town and Sekela woreda of the Amhara region, age and education were shown to negatively affect household consumption expenditure (Zehiwot & Marisennayya, 2019; Alemzewud, 2020). Moreover, Shimeles and Ndlovu (2020) revealed that households owning residential properties had higher consumption expenditures than those renting.

Although the existing literature provides valuable insights into the factors influencing household consumption expenditure in Ethiopia, further research is necessary to identify these determinants in specific regions, such as Lega Tafo-Lega Dadhi. This study aims to contribute to the existing literature by investigating the determinants of household consumption expenditure in the targeted area. The findings are expected to inform policymakers and planners, aiding in the design of appropriate strategies to enhance living standards and promote sustainable consumption patterns across the country.

1.3. Research Questions

This study addressed the following basic research questions.

- What are the household's consumption expenditure patterns in the study area?
- What are the determinants of household consumption expenditure 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 Household Consumption Expenditures in Lega Tafo-Lega Dadi Sub-city, Sheggar City, Ethiopia.

1.5. Specific Objectives

The specific objectives of the study were:

• To analyze the households' consumption expenditure pattern in the study area.

• To identify the determinants of the household consumption expenditures in the study area.

1.6. Significance of the Study

This study on the factors influencing household consumption expenditure in Lega Tafo-Lega Dadhi Sub-city, Sheggar City, Oromia Regional State of Ethiopia, provides insight for policymakers, economists, and researchers. The findings may assist policymakers develop policies and strategies to improve city households' living conditions. Understanding the fundamental elements influencing household consumption expenditure allows policymakers to design targeted policies to meet local requirements. Economists can use the data to improve their models of consumer behavior, leading to a better knowledge of household consumption patterns in the Lega Tafo-Lega Dadhi Sub-city. While various studies on household consumption expenditure have been undertaken, the purpose of this research was to fill crucial contextual, conceptual, and empirical gaps in existing information. By focusing on the distinct characteristics of Lega Tafo-Lega Dadhi Sub-city, the study extends to our understanding of Ethiopian consumer behavior. Furthermore, this study tends to be utilized as a reference for future research, providing organizations with insights into better understanding their customers and developing more efficient marketing campaigns. Overall, the importance of this study stems from its potential to inform policymaking, improve economic modeling, contribute to the academic literature, and assist businesses in understanding consumer behavior in the specific context of Lega Tafo-Lega Dadhi Sub-city, Sheggar City, Oromia Regional State, Ethiopia.

1.7. Scope of the Study

The study focused on the factors affecting consumption expenditures by households in the Lega Tafo-Lega Dadi Sub-city, which is located in the Ethiopian Oromia regional state. The primary objective was to provide an in-depth analysis of household consumption and expenditure practices in this specific geographic area. The study covered various aspects of household consumption, including expenditures on food, housing, healthcare, education, and discretionary items. By adopting a focused geographical scope, the research aimed to generate insights that can inform policymakers, businesses, and stakeholders operating within the Lega

Tafo-Lega Dadi Sub-city. Furthermore, the findings may serve as a foundation for future comparative and longitudinal research on consumption patterns.

1.8. Limitations of the study

Several primary obstacles were discovered during this research undertaken on the determinants of consumption expenditure by households in Ethiopia. First, concerns about data availability and quality were identified, which may have had an impact on the analysis's reliability and comprehensiveness. Second, the study's geographic scope was limited to the Lega Tafo-Lega Dadi Sub-city, limiting the implications of the findings to the greater Oromia area or Ethiopia as a whole. Furthermore, the research was limited by resource restrictions such as financial, time, and subject-matter knowledge, which may have limited the scope and depth of the investigation that could be conducted. These limitations had to be carefully acknowledged when evaluating the findings and their wider relevance.

1.9. Organization of the Study

The thesis was organized into five chapters. Chapter 1 was the introduction, which contained the background of the study, statement of the problem, objectives of the study, research questions, scope and limitations of the study, significance of the study, and the organization of the paper itself. Chapter 2 provided a review of the theoretical and empirical literature related to the determinants of household consumption expenditure. Chapter 3 explored the research methods adopted by the study, including the data types and sources, model specification, and estimation techniques. Chapter 4 included the discussion and interpretation of the research results. Finally, Chapter 5 presented the conclusions drawn from the thesis findings, policy recommendations, and areas for future research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Theoretical Literature review

In economics, consumption is defined as the choosing, acquisition, and use of products and services to satisfy wants and requirements. Consumption includes not only economic but also non-economic elements that influence consumer behavior and the overall way of life of individuals or communities. The concept of "consumption expenditure" is fundamental to price theory since it assesses the use of goods and services by customers. Consumers seek to optimize lifetime utility by dividing their resources between current and future consumption (Dankwa, 1992). Keynes (1936) defined consumption as the part of income that was not saved, thereby distinguishing between purchases that satisfy wants directly and investments that became assets. Due to the lack of a satisfactory means of directly measuring the goods consumed, the monetary measure of consumption has been widely accepted and used as a basis for predicting economic trends. However, Friedman (1972) opined that consumption represents the total quantity of goods and services bought and consumed by consumers during a period, which is the expression of total consumer demand. In economics, consumption simply means the use of goods and services, which may include the purchase of durable goods such as furniture or vehicles, as well as works of art that may increase in value over time. Schorfheide (2010) considered consumption expenditure as the amount that households spend on purchasing goods and services for consumption. He submitted that consumption expenditure is the most significant of all basic types of expenditure that causes product to occur and thus income to be earned. Schorfheide also noted that in any economy with free choice, the total volume of personal consumption expenditure is determined primarily by the amount of disposable income that people receive.

There are two main types of consumption expenditure:

Autonomous Consumption Expenditure: Keynes (1936) defined this as the part of consumption spending that is independent of the level of income and reflects the influence of non-income determinants, such as consumer confidence, interest rates, expectations, wealth, income distribution, access to credit, and health.

Induced Consumption Expenditure: This is the consumption expenditure that depends on income or production, particularly disposable income, national income, or gross domestic product. Induced consumption is measured by the marginal propensity to consume (MPC) and is reflected by the positive slope of the consumption line.

According to Njimated, (2006), Consumption expenditures are induced because people are prone to spend the income they have. If they have more income, then they are inclined (that is, induced) to spend more. If they have less income, then they spend less. Mhlongo& Daniel (2013) induced consumption simply means that income is the most important factor affecting consumption expenditures. Other factors are important, but income is at the top of the list. People cannot buy if they have no income. The analysis of these different types of consumption expenditure is crucial for understanding consumer behavior, economic growth, and the overall performance of an economy.

2.1.1 Theories of Consumption Expenditure

This part contains various alternative theories of consumption expenditure recommended by different professionals. These theories are Keynesian' absolute income hypothesis, Duesenberry's relative income hypothesis, Modigliani and Brumberg's life-cycle hypothesis, and Friedman's permanent income hypothesis.

2.1.2 Permanent Income Hypothesis (PIH) Theory

The Permanent Income Hypothesis, established by Milton Friedman in 1957, states that households base their consumption decisions on their long-term or "permanent" income rather than their present or temporary income (Friedman, 1957). In 1957, Friedman proposed the Permanent Income Hypothesis to explain consumer behavior. The PIH contends that the most

important element influencing consumption expenditure is permanent income, which is the average income a household expects to receive during its lifetime. According to the theory, households try to smooth their consumption over time, adjusting it only in reaction to changes in their permanent income, while saving a portion of their temporary or transitory income to maintain a steady quality of living. Friedman generalized the two-period case to an indefinitely long horizon and introduced the concepts of permanent consumption (Cp) and permanent income (Yp). Permanent income is the mean income regarded as permanent by the household, which depends on its total wealth and is not necessarily indicated by current income. According to the theory, permanent consumption is a function of total wealth (W) and the interest rate (r) (Mankiw, 2009; Mankiw, 2006; Friedman, 1957; Friedman, 1972). Friedman divided annual family income into permanent income (Yp) and transitory income (Yt), where measured income (Y) is the sum of the two. According to the PIH, households determine permanent income within the framework of the adaptive expectations hypothesis, where permanent income is the part of income that households expect to persist into the future, while transitory income is the random deviation from the average (Mankiw, 1997). Similarly, measured consumption (C) is divided into permanent consumption (Cp) and transitory consumption (Ct). The consumption function is held to be proportional, such that $Cp = kYp$, where k is a factor depending on the interest rate (r), the ratio of non-human to total wealth (w), and other variables like age and tastes (u) (Friedman, 1957). The theory suggests that households aim to smooth their consumption over time, saving a portion of transitory income to maintain a stable standard of living.

2.1.3 Relative Income Hypothesis

The Relative Income Hypothesis, proposed by James Duesenberry in 1949, contends that households' purchasing decisions are influenced by the consumption patterns of their reference groups. This theory emphasizes the role of social comparisons and relative income in affecting consumption behavior, as individuals may want to maintain a specific level of spending relative to their peers or reference groups. Duesenberry explained that people do not only derive satisfaction from consumption but also from how their consumption compares to that of others. He argued that consumption behavior is not independent but rather interdependent on

the behavior of every other individual. However, the seminal study by Kuznets (1946), a Nobel Prize winner, was a turning point in the development of the consumption function literature. Kuznets's study, which made use of long-run time series data, showed that except for the Depression years, the APC in the U.S. over the period 1869–1938 fluctuated narrowly between 0.84 and 0.89. In other words, APC was approximately mean-reverted, such that even if income increased significantly, consumption kept almost a stable fraction of income; thus, consumption was a proportion rather than a function of income (Baykara & Telatar, 1992).

2.1.4 Life-Cycle Income Hypothesis

The life-cycle income hypothesis was developed by Franco Modigliani (1954), an Italian economist, and Brumberg (1980) to reconcile the discrepancy between cross-sectional findings and the findings of time-series analysis. The model was also meant to capture the effect of liquid assets on consumption. Unlike the Keynesian consumption theory, which is entirely based on the current income of individuals, the concept of the life-cycle hypothesis assumes that all individuals consume a constant percentage of the present value of their life income. The life-cycle theory assumes that individuals or families try to maximize the utility derived from their entire life-cycle consumption. Therefore, consumption must be continuous, even if income through the life-cycle is discontinuous; and saving is primarily done to finance consumption during the retirement period (Kankaanranta, 2006). Modigliani and Brumberg's model emphasized how saving can be used to transfer purchasing power from one phase of life to another. In early life, labor income is usually low relative to later working years. Income typically peaks in the last part of the working life and then drops at retirement. Consumers who wish to smooth consumption would prefer to borrow during the early low-income years, repay those loans build up wealth during the high-income years, and then spend off the accrued savings during retirement (Parker, 2010).

2.1.5 Keynesian Theory (Absolute Income Hypothesis)

The Keynesian Absolute Income Hypothesis, developed by John Maynard Keynes in 1936, posits that consumption is a function of current disposable income, with the marginal propensity to consume being less than one (Keynes, 1936). Keynes argued that current income

is the primary determinant of household consumption and that income increases will lead to increases in consumption, but at a lower rate than the increase in income (Keynes, 1936). This theory emphasizes the role of current income and the potential for government policies, such as fiscal policy, to influence consumption through changes in disposable income.

Keynes postulated the Keynesian psychological law, also known as the Absolute Income Hypothesis (AIH). The law states that current consumption expenditure is a function of current disposable income and that as income increases, consumption expenditure also increases but at a decreasing rate. According to the AIH, the marginal propensity to consume (MPC) is less than the average propensity to consume (APC), and APC falls as income increases.

The Keynesian consumption function is frequently expressed as:
$C = a + bY$, where C is consumption, Y is disposable income, a is autonomous consumption (a positive constant), and b is the marginal propensity to consume, which is between 0 and 1.

Implicit in this model is the understanding that households are liquidity-constrained and cannot borrow to consume more than their current income allows (Landsem, 2010).

2.2 Empirical Literature review

2.2.1 Determinants of Households' consumption expenditures

Household consumption expenditure is a vital component of economic analysis, representing the portion of national income allocated to the purchase of goods and services rather than saved. This concept is rooted in the notion that consumers aim to maximize their utility through spending (Beckhart, 1936). While measuring consumption expenditure can be complex due to its multifaceted nature, its importance in understanding economic behavior is widely recognized (Browning et al., 2015). Household expenditure includes all private purchases of final goods and services intended for personal use, encompassing a broad range of items, from basic necessities to luxury goods.

A myriad of factors influences household consumption beyond mere income levels. Among the most significant determinants are an income level, which is often viewed as the primary determinant of consumption behavior. Not only does income directly affect the quantity of goods and services that households can purchase, but it also influences the types of goods consumed. Higher income levels typically enable households to afford more diverse and higher-quality products. The relationship between income and consumption is nuanced, varying based on family size, the age of the household head, and the gender composition of its members (Bajari et al., 2013). Additionally, wealth and assets play a critical role in determining consumption patterns, as households with significant assets may feel more secure in their financial situation, leading to increased spending.

Other key determinants include prevailing interest rates, which significantly impact consumption decisions. Lower interest rates reduce borrowing costs, encouraging households to take loans for major purchases, such as homes and cars, while higher rates can deter borrowing and spending. The general price level and inflation also affect household purchasing power; when prices rise, households may reduce their consumption or shift to cheaper alternatives. Consumer confidence in the economy influences spending behavior as well; when consumers feel optimistic about their financial future; they are more likely to increase their spending. Moreover, demographic characteristics, government policies, cultural norms, individual preferences, employment status, educational attainment, and broader financial market conditions all shape consumption behavior.

Understanding the diverse drivers of household consumption is essential for policymakers, businesses, and economists seeking to analyze and predict aggregate consumer demand and its implications for broader economic performance (Zehiwot & Marisennayya, 2019). Policymakers can use this knowledge to tailor interventions that promote economic stability and growth. In developed nations, there is often a greater emphasis on investment rather than consumption, which can lead to long-term economic growth by enhancing productivity. Conversely, developing societies typically prioritize consumption, as immediate needs often take precedence over long-term investment strategies (Asimakopulos, 1986). This focus on

consumption can sometimes lead to challenges such as currency depreciation, especially when countries rely heavily on imports to meet domestic demands.

A pertinent example can be seen in Ethiopia, where daily food consumption significantly relies on cereal agricultural products. This dependency underscores the need for government intervention in the agricultural sector to improve both production and marketing. Investments in infrastructure, along with the adoption of superior seed varieties and fertilizer technology, are essential for enhancing agricultural output and ultimately improving the living standards of the population (World Bank, 2007). Despite the myriad challenges households encounter in satisfying their consumption needs stemming from variations in income levels and other influencing factors an increase in individual income generally correlates with higher consumption and saving levels (Sitotaw & Nigus, 2006). This relationship underscores the importance of understanding the complex interplay of economic, social, and personal factors that shape household consumption behavior. By exploring these dynamics, researchers and policymakers can gain valuable insights into consumer behavior, which is crucial for formulating effective economic policies and strategies at both the national and regional levels.

2.2.1.1 Demographic factors

A. Age and Sex

The age of household heads has a significant impact on consumption patterns. The consumer demand of the population varies 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 differences in income, tastes, and preferences, different generations or age groups exhibit varying expenditure patterns. The research reveals that younger cohorts spend more than older cohorts on food away from home, (Blisard, 2001). In Germany, the reallocation of age group shares up to 2030 is large enough to observe changes in consumption expenditures. The coefficient of the age variable indicated that age significantly affects consumption, (Stöver, 2012). A more recent study by Leng and Liu (2022) found that the aging of the population in China has led to significant changes in household consumption patterns, with increased spending on healthcare and a decline in spending on education and entertainment.

Biological attributes of humans include 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 this positive effect happens due to a significant increase in the expenditure share for boys. Male NREGS income, on the other hand, has no impact on children's expenditure for the considered categories, (Bhupal and Sam, 2014). Evidence is mounting that household expenditure patterns are 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 policymakers and donors to conclude that women should be targeted for credit and small enterprise programs 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 et al., 1994).

B. Family Size

As the family size increases, savings in absolute and relative terms tend to decline, as the savings-to-income ratio decreases. Conversely, consumption increases with an increase in family size, indicating that income is diverted from savings to consumption. Despite this, the mean monthly consumption expenditure of households with 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 also greater than that of all the lower family member groups (Kiran and Dhawan, 2015). Households with high-income levels are often characterized by transitory increases in income and exhibit a lower consumption-to-income ratio. Treating heterogeneous households symmetrically, this indirectly assumes that two households with the same level of income but different family sizes are equally well-off, may be an oversimplification (Samuel, 1999).

C. Housing Status

Research on the relationship between the housing market and household consumption, and its implications for the nation's economic cycles, has typically focused on the mechanisms through which housing prices affect consumer spending (Ivanchev, 2017). The empirical

results show that the stock price index has had a significant positive effect on consumption, while interest rates have played a minimal role. The results also indicate that rising house prices have harmed consumption, suggesting that high housing prices trigger a crowding-out effect on consumption, which in turn contributes to sluggish economic growth (Lin et al., 2019). It has been found that the composition of asset portfolios significantly affects households' consumption patterns. Asset levels and asset prices have positive influences on household consumption. Furthermore, different household assets have varying impacts on consumption patterns, which can be categorized into living, developing, and enjoying types of consumption, with a larger wealth effect on the developing type of consumption (Han and Si, 2020).

D. Education and employment

The level of educational attainment has a strong correlation with household consumption expenditures. As the level of schooling increases, individuals tend to see higher incomes, improved skills, and greater professional qualifications (Bayar & Ilhan, 2021). This enables them to earn more and spend more on their wants and desires. Higher household income levels stemming from greater education also often drive greater expenditures on education itself (Alves & Crespo, 2019). Education is seen as a critical factor in boosting economic growth and alleviating poverty, with household education expenditures being a key component in measuring poverty and inequality (Oseni et al., 2020).

Alongside educational status, employment, and job security also emerge as key determinants of household consumption patterns. Employment is a crucial macroeconomic variable that can directly impact economic growth and household spending (Malley & Moutos, 2020). In many industries, employment is closely linked to educational qualifications (Colella & van Soest, 2020). Unemployment, on the other hand, introduces income uncertainty and can lead to increased precautionary saving, resulting in a negative relationship between consumption and joblessness (Hurd & Rohwedder, 2021; Ganong & Noel, 2019). Studies have shown that job insecurity has a significant, negative effect on household consumption, particularly for essential expenditures like food (Bowman, 2019; Dynarski & Sheffrin, 2021). Both

educational attainment and employment status are thus crucial factors shaping household consumption patterns, with important implications for economic development, poverty alleviation, and the design of appropriate social policies.

2.2.1.2 Economic and institutional factors

A. Saving Levels

Household savings are a crucial component of individual and societal well-being. People save a portion of their income for unforeseen contingencies, to smooth consumption due to income fluctuations, and to enjoy the interest and gradual increase in expenditures (Ando and Modigliani, 1963). Since saving is the deduction of consumption from disposable income, it is negatively related to consumption expenditures (OECD, 2016).

Saving is the income not spent on consumption, and it harms consumption expenditures. This is because only a fraction (c) of any change in income is spent on consumption, while the remaining fraction (1-c) is saved. The marginal propensity to save (MPS = $\Delta S/\Delta Y$) is 1-c. A change in income changes both planned consumption and planned saving, and the sum of the marginal propensity to consume (MPC) and the marginal propensity to save (MPS) is equal to one (Curtis and Irvine, 2021). In other words, saving is the part of disposable income that is left after consumption. Mutyaba (2013) defined the difference between household income and consumption as saving in his dissertation.

B. Disposable Income

Household consumption expenditure is primarily influenced by disposable income. As income increases steadily, consumption also rises, and when income falls, consumption declines sharply. The level of income and wealth possessed by individuals determines their consumption expenditure decisions (Balli and Balli, 2011). Changes in income have a significant impact on the overall consumption process and the structure of consumption expenditures. The results show that one's consumption expenditure changes in the same direction as their income changes (Auzina and Pocs, 2010).

C. Access and financial services

Access to credit and financial services is a crucial factor shaping household consumption patterns in developing countries. The ability to smooth consumption over time and finance larger purchases can significantly impact household spending behavior (Karlan and Zinman, 2010). Households in developing countries often face constraints in accessing formal credit and financial services, limiting their capacity to manage income volatility, make investments, and finance durable goods purchases. Studies have shown that increased access to credit and financial services can lead to a substantial increase in household spending on durable goods, education, and health care (Banerjee et al., 2015). The lack of access is particularly acute in rural and remote areas, disproportionately affecting low-income and marginalized households (Burgess and Pande, 2005). Policymakers and practitioners have recognized the importance of improving access to credit and financial services as a means of promoting sustainable and inclusive economic growth (Demirgüç-Kunt et al., 2018).

D. Institutional factors

One of the key institutional factors is the quality of governance and the effectiveness of government policies. Weak governance, corruption, and inefficient bureaucracies can undermine the delivery of public services and the implementation of policies that affect household consumption (Kaufmann et al., 2010). For example, poorly designed tax systems or ineffective social welfare programs can distort consumption incentives and limit the ability of households to allocate resources efficiently. The strength of property rights and the rule of law is another critical institutional factor. Secure property rights and an effective legal system can enable households to accumulate assets, access credit, and engage in longer-term consumption planning (Acemoglu and Johnson, 2005). In contrast, weak property rights and high levels of uncertainty can discourage household investment and lead to more short-term, precautionary consumption patterns.

The development of financial institutions and markets is also a key determinant of household consumption behavior in developing countries. Well-functioning financial systems can provide households with access to credit, savings, and insurance products, allowing them to

smooth consumption over time and finance larger purchases (Beck et al., 2007). Conversely, underdeveloped financial sectors can constrain household consumption and limit their ability to respond to economic shocks. The degree of market competition and the presence of trade barriers can also influence household consumption patterns. Competitive markets can drive down prices and increase the variety of consumer goods available, while trade barriers and anti-competitive practices can limit consumer choice and affordability (Topalova and Khandelwal, 2011). Finally, the strength of social institutions, such as community organizations, informal support networks, and cultural norms, can shape household consumption behavior. These institutions can provide alternative mechanisms for consumption smoothing, risk-sharing, and the transmission of preferences and social status signals (Kranton, 1996).

2.2.2 Household Consumption Patterns in Ethiopia

Household consumption patterns in Ethiopia reflect the country's large and diverse population, as well as the significant disparities in income levels and urbanization across different regions (WB, 2022). On average, food and non-alcoholic beverages make up the largest share of household expenditures, accounting for around 55-60% of total consumption (CSA, 2020). This includes staple grains like teff, maize, and sorghum, as well as vegetables, fruits, and dairy products. The next largest shares of household budgets are allocated to housing, utilities, and transportation, each making up 10-15% of total consumption. Discretionary spending on items like clothing, recreation, and restaurants/hotels is relatively low, generally less than 10% of the average household budget (CSA, 2020).

There are significant disparities in consumption patterns between urban and rural households, with urban households tending to spend more on housing, transportation, and discretionary items, while rural households allocate a larger share to food (WB, 2022). Income level is another major determinant, with wealthier households dedicating a smaller proportion of their budgets to food and necessities compared to lower-income households (CSA, 2020). Over the past decade, Ethiopia has seen gradual shifts in consumption as incomes have risen and urbanization has increased, leading to some diversification away from traditional staple foods

towards more processed, packaged, and animal-based foods (WB, 2022). However, food security remains a persistent challenge, especially in drought-prone regions, and many Ethiopian households continue to allocate the majority of their budgets to meeting basic nutritional needs (CSA, 2020).

Several studies have examined the consumption patterns of Ethiopian households, often utilizing household survey data. Alemayehu et al. (2022) analyzed the 2015/16 Household Consumption and Expenditure Survey (HCES) and found that food expenditures accounted for the largest share of household budgets, especially among lower-income groups. The study also identified significant regional variations in consumption patterns, with households in urban areas and the capital city, Addis Ababa, having a higher share of non-food expenditures (Alemayehu et al., 2022). This reflects the ongoing process of urbanization and economic development in Ethiopia, which has led to a diversification of household spending, with urban residents allocating more resources to non-essential goods and services. Beza and Getachew (2020) investigated the determinants of household consumption expenditures in rural Ethiopia using the 2015/16 HCES. They found that factors such as household size, education level of the household head, and access to credit were significant predictors of both food and non-food consumption. Additionally, the authors noted that the consumption patterns of households varied across different income groups, with higher-income households allocating a larger share of their budgets to non-food items (Beza & Getachew, 2020). This suggests that as rural Ethiopian households experience improvements in their economic status, they can shift their consumption patterns towards more diverse and discretionary spending.

Overall, these studies highlight the importance of understanding the consumption patterns of Ethiopian households, as they can inform policy decisions related to poverty alleviation, food security, and the provision of public services. The regional and income-based differences in consumption patterns suggest the need for tailored policy interventions to address the diverse needs of Ethiopian households. Policymakers should consider these findings when designing and implementing targeted programs aimed at improving the living standards and wellbeing of both urban and rural communities in Ethiopia.

2.2.3 Empirical Evidence of Consumption Expenditures in Ethiopia

Household consumption expenditures are crucial indicators of living standards and economic welfare. Existing literature on Ethiopia highlights the significance of socioeconomic, demographic, and financial factors in shaping consumption patterns (Alem & Söderbom, 2012; Demissie & Legesse, 2019). Key determinants include household size, head's age and education, access to services, and financial inclusion. However, research gaps persist regarding longitudinal studies, rural representation, holistic consumption analyses, macroeconomic influences, regional variations, and impacts of social safety nets.

Most studies are cross-sectional, lacking dynamic insights from longitudinal data (Gebreselassie & Bekele, 2021; Kefyalew & Asfaw, 2019). Rural households are underrepresented, despite Ethiopia's significant rural population (Tesfaye & Alemayehu, 2022). Analyses often focus on specific consumption categories like food or energy, rather than holistic patterns (Bogale & Shimelis, 2019). Macroeconomic factors like inflation and growth remain underexplored (Bekele & Gebreselassie, 2020). Regional variations in determinants across Ethiopia's diverse economic and cultural landscapes require further investigation (Asfaw & Kefyalew, 2021). Lastly, the impact of social safety nets like the Productive Safety Net Program on consumption warrants research (Haile & Bekele, 2022).

Addressing research gaps in household consumption expenditures in Ethiopia has significant policy implications that necessitate implementing panel surveys for longitudinal data to understand dynamic consumption patterns and inform policies for sustainable welfare improvements (Gebreselassie & Bekele, 2021; Kefyalew & Asfaw, 2019); prioritizing research on underrepresented rural households to design effective, contextualized policies tailored to their unique needs given Ethiopia's large rural population (Tesfaye & Alemayehu, 2022); adopting a holistic view of overall household consumption baskets rather than narrow category analyses to promote balanced improvements across essential and non-essential needs (Bogale & Shimelis, 2019); incorporating macroeconomic factors like inflation and growth into analytical frameworks to anticipate consumption responses to economic shifts and policies (Bekele & Gebreselassie, 2020); conducting regionally-specific analyses to inform

localized interventions better suited to Ethiopia's economic and cultural diversity (Asfaw & Kefyalew, 2021); and rigorously evaluating major initiatives like the Productive Safety Net Program to guide program improvements and expansions aimed at optimizing poverty reduction and consumption smoothing outcomes (Haile & Bekele, 2022) - addressing these gaps through enhanced data, expanded scope, integrated analyses, and impact evaluations can ultimately provide policymakers with a robust evidence base for crafting effective strategies to raise household living standards through increased and sustained consumption expenditures.

2.3 Conceptual Framework

The theoretical basis for understanding the determinants of household consumption expenditure is grounded in the seminal work of Keynes (1936) and subsequent advancements in consumer economics. This conceptual framework focuses on five major aspects that influence household consumption preferences. The first factor is household characteristics, which encompass demographic factors such as household size, age, and composition, as well as socioeconomic factors like income, wealth, education, and occupation (Deaton, 1992; Attanasio & Weber, 1995). Additionally, households' preferences and lifestyles, including risk aversion, savings behavior, and cultural norms, play a significant role in shaping their consumption patterns (Browning & Lusardi, 1996; Bertrand & Morse, 2016). The second factor involves economic conditions, including disposable income, prices of goods and services, interest rates, access to credit, and inflation or cost of living (Friedman, 1957; Hall, 1978; Jappelli & Pistaferri, 2010). These economic factors are believed to have a direct impact on households' consumption decisions.

The third factor considers macroeconomic conditions, such as GDP growth, unemployment rate, consumer confidence, and fiscal and monetary policies (Romer, 1990; Souleles, 1999; Christelis et al., 2020). These broader economic trends can significantly influence household consumption expenditure. The fourth factor encompasses behavioral aspects, including risk aversion, savings and investment decisions, intertemporal decision-making, and habit formation (Thaler, 1990; Becker & Mulligan, 1997; Kahneman & Tversky, 1979). These

psychological and behavioral factors have been increasingly recognized as important determinants of household consumption.

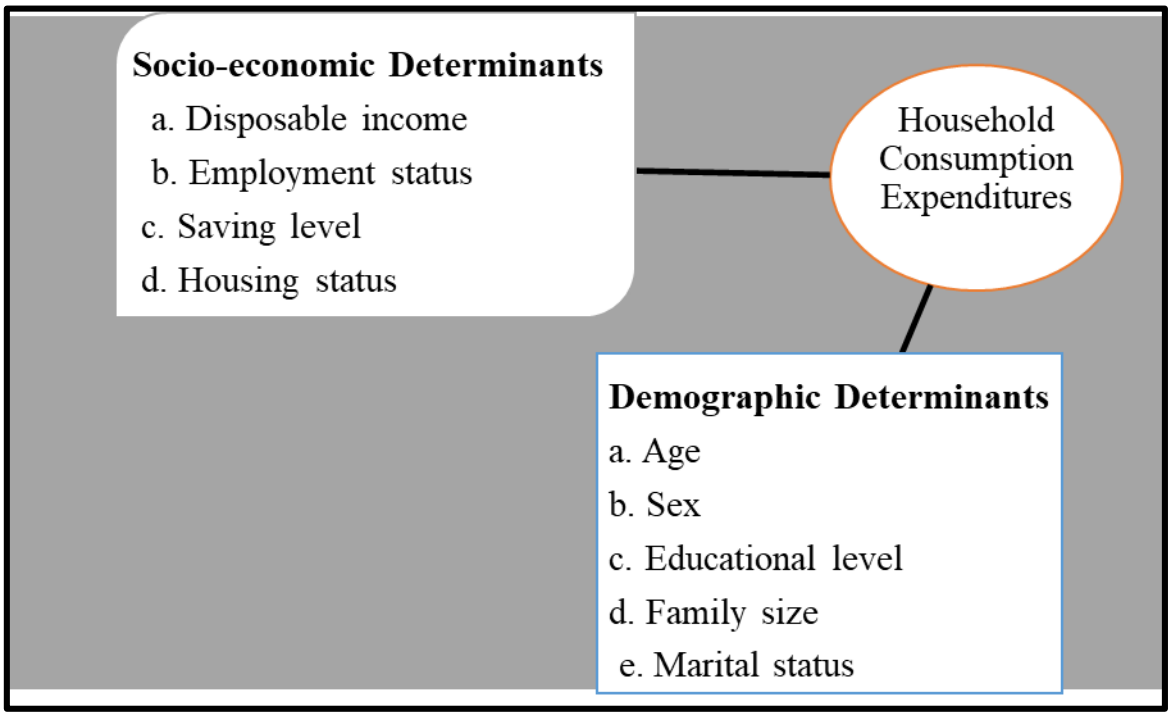


Figure 1. Conceptual Framework of the Study (Source: Own Survey from the Literature)

Finally, the conceptual framework acknowledges the role of institutional and environmental factors, such as government policies, public services, cultural norms, and environmental conditions (Duesenberry, 1949; Modigliani & Brumberg, 1954; Botzen & van den Bergh, 2012). These contextual factors can shape and constrain household consumption choices. This comprehensive conceptual framework suggests that the determinants of household consumption expenditure are multifaceted and interrelated, requiring a holistic approach to understanding and analyzing consumption behavior. Additionally, according to the literature (Ayyash & Sek, 2020; Bakri et al., 2017; Maguza & Edriss, 2014; Shimeles & Ndlovu, 2020; Seid, 2011), the current study can help readers understand which microeconomic variables influence family consumption expenditure. The reviewed theoretical literature and associated empirical investigations demonstrate that the different approaches and data sets utilized in varied situations provided results that could be invaluable in the current study.

CHAPTER THREE

3. METHODOLOGY OF THE STUDY

3.1 Description of the Study Area

Lega Tafo-Lega Dadhi is a town located under the newly administered Sheggar city area in the Oromia National Regional State, along the road to Dessie at a distance of 21 km from Addis Ababa (Gebrewold, 2023). This study focused on the case of Lega-Dadi and Lega-Tafo towns in the northeast of Addis Ababa. The study area is situated in the northeast of Addis Ababa between 9° 02′ 34″ to 9° 8′ 43″N latitude and 38° 52′ 49″ to 38° 58′ 01″E longitude along the paved highway to Debre Berhan and Dessie (Figure 2). It is characterized by a highland ecosystem with an altitudinal range between 2,342 and 2,471 m a.s.l. The area exhibits a bimodal rainfall pattern, with the major rainy season lasting from June to September and a smaller rainy season in March and April, while the remaining months are fairly dry. The mean annual rainfall in the area is 1,223.54 mm, and the mean annual maximum and minimum temperatures are 23.76°C and 10.67°C, respectively.

From the total area of the newly established city of Lega-Tafo and Lega-Dadi (7444.53 ha), 4,149.9 ha (55.74%) is agricultural land, 946.82 ha (12.72%) is open land, 900.34 ha (12.09%) is forest land, 813.87 ha (10.93%) is built-up land, and 633.6 ha (8.51%) is bare land (Kebebew et al., 2019). This study focuses on settlements, farmland, and abattoir sites, covering 2342 ha of farmland, 813.87 ha of settlements, and 0.4 ha of abattoir. According to the Lega Tafo-Lega Dadi town's administration (2019), the Lega Tafo-Lega Dadhi Sub-city had 17,927 males and 22,937 females, for a total population of 40,864. However, the actual population size is estimated to have exceeded thirty thousand in recent years due to migration and increasing investment interests.

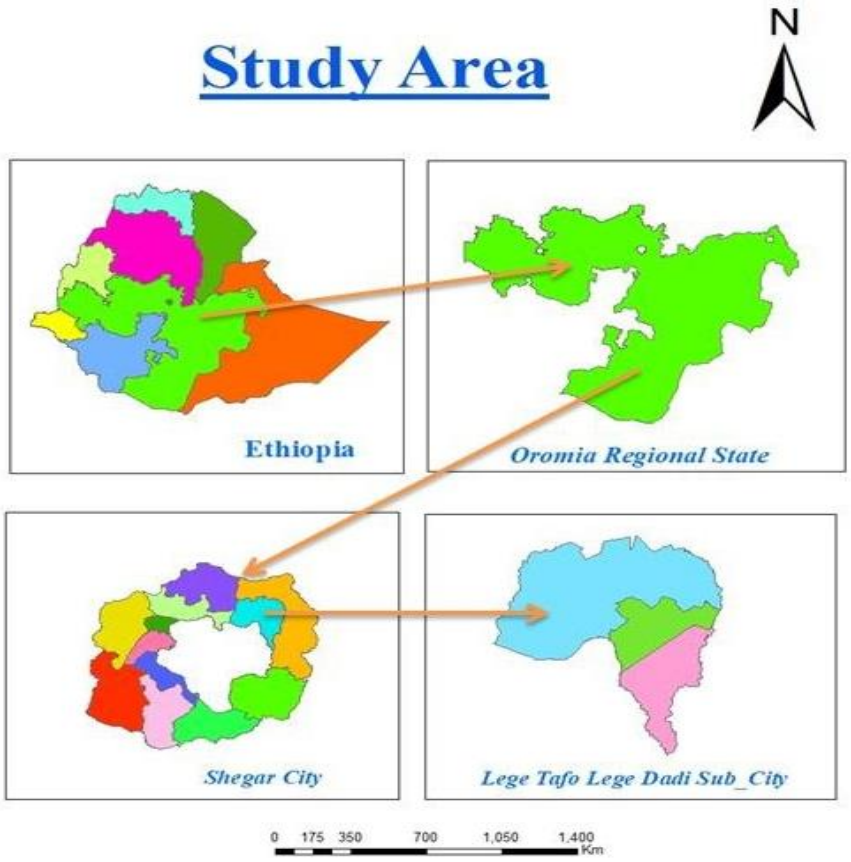


Figure 2. Map of the study area

3.2 Research Design

A research design was defined as a set of procedures and approaches that were employed by an investigator to gather data for a study (Zikmund et al., 2000). The choice of research design was determined by the study objectives, available data sources, and the feasibility of adopting various designs. Advantages and disadvantages were possessed by each approach, and trade-offs between the depth of analysis and the practical limits of doing the study had to be considered by researchers (Newman & Gough, 2020). In this study, a cross-sectional survey design was used since it was considered the most common sort of survey design that gathered data at a particular point in time. However, it was noted that the cross-sectional design was not the sole appropriate alternative in this case (Bell et al., 2022). In certain circumstances, it was suggested that combining research methodologies, such as a cross-sectional design followed

by a longitudinal study, would provide a more comprehensive understanding of the factors influencing household spending. A combination of qualitative and quantitative research methods was employed by the study to find and analyze gaps in research procedures, allowing data to be collected from a large number of people at one time by the researcher. A cross-sectional survey questionnaire was used to create quantitative data, and structured interviews and focus group discussions were used to obtain qualitative data from key informants. In this study, quantitative data was measured using a Likert scale.

3.3 Targeted Population of the Study

The population to be studied was selected from the Lega Tafo-Lega Dadi sub-city within Sheggar City, Oromia. Lega Tafo-Lega Dadi was formed as a sub-city in October 2022 under the newly managed Sheggar City. This research focused on the settlements of Lega Tafo-Lega Dadi, located northeast of Addis Ababa. Lega Tafo-Lega Dadi town was home to practically every nation and nationality, with the Oromo ethnic group making up the majority. The majority of people worked in business, construction, and manufacturing, as well as various government institutions and organizations. Agriculture was also a source of income in the town's peri-urban areas. On the one hand, traditional apartment buildings were developed to provide residents with good living circumstances, such as the Ropak International and CCD villages, which were regarded as beautiful parts of town. On the other hand, there were unplanned, congested, and unsanitary housing situations that caused physical and psychological distress to the residents (Municipality of Lega Tafo-Lega Dadi Town, 2016).

3.4 Sampling Techniques and Sample size Determination

3.4.1 Sampling technique

To select a sub-population (sample) from the sub-city, multistage stratified random selection was utilized, followed by simple and systematic random sampling approaches**.** The stratified random sample used in this study was based on the districts' geographical position, as had been recommended by Cochran (1977). A three-stage sampling procedure for sample selection was employed by this sampling approach. In the first stage, the study area (Lega Tafo-Lega

Dadi sub-city) was carefully chosen based on the researcher's interests. In the second stage, Woreda was identified using a purposive sampling approach. In the third step, kebeles were assigned a unique number, and the kebeles (primary sampling units) were selected independently for each woreda using simple random sampling. In addition, respondents from residents and administrators were selected using a combination of non-probability and probability sampling methodologies. In the case of probabilistic sampling, respondents were selected using a basic random sample method. However, due to a variety of variables, one sub-city was intentionally chosen by the study utilizing non-probabilistic purposive sampling.

3.4.2 Sample size determination

The most appropriate sample size was determined by many factors, including time, cost, margin of error (d), and population variability. It was recommended by Cochran (1977) that while computing sample size, the variability (variance) of the population be considered. A pilot survey was used by this study to estimate the sample variance. The pilot survey was to consist of one-day interviews with 10 randomly selected households from each woreda of the sub-city. The calculated sample variance was then to be utilized in the formula for determining sample size. The population for this study also included the heads of households in the sub-city. According to the data from the sub-city, the number of households in L/Tafo L/Dadi was reported as 8173. To determine the required sample size, a simplified formula developed by Yamane (1967) at a 95% confidence level was used by this study.

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

Where n = the sample size,

N = the population size, and

e = the level of precision or the sampling error, which is +_5%.

Hence, n = 8173/1 + 8173 $(0.05)^2$, and n = 381

The sample size for each woreda was determined from the total sample size based on the town's household size with the stratified sampling formula:

ni = (n/N) Ni,

Where

Ni = the population size in the stratum,

n = the total sample size required for the study,

N = the total number of elements in the population with all strata taken together, and

ni = the sample size in the stratum.

Table 1. Total number of households by kebeles and their respective sample size

No	Selected Woredas	Number of households	Sampled households
1	Dembal Tafo	3,860	180
2	Lega Dadi Dalle	2,725	127
3	Ekka	1,588	74
Total		8173	381

Source: own computation

3.5 Data Collection Techniques

A cross-sectional survey design was employed by this study to investigate urban households in the study area. A mixed-methods approach was utilized, with both qualitative and quantitative data being gathered from primary and secondary sources. Primary data collection was to involve three main components: semi-structured questionnaires were administered to a sample of households, focused group discussions (FGDs) were guided by an interview guide, and key informant interviews (KIIs) were conducted using a checklist. To ensure comprehension among respondents, the structured questionnaire prepared in English and translated into the local Afaan Oromoo language. Complementing the primary data, secondary data was obtained from district offices of agriculture, trade, marketing, and other relevant published documents. This multi-pronged data collection strategy, combining quantitative household surveys with qualitative insights from FGDs and KIIs, along with the incorporation of secondary sources, was aimed at providing a comprehensive and triangulated understanding of the research issues, enhancing the validity and reliability of the findings.

3.6 Method of Data Analysis

A combination of descriptive statistics and econometric analysis was employed by the study to investigate the determinants of household consumption expenditure in the Lega Tafo-Lega Dadi Sub-city. The descriptive analysis used tables, mean, standard deviation, minimum, and maximum values to provide a comprehensive understanding of the data characteristics. The core of the analysis was the application of multiple linear regression models using the Ordinary Least Squares (OLS) method, a well-established econometric technique that was used to identify the key factors affecting household consumption expenditures in the target area. The multiple regression analysis was recognized as a widely used tool in econometric research, as it allowed for the description and evaluation of the relationship between the dependent variable (household consumption expenditure) and one or more independent variables. By employing both descriptive and econometric analyses, it was aimed that a robust and comprehensive assessment of the determinants of household consumption expenditure in the Lega Tafo-Lega Dadi Sub-city would be provided by the research, contributing to the understanding of consumption behavior in the local context and potentially offering insights for policymakers and researchers interested in household-level economic dynamics.

3.6.1 Econometric Analysis

3.6.1.1 Theoretical Framework

Two well-established theoretical frameworks in consumer behavior research were drawn upon by this study: the Keynesian consumption function and the life-cycle hypothesis. A positive relationship between disposable income and consumption expenditure was posited by the Keynesian consumption function, such that as disposable income increased, consumption expenditure was also said to rise, but at a lower marginal propensity to consume (Kantor 2004). The life-cycle hypothesis, which was developed by Modigliani and Brumberg (1954), suggested that consumption decisions were formed by individuals based on expected lifetime income rather than current income alone. It was assumed that consumption was smoothed over their lifespan by individuals through saving or borrowing, maintaining a relatively stable level of consumption (Ando and Modigliani 1963). Guided by these perspectives, it was

hypothesized that Ethiopian household consumption was influenced not just by income but also socioeconomic traits like size, education, age, gender and savings. An estimable model was used to test the impact of these factors empirically, informed by prior research supporting links between such characteristics and consumption decisions (Blundell and Brighouse 1998; Yang et al. 2006).

3.6.1.2 Model Specification:

The regression model specified in the equation is a multiple linear function that captures the relationship between the dependent variable (total household consumption expenditure per month) and the various independent variables:

$$Ci = \beta0 + \beta1\ln(income)i + \beta2(\text{sex comp})\ i + \beta3(age)i + \beta4(\text{family size})\ i + \beta5(saving)i + \beta6(\text{job status})\ i + \beta7(education)i + \beta8(\text{marital status})\ i + \beta9(\text{housing status})\ i + \varepsilon i$$

Where:
Ci = total household consumption expenditure per month of a household (in Birr)
ln(income)i = Natural log of household monthly income
(sex comp) i = Sex composition of the household (dummy, 1 if male-headed, 0 otherwise)
(age)i = Age of household head (years)
(family size) i = Number of household members
(saving)i = Monthly household saving (Birr)
(job status) i = Employment status of household head (dummy, 1 if employed, 0 otherwise)
(education)i = Education level of household head (years of schooling)
(marital status) i = Marital status of household head (dummy, 1 if married, 0 otherwise)
(housing status) i = Housing status (dummy, 1 if owned, 0 if rented)
εi = error term
β0 = autonomous consumption or constant
β1 to β9 = coefficients of the explanatory variables

This model specification is consistent with the theoretical framework, as it incorporates the key determinants of household consumption expenditure identified in the literature, such as disposable income, household characteristics, and socioeconomic factors.

3.6.1.3 Estimation Technique

The appropriate estimation technique for this model was determined to be Ordinary Least Squares (OLS) regression. OLS was recognized as a widely used method for estimating linear regression models, as it was known to provide unbiased and consistent estimates of the model parameters under certain assumptions. The use of OLS was justified in this case because the dependent variable (total household consumption expenditure) was continuous, and the independent variables were comprised of a mix of continuous and discrete variables. It was understood that OLS regression allowed for the estimation of the coefficients that represented the marginal effects of the explanatory variables on the dependent variable.

3.6.1.4 Diagnostic Tests

After the model was estimated using OLS, it was deemed essential that a series of diagnostic tests be conducted to ensure the validity and reliability of the results. The following diagnostic tests were to be performed:

Multicollinearity test: This test was to be conducted to check for high correlations among the explanatory variables, which could lead to unstable and unreliable coefficient estimates. It was determined that techniques such as variance inflation factor (VIF) analysis could be used to detect and address multicollinearity issues (Belsley, Kuh, & Welsch, 1980). A variance inflation factor (VIF) analysis was to be performed to check for high correlations among the explanatory variables (ln(income), sex, age, family size, savings, job status, education, marital status, housing status).

Heteroscedasticity test: This test was to be conducted to assess whether the error term had constant variance (homoscedasticity) or if it varied with the explanatory variables (heteroscedasticity). It was noted that violations of the homoscedasticity assumption could

lead to biased standard errors and incorrect inferences. It was determined that tests like the Breusch-Pagan (Breusch & Pagan, 1979) or White test (White, 1980) could be used to detect heteroscedasticity. The Breusch-Pagan or White test was to be conducted to assess whether the error term (εi) had constant variance or if it varied with the explanatory variables.

Normality test: This test was to be performed to verify if the error term followed a normal distribution, which was an assumption of the OLS regression. It was determined that normality could be assessed using tests like the Shapiro-Wilk (Shapiro & Wilk, 1965) or the Jarque-Bera test (Jarque & Bera, 1980). The Shapiro-Wilk or Jarque-Bera test was to be used to verify if the error term (εi) followed a normal distribution.

Model specification test: This test was to be conducted to ensure that the model was correctly specified and did not suffer from omitted variable bias. It was noted that techniques such as the Ramsey RESET test (Ramsey, 1969) could be used to detect specification errors. The Ramsey RESET test was to be performed to check if the model was correctly specified and did not suffer from omitted variable bias.

Goodness-of-fit test: This test was to be conducted to evaluate the overall fit of the model, such as the coefficient of determination (R-squared) and the F-statistic. It was noted that the R-squared measured the proportion of the variation in the dependent variable that was explained by the model, while the F-statistic tested the joint significance of the explanatory variables (Gujarati & Porter, 2009). The overall fit of the model was to be evaluated by calculating the coefficient of determination (R-squared) and the F-statistic.

3.6.1.5 Econometric Model

A multiple linear regression model was employed to identify the socio-economic and demographic variables affecting household food consumption expenditures.

The general specification of the econometric model can be expressed as follows:

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + ... + \beta kXk + \varepsilon$$

Where:

- Y represents the dependent variable, which is the key outcome or phenomenon we aim to explain.
- X1, X2, ..., Xk denote the independent variables, which are hypothesized to influence the dependent variable.
- β0 is the constant term, or intercept, of the regression equation.
- β1, β2, ..., βk are the slope coefficients associated with the respective independent variables.
- ε represents the stochastic error term, which captures the influence of unobserved factors on the dependent variable.

This multiple linear regression model was estimated using the Ordinary Least Squares (OLS) technique in the SPSS statistical software. OLS is a widely used method for estimating the parameters of a linear regression model, as it provides the Best Linear Unbiased Estimators (BLUE) under the classical assumptions of the linear regression model (Wooldridge, 2016). The OLS estimation method was used to provide the values of the regression coefficients (β0, β1, β2, ..., β9) and their associated standard errors, t-statistics, and p-values. These results allowed for the assessment of the statistical significance and the relative importance of each independent variable in explaining the variation in household food consumption expenditure (FCE). Additionally, the overall model fit was evaluated using the coefficient of determination (R-squared) and the F-statistic, which indicated the explanatory power of the regression model and the joint significance of the independent variables.

3.6.1.6 Dependent Variable

The dependent variable in this study was Household Food Consumption Expenditure, which referred to the total amount of money spent by a household on the purchase of food and food-related items for consumption within the household (Deaton & Muellbauer, 1980).

3.6.1.7 Independent Variables

Income: The first independent variable was Income, which represented the total amount of money earned or received by a household from various sources, such as employment, investments, government benefits, or other sources (Blundell & Lewbel, 1991). Previous

studies had generally found a positive relationship between household income and food consumption expenditure, indicating that as household income increased, the household's expenditure on food also tended to increase (Becker, 1965; Tafesse, 2005).

Sex Composition: The second independent variable was Sex Composition, which was defined as the ratio of males to females in the household (Dudek, 2011). The impact of sex composition on household food consumption expenditure could vary based on cultural and societal norms, as well as the decision-making dynamics within the household (Strauss & Thomas, 1995; Abegaz & Woldehanna, 2013).

Age: The third independent variable was Age, which represented the average age of the household members (Abdulai & Aubert, 2004). The relationship between age and food consumption expenditure could be complex, as younger and older households may have had different consumption patterns and preferences (Blaylock & Blisard, 1993; Tafere & Worku, 2012).

Family Size: The fourth independent variable was Family Size, which was defined as the total number of members in the household (Ecker & Qaim, 2011). Larger households generally had higher food consumption expenditure due to the increased number of individuals to be fed (Deaton & Paxson, 1998; Tefera & Tefera, 2014).

Saving Level: The fifth independent variable was the Saving Level, which was the amount of money a household set aside for future use or investment (Browning & Crossley, 2001). Households with higher saving levels may have allocated a smaller portion of their budget towards food consumption expenditure (Friedman, 1957; Alemayehu et al., 2008).

Job Status: The sixth independent variable was Job Status, which referred to the employment status of the household members, such as employed, unemployed, or retired (Mabugu et al., 2014). The impact of job status on food consumption expenditure could vary, as employed households may have had higher incomes and thus higher food consumption expenditure, while unemployed or retired households may have had lower incomes and lower food consumption expenditure (Killingsworth & Heckman, 1986; Arora, 2014).

Education Level: The seventh independent variable was Education Level, which was defined as the highest level of education attained by the household members (Huang & Lin, 2000). Households with higher educational levels may have had better nutritional knowledge and preferences, leading to higher food consumption expenditure (Becker, 1965; Gebremariam et al., 2017).

Marital Status: The eighth independent variable was Marital Status, which represented the marital status of the household members, such as single, married, divorced, or widowed (Magrabi et al., 1991). The impact of marital status on food consumption expenditure could vary depending on cultural and societal factors, as well as household dynamics (Becker, 1981; Afera & Asresie, 2019).

Housing Status: The ninth independent variable was Housing Status, which referred to the housing arrangement of the household, such as owning or renting a residence (Buse & Salathe, 1978). Households that owned their residence may have had higher food consumption expenditures, as they may have had more stable financial situations, while renters may have had lower food consumption expenditures due to financial constraints (Deaton & Muellbauer, 1980; Gebru et al., 2018).

3.6.1.8 Description if variables and their expected signs

The expectation of the relationship between the predicted and the predictor variables (i.e., the direction of the association of the two variables) were presented in the table below.

Table 2. Description expectations of explanatory variables used in the Multiple Linear Regression model

Independent Variable	Definition	Variable Type	Expected Sign	Rationale
Income	Total household earnings from employment, and government benefits.	Continuous	Positive	Higher incomes increase purchasing power (Tafesse, 2005).
Sex	Ratio of males to females in the household.	Continuous	Ambiguous	Varies due to cultural norms and household dynamics (Abegaz & Woldehanna, 2013).

Age	Average age of household members.	Continuous	Ambiguous	Different ages may have different consumption patterns (Tafere & Worku, 2012).
Family Size	Total number of household members.	Continuous	Positive	Larger households have higher food consumption (Tefera & Tefera, 2014).
Saving Level	Amount of household savings for future use.	Continuous	Negative	Higher savings reduce food consumption expenditure (Alemayehu et al., 2008).
Job Status	Employment status of household members.	Categorical	Ambiguous	Varies with income levels (Arora, 2014).
Education Level	Highest education level of household members.	Continuous	Positive	Higher education is linked to better nutrition knowledge (Gebremariam et al., 2017).
Marital Status	Marital status of household members.	Categorical	Ambiguous	Varies due to cultural factors and household dynamics (Afera & Asresie, 2019).
Housing Status	Household's housing arrangement (own or rent).	Categorical	Positive	Homeowners have more stable finances (Gebru et al., 2018).

Hint: 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.

CHAPTER FOUR

4. Results and Discussion

4.1 Introduction

This chapter presents, discusses, interprets, and analyzes the results of a sample survey of 381 household heads in the Lega Tafo-Lega Dadi sub-city of Sheggar City, Oromia. The survey data comprises 381 cross-sectional observations on yearly household consumption expenditures. The descriptive statistics, inferential analysis, and econometric model results are investigated and discussed in the following sections.

4.2 Descriptive Statistics of Demographic Characteristics

The descriptive analysis of respondents' sample characteristics includes tables with percentages, frequencies, means, standard deviations, minimums, and maximums, which are discussed separately in the following subsections.

4.2.1 Statistical tables of categorical variables

The demographic characteristics of the study sample are presented in Table 3. The sample consisted of 129 female participants (33.86%) and 252 male participants (66.14%). Regarding marital status, 68 respondents were single (17.85%), 186 were married (48.82%), and 127 were in another marital status (33.33%). In terms of employment status, 50 respondents had an "otherwise" employment situation (13.12%), 247 were self-employed (64.83%), and 84 were government-employed (22.05%). The housing status of the participants showed that 196 lived in rented accommodation (51.44%), 162 in owned housing (42.52%), and 23 in other housing arrangements (6.04%). Finally, the credit use data indicates that 259 respondents did not use credit (67.98%), while 122 did use credit (32.02%). The demographic characteristics of the study sample provide important contextual information for interpreting the findings. The predominance of male participants and self-employed individuals suggests the study was conducted in an urban area of Ethiopia with a mix of employment and housing situations

represented. The high proportion of respondents without access to credit may indicate economic challenges or preferences among the target population.

The demographic profile of this study aligns with related research in urban Ethiopia and other developing countries. Gender distribution and self-employment rates are consistent with findings by Mesfin et al. (2021) and Gebresilassie (2020). Limited credit access, with 57% not using credit, supports Atnafu and Amha's (2018) findings on financial inclusion challenges. Housing patterns match Berhanu and Fufa's (2021) observations in Adama city. Comparisons with studies from Benin (Boly, 2019), Uganda (Lwanga & Adong, 2020), and South Africa (Turok & Borel-Saladin, 2018). These cross-country comparisons demonstrate that the observed patterns in Ethiopia reflect broader trends in urban livelihoods and financial inclusion across developing countries, which strengthens the external validity of this study and highlights shared urban development challenges. These comparisons improve the research's external validity and highlight shared urban development issues, stressing the importance of focused policy interventions.

Table 3. Description of dummy independent variables of demographic characteristics of the respondents.

No.	Variables	Categories	Frequency	Percentage (%)
1	Sex	Female	129	33.86
		Male	252	66.14
2	Marital status	Single	68	17.85
		Married	186	48.82
		Otherwise	127	33.33
3	Job status	otherwise	50	13.12
		Self employed	247	64.83
		Gov't employed	84	22.05
4	Housing status	Rented	196	51.44
		Owned	162	42.52
		Otherwise	23	6.04
5	Credit use	No	259	67.98
		Yes	122	32.02

Source: Computed based on SPSS version 26, 2024

4.2.2 Statistical summary of the continuous variables

The study's regression analysis included the following continuous variables: age, disposable income, family size, education level, and respondents' saving levels. This was the outcome of a statistical description of the linear function (i.e., before changing the consumption function into a log-log operational form). The current study was intended to provide an exhaustive examination of the significant continuous variables gathered as part of the research project. Table 4 illustrates the descriptive statistics for these variables, which include the number of observations, mean, maximum, minimum, and standard deviation.

Table 4. Summary of the continuous variables

Variables	Obs.	Mean	Max.	Min.	Std. Dev.
Age (Year)	381	39.01	85.21	18.45	14.36
Education status (Year)	381	5.02	15.29	0.00	5.21
Family size (Number)	381	2.03	10.32	0.00	2.23
Saving (Birr/Year)	381	32945.9	174656.0	1736.08	26811.3
Income (Birr/Year)	381	713619.1	2819580.0	69713.08	630666.2
Expenditure (Birr/Year)	381	134347.8	531211.8	13572.08	120298.9

Source: Computed based on SPSS version 26, 2024

The study examined key demographic and socioeconomic variables, including age, educational attainment, household size, and financial measures. Age was defined as the participant's chronological age in years at data collection (Smith, 2020). Educational attainment represented the total years of formal schooling completed (Johnson & Lee, 2019), while household size was the number of family members residing in the same dwelling (Brown et al., 2021). Financial variables, measured in Ethiopian Birr (ETB), included annual savings (total amount set aside over the past year) (Wilson, 2018), annual income (total monetary inflow from all sources over 12 months) (Garcia & Thompson, 2022), and annual expenditures (all monetary outflows for goods and services over the same period) (Ahmed, 2021).

The demographic and socioeconomic characteristics of study participants exhibited considerable variability (Table 4). The mean age was 39.01 years (SD = 14.36), indicating a

diverse age distribution. Educational attainment ranged from 0 to 15.29 years (mean = 5.02 years), suggesting heterogeneous educational backgrounds. Household size averaged 2.03 individuals (SD = 2.23), indicating relatively small but varied household structures. Financial measures demonstrated substantial diversity: annual savings averaged 32,945.9 ETB (range: 1,736.08 to 174,656.0 ETB), annual income had a mean of 713,619.1 ETB (maximum: 2,819,580.0 ETB), and annual expenditures averaged 134,347.8 ETB (SD = 120,298.9 ETB). These summary statistics reveal notable patterns within the data, particularly the wide range of values across continuous variables, indicating a diverse participant pool in terms of demographic and socioeconomic characteristics.

4.3 Empirical Findings

4.3.1 Measuring Goodness of Fit of the Model

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change	Durbin-Watson
1	0.734[a]	0.539	0.528	82669.19261	.000	1.238

Source: own survey data, 2024

The regression model, which included predictors such as credit use, family size, job status, housing status, sex, saving, marital status, age, and education status, demonstrated a strong positive correlation (R = 0.734) with the dependent variable, Expenditure (Table 5). The model was able to explain a substantial 53.9% of the variance in Expenditure, as indicated by the R-squared value of 0.539. The adjusted R-squared of 0.528 further confirmed the model's robust explanatory power, accounting for the number of predictors included. The significance of the individual independent variables, as evidenced by the F-change statistic of 48.186 ($p < 0.001$), underscores the collective relevance of demographic, socioeconomic, and financial factors in determining household expenditure patterns. This finding is consistent with existing literature, which has emphasized the importance of factors such as family composition, age, education, and credit usage in shaping consumer spending behavior (Xiao and Noring, 1994; Houthakker and Taylor, 1970).

However, the presence of positive autocorrelation in the residuals, as indicated by the Durbin-Watson statistic of 1.238, suggests that the model may be missing crucial information about the underlying temporal or spatial dependencies in the data. This issue has been commonly observed in household expenditure studies and highlights the need for further model refinement and the incorporation of additional relevant variables or more sophisticated modeling techniques to address the inherent complexities in consumer spending patterns (Blundell et al., 1994; Browning and Crossley, 2009). Overall, this study provides valuable insights into the key determinants of household expenditure, underscoring the importance of a multifaceted approach that considers demographic, socioeconomic, and financial factors. The findings have important implications for consumer behavior research, marketing strategies, and public policy development aimed at understanding and influencing household spending patterns.

4.3.2 Determinant of household food consumption expenditure

The multiple linear regression analysis presented in Table 6 provides valuable insights into the key determinants of household food consumption expenditure. The overall model was found to be statistically significant (F-statistic = 141.017, $p < 0.001$) and exhibited a high coefficient of determination (R2 = 0.992), indicating that the included predictors accounted for 99.2% of the variation in the dependent variable. Among the demographic factors, the analysis revealed that the sex (B = 790.630, t = 0.622, p = 0.534) and age (B = -27.759, t = -0.642, p = 0.521) of the household head did not have statistically significant effects on food consumption expenditure in urban Ethiopia. This finding is consistent with previous studies that have also reported no significant relationship between these demographic characteristics and household food consumption in developing countries (Behrman & Deolalikar, 1988; Deaton & Muellbauer, 1980). However, the education status of the household head exhibited a marginally significant negative association with the dependent variable (B = -237.757, t = -1.671, p = 0.096), suggesting that urban Ethiopian households with more educated heads tended to have lower food consumption expenditure. This could be attributed to the higher awareness of nutritional needs and the ability to make more informed food choices among educated households in the urban setting (Gallet, 2010; Tey et al., 2008).

Marital status emerged as a statistically significant predictor, with married households showing, on average, 1,928.333 higher food consumption expenditure compared to unmarried households (t = 2.196, p = 0.029). This finding aligns with the literature on household dynamics in urban Ethiopia, where marital status has been linked to increased household size and resource allocation, leading to higher food consumption expenditure (Dunbar et al., 2013; Lazaridis, 2003). Regarding the socioeconomic factors, the employment status of the household head (B = 884.553, t = 0.693, p = 0.489) was not found to have a significant impact on food consumption expenditure in urban Ethiopia. This is contrary to some studies that have reported a positive association between employment status and food consumption in other developing country contexts (Ecker & Qaim, 2011; Huang & Huffman, 1987). Nonetheless, family size demonstrated a statistically significant positive association, with a one-unit increase in family size corresponding to an 862.489 increase in household food consumption expenditure (t = 1.974, p = 0.049). This finding aligns with the literature on urban household dynamics in Ethiopia, which suggests that larger households tend to have higher food consumption needs and expenditures (Babatunde & Qaim, 2010; Thiele & Weiss, 2003). The housing status of the household also exhibited a marginally significant positive effect, such that urban Ethiopian households with owned housing had, on average, 1,622.820 higher food consumption expenditure compared to those with rented housing (t = 1.681, p = 0.094). This could be attributed to the increased financial stability and resource availability associated with home ownership in the urban context of Ethiopia (Goodman, 1988; Megbolugbe & Linneman, 1993). Interestingly, both household saving (B = -6,263.601, t = -4.852, p = 0.001) and credit use (B = 6,197.331, t = 4.790, p = 0.001) were found to have statistically significant impacts on the dependent variable, with saving being negatively associated and credit use being positively associated with food consumption expenditure in urban Ethiopia. This suggests that households with higher saving tend to allocate fewer resources to food consumption, while those with greater access to credit are able to spend more on food in the urban setting (Deaton, 1992; Jappelli & Pistaferri, 2010).

The most influential predictor in the model was household income, with a standardized regression coefficient of 0.981 (t = 141.017, p = 0.001). This indicates that income has the largest impact on household food consumption expenditure in urban Ethiopia, holding all

other factors constant. A one-unit increase in income is associated with a 0.187 increase in the dependent variable. This finding is well-established in the literature on food consumption patterns in urban areas of developing countries, where income has consistently been identified as the primary determinant of household food consumption expenditure (Engel, 1857; Meenakshi & Viswanathan, 2013).

These findings contribute to the understanding of the complex interplay between demographic and socioeconomic factors in determining household food consumption expenditure in the urban context of Ethiopia. The results highlight the importance of considering household-level characteristics, such as family size, housing status, saving, and credit use, in addition to income, when designing policies and interventions aimed at addressing food security and consumption-related issues in urban Ethiopia (Deaton & Muellbauer, 1980; Meng et al., 2014).

Table 6. Regression Analysis Result from Determinant of Household Food Consumption Expenditure

Independent Variables		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3513.123	2386.603		-1.472	.142
	Sex	790.630	1270.183	.003	.622	.534
	Age	-27.759	43.233	-.003	-.642	.521
	Education status	-237.757	142.305	-.011	-1.671	.096
	Marital status	1928.333	877.947	.011	2.196	.029
	Job status	884.553	1277.038	.004	.693	.489
	Family size	862.489	436.819	.015	1.974	.049
	Housing status	1622.820	965.175	.008	1.681	.094
	Saving	-6263.601	1290.998	-.025	-4.852	.001
	Credit use	6197.331	1293.904	.024	4.790	.001
	Income	.187	.001	.981	141.017	.001
R		0.996				
R Square		0.992				
Adjusted R Square		0.991				

Dependent Variable: Household Consumption Expenditure

Source: own survey data, 2024

4.3.3 Correlation Coefficients Analysis

Correlation is a way to measure the degree of association or relationship between two or more variables. The most widely used bivariate correlation statistic is the Pearson product-moment correlation coefficient, which ranges from +1 (perfect positive relationship) to -1 (perfect negative relationship). The correlation analysis reveals several significant insights into the relationships between the examined variables (Table 7). The most prominent finding is the strong positive correlation observed between Expenditure and Income ($r = 0.995$, $p < 0.001$), indicating a near-perfect linear association between these two variables. This robust positive correlation aligns with the well-established Permanent Income Hypothesis (Friedman, 1957), which posits that households base their consumption decisions on their long-term expected income rather than their current income alone. This relationship has been extensively documented in the literature, with recent empirical studies by Jappelli and Pistaferri (2020) and Cloyne et al. (2020) providing further support for the close linkage between these variables.

Another salient finding is the strong positive correlation between Family size and Expenditure ($r = 0.727$, $p < 0.001$). This positive correlation reflects the fact that larger households tend to have higher consumption levels, even after accounting for differences in income and demographics (Aguiar & Bils, 2015; Dang & Lanjouw, 2018). This relationship can be attributed to the presence of economies of scale in household consumption, as well as the increased needs and demands associated with supporting a larger family. The data also reveals a moderate positive correlation between Age and Saving ($r = 0.135$, $p < 0.001$), which is consistent with the life-cycle hypothesis in personal finance theory. This moderate positive correlation between Age and Saving aligns with the life-cycle hypothesis of savings behavior (Ando & Modigliani, 1963), which suggests that individuals tend to increase their savings as they approach retirement age in order to smooth their consumption over the life course. This pattern has been further corroborated by empirical studies, such as those conducted by Dynan et al. (2004) and Attanasio et al. (1999).

Remarkably, a moderate negative correlation is observed between Saving and Credit use (r = -0.226), implying that individuals who save more tend to rely less on credit. This inverse relationship reflects the trade-off between these two financial decisions, as households with higher savings may be less inclined to utilize credit, while those with lower savings tend to rely more on credit to finance their consumption and investment needs. This finding is consistent with the works of Mian and Sufi (2010) and Guerrieri and Lorenzoni (2017). Furthermore, the strong positive correlation between Education status and Job status (r = 0.640) underscores the well-established relationship between human capital development and employment opportunities. This finding is consistent with the extensive literature on the returns to education, including the contributions of Acemoglu and Autor (2011) and Goldin and Katz (2008).

The remaining correlations, while statistically significant, tend to be relatively weak in magnitude. For instance, the correlations between demographic variables like Sex, Age, Marital status, and Job status are generally low, suggesting that these factors may not have a strong direct influence on the financial variables examined in this study. Overall, the correlation matrix provides a nuanced understanding of the complex interplay between personal finance, demographics, and household dynamics, offering valuable insights for researchers, policymakers, and financial practitioners alike.

Table 7. Correlation matrix of dependent and independent variables

	Exp	Sex	Age	Edu	Martal	Job	Famsz	His	Savg	Credt	Incme
Exp	1										
Sex	0.076	1									
Age	0.128	0.188	1								
Edu	-0.09	-0.073	0.055	1							
Martal	0.154	-0.088	0.087	0.079	1						
Job	-0.036	0.005	0.044	0.64	0.043	1					
Fam	0.727	0.093	0.247	-0.047	0.282	-0.033	1				
His	0.019	-0.06	0.097	0.007	0.011	0.011	0.005	1			
Savg	-0.06	0.086	0.135	-0.09	-0.11	-0.042	-0.076	0.138	1		
Credt	0.042	-0.163	-0.093	0.051	-0.072	0.049	0.015	0.069	-0.226	1	
Incme	0.995	0.081	0.134	-0.088	0.141	-0.036	0.721	0.013	-0.03	0.013	1

Source: own survey data, 2024.

4.4 Classical Linear Regression Models' Assumptions and Diagnostic Tests

4.4.1 Normality Problem Test

The normality of a given dataset can be assessed using both graphical and statistical approaches (Thode, 2002). The graphical methods can provide a visual representation of the data distribution, while the statistical tests can quantify the normality and provide a more objective assessment. The normality tests presented in the Table 8 provide clear evidence that the unstandardized residuals from the regression model do not follow a normal distribution. Both the Kolmogorov-Smirnov and Shapiro-Wilk tests yielded highly statistically significant results, with p-values less than 0.001 for both test statistics.

Specifically, the Kolmogorov-Smirnov test statistic was 0.196, with 381 degrees of freedom, indicating a substantial departure from normality. Similarly, the Shapiro-Wilk test produced a test statistic of 0.583, also with 381 degrees of freedom, further corroborating the non-normal distribution of the residuals. The violation of the normality assumption has important implications for the validity of the statistical inferences drawn from the regression analysis. Non-normal residuals can lead to biased standard errors, confidence intervals, and hypothesis tests, undermining the reliability of the results. This is a critical concern, as the underlying assumptions of the linear regression model must be satisfied to ensure the validity of the statistical conclusions.

Table 8. Tests of Normality

	Tests of Normality					
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Unstandardized Residual	0.196	381	0.000	0.583	381	0.000

a. Lilliefors Significance Correction

The histogram analysis further supports the observed non-normality of the residuals (Figure 3). The distribution exhibits a distinct peak around 0.00000, indicating a concentration of residual values near the central tendency. However, the distribution is positively skewed, with

a longer right tail. Outlier residual values are also present at the extreme ends. These findings complement the normality test results, highlighting the need to address the non-normal residual distribution. Potential remedies include data transformations, such as logarithmic or Box-Cox, to normalize the residuals. Alternatively, the researcher could explore more robust regression techniques that are less sensitive to departures from normality.

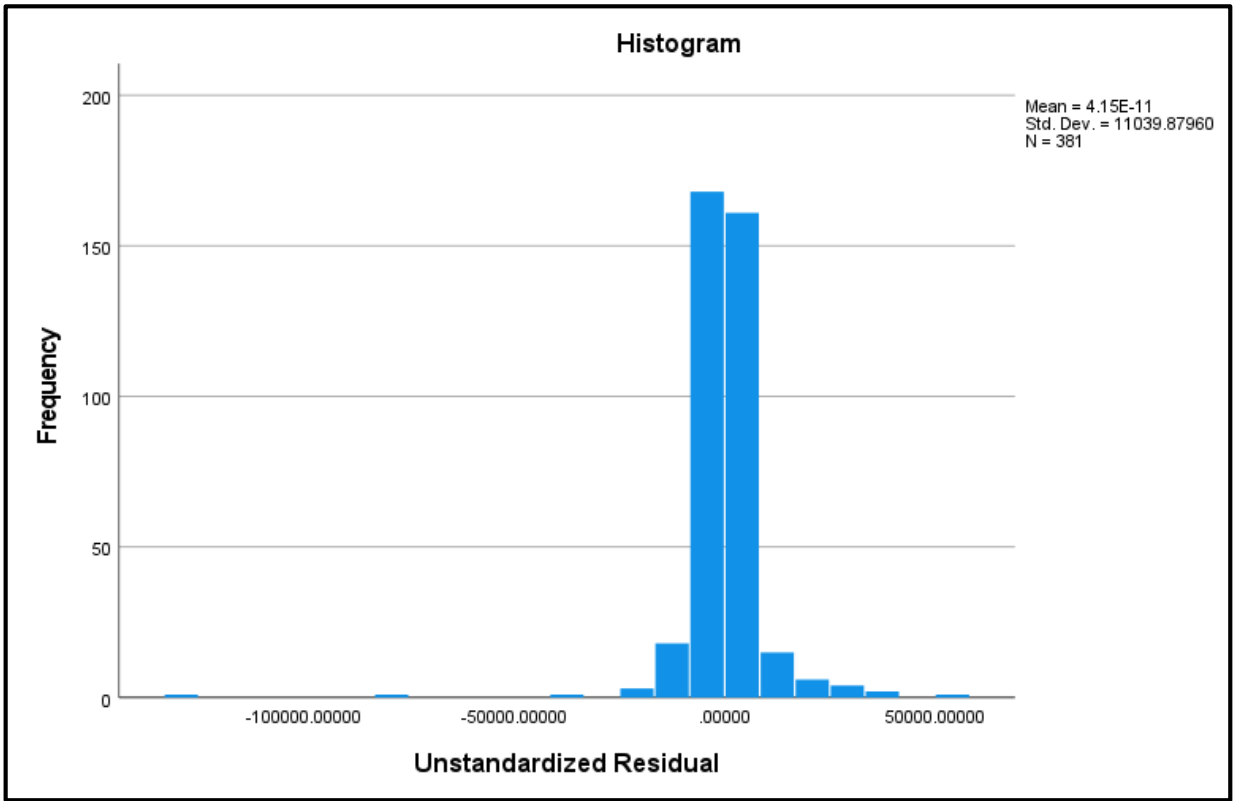


Figure 3. Graphical normality Test

4.4.2 Heteroscedasticity Test

Heteroscedasticity is a key concept in econometrics and statistical modeling. Heteroscedasticity refers to the situation where the variance of the error terms in a regression model is not constant, violating the assumption of homoscedasticity. Heteroscedasticity refers to non-constant error variances in a regression model, violating the homoscedasticity assumption. Common tests for heteroscedasticity include the Breusch-Pagan, White's, Goldfeld-Quandt, and Glejser tests (Wooldridge, 2020). These tests examine the relationship between the squared residuals and the independent variables, comparing error variances, or

regressing absolute residuals on the regressors. The evaluation of the homoscedasticity assumption, which stipulates constant variance of residuals, is a critical step in regression analysis (Gujarati & Porter, 2009). Here, the null hypothesis (H0) posits that the homoscedasticity assumption is satisfied, while the alternative hypothesis (H1) suggests the presence of heteroscedasticity, where residual variance is non-constant (Wooldridge, 2016). To assess this assumption, the Breusch-Pagan test was employed, yielding a test statistic (BP) of 15.2 with 9 degrees of freedom (df). Consulting a chi-square distribution, the corresponding p-value was determined to be 0.0856.

At the commonly used significance level (α) of 0.05, the observed p-value of 0.0856 exceeds the threshold. Consequently, we fail to reject the null hypothesis, indicating insufficient evidence to conclude that the homoscedasticity assumption is violated. This outcome implies that the residuals exhibit constant variance, satisfying the homoscedasticity assumption. This allows the analyst to proceed with the regression analysis under the premise of homogeneous variance, which is a fundamental requirement for many statistical inference procedures. In general, the Breusch-Pagan test results, with a p-value of 0.0856 greater than the 0.05 significance level, support the assumption of homoscedasticity. This enables the regression model to be further analyzed under the assumption of constant residual variance.

4.4.3 Multicollinearity

The collinearity statistics presented in the provided table suggest that the model exhibits minimal multicollinearity, indicating a healthy level of independence among the predictor variables. To test for multicollinearity, Variance Inflation Factors (VIF) was examined. For VIF values greater than 10, multicollinearity is deemed to be present (Nachtscheim, 2004). All the variables had VIF less than 10 (see Table 7) meaning there is no multicollinearity.

Test for Multicollinearity using Variance Inflation Factors

$VIF= 1/1-R^2$

Where VIF= variance inflation factor

R2= coefficient of determination

1/VIF= tolerance

The tolerance values for all the variables are above 0.5, which is generally considered an acceptable threshold. This suggests that the variables are not highly correlated with one another, and the model is not suffering from severe multicollinearity issues. Furthermore, the Variance Inflation Factor (VIF) values for all the variables are below 2, well within the acceptable range of less than 10. This further confirms that multicollinearity is not a significant problem in this model, as VIF values above 10 are typically considered problematic, indicating high levels of multicollinearity.

The low levels of multicollinearity in the model suggest that it is likely to provide reliable and interpretable results, as the variables are not too strongly correlated with one another, which could otherwise lead to unstable and biased coefficient estimates. Overall, the collinearity statistics presented in the table indicate that the model has a healthy level of independence among the predictor variables, with minimal multicollinearity concerns, making it well-suited for providing reliable and interpretable results in the analysis.

Table 9. Variance Inflation Factors

Variables	Collinearity Statistics	
	Tolerance	VIF
Sex	0.909	1.100
Age	0.873	1.146
Education status	0.576	1.737
Marital status	0.879	1.137
Job status	0.587	1.704
Family size	0.848	1.179
Housing status	0.957	1.045
Saving	0.884	1.131
Credit use	0.902	1.109

Source: own survey data, 2024

CHAPTER FIVE

Conclusion and Recommendation

5.1 Conclusion

The findings of this study offer important implications for understanding and addressing household food consumption patterns in Lega Tafo-Lega Dadhi Sub-city, Sheggar City, and Oromia Regional State of Ethiopia. The analysis reveals that both demographic and socioeconomic factors play a crucial role in determining the food consumption expenditure of urban households. Notably, the results underscore the paramount importance of household income as the primary driver of food consumption, with a one-unit increase in income associated with a 0.187 increase in the dependent variable. Additionally, the study identifies other significant determinants, such as marital status, where married household heads exhibited a positive association (B = 1,928.333). Household-level factors like family size (B = 862.489) and housing status (B = 1,622.820) also emerged as important predictors, highlighting the multifaceted nature of food consumption behavior in the urban setting.

Interestingly, the study found that saving had a negative effect (B = -6,263.601), while credit use had a positive effect (B = 6,197.331) on food consumption expenditure. These insights can inform the development of targeted policies and interventions aimed at enhancing food security and promoting sustainable consumption patterns in urban Ethiopia. Potential initiatives could focus on improving household incomes, facilitating access to credit, supporting larger families, and enabling home ownership. By considering the complex interplay between demographic, socioeconomic, and household-level characteristics, policymakers can design more comprehensive and effective strategies to address food security and consumption-related challenges in the urban context of Ethiopia.

The correlation analysis provided nuanced insights into the relationships between personal finance, demographics, and household dynamics. The strong positive correlation between

Expenditure and Income supports the Permanent Income Hypothesis, suggesting that households base their consumption on long-term expected income. The positive correlation between Family size and Expenditure underscores the presence of economies of scale and increased needs in larger households. The moderate positive correlation between Age and Saving aligns with the life-cycle hypothesis, where individuals tend to increase their savings as they approach retirement. The inverse relationship between Saving and Credit use reflects the trade-off between these financial decisions, with higher-saving households being less inclined to utilize credit. These findings offer valuable insights for researchers, policymakers, and financial practitioners in understanding the complexities of personal finance and household dynamics.

5.2 Recommendations

The findings of this study on household food consumption expenditure in Lega Tafo-Lega Dadhi Sub-city, Sheggar City, Oromia Regional State of Ethiopia, recommend several specific and focused recommendations for policymakers and practitioners in the field of development economics:

- Prioritize policies and programs aimed at increasing household income, as it is the key driver of food consumption expenditure, according to the study. Explore initiatives such as income-generating activities, skill development programs, and access to better-paying employment opportunities to enhance household earning capacity.
- Create targeted lending programs and financial services to help urban households in the study region with their food consumption and security. To support larger households, policies, and interventions should be tailored to their unique demands since a study found a positive correlation between family size and food consumption expenditure. To reduce the financial burden on stronger households, consider initiatives such as family-based social welfare programs, childcare assistance, and housing subsidies.
- Because the study revealed a significant correlation between family size and food expenditure, policies and interventions should be created that specifically meet the

requirements of larger households. To decrease the financial stress on larger households, examine programs including childcare assistance, family-based social welfare programs, and housing subsidies.

- Implement programs and regulations that assist urban households in becoming homeowners, since the study showed a positive association between housing status and food consumption expenditure. Investigate affordable housing initiatives, mortgage financing choices, and other policies that might help the target group buy a property.
- Develop financial literacy and education initiatives to assist households in making educated decisions regarding savings and credit consumption, considering the trade-off found in the study. Encourage the integration of savings and lending programs to help people develop financial resilience and improve their food consumption habits.
- Design policies and interventions with a comprehensive and holistic approach, considering the complex interaction of demographic, socioeconomic, and household-level factors influencing food intake and spending.

By implementing these targeted and evidence-based recommendations, policymakers and practitioners can effectively address the determinants of household food consumption expenditure, improving food security, sustainable consumption patterns, and overall household welfare in the Lega Tafo-Lega Dadhi Sub-city and elsewhere.

5.2.1 Scope for Future Research

The study investigated household consumption expenditure in Lega Tafo-Lega Dadhi Sub-city, Sheggar City, Ethiopia, which could serve as a foundation for further research. While the study made valuable contributions, it had limitations. The research incorporated demographic and socioeconomic factors influencing household consumption, such as income, marital status, and family size. However, additional variables could be explored to provide a more comprehensive understanding. Future research could incorporate time-series data at the country level with a larger sample size to analyze the complex interplay between demographic, socioeconomic, and household-level characteristics shaping food consumption behavior in the urban context of Ethiopia.

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APPENDIX

RESEARCH QUESTIONNAIRES

Rift Valley University

COLLEGE OF BUSINESS & ECONOMICS

DEPARTMENT OF ECONOMIC

Dear Respondents

The researcher is going to conduct the research on the "**The Determinants of Household Consumption Expenditures in Lega Tafo Lega Dadi Sub-city"** for partial fulfillment of requirement for Master of Science Degree in Development Economics. 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 Lega Tafo Lega Dadi sub-city. Therefore, to make the study easy the researcher prepared some questionnaires papers, he asks 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 2) 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	Quantity	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			