

Analysis of Consumption Pattern Among Rural Dwellers in South-Western States of Nigeria

Meroyi, Yemi M¹, Enikanselu Adebayo², Badmus, Oriade Olanrewaju³, Salami, John Ayodeji⁴

^{1,2,3,4}Rufus Giwa Polytechnic, Owo, Ondo State, Nigeria

ABSTRACT

Household living standards and vulnerability in developing nations are closely mirrored in consumer spending decisions. In rural Nigeria, consumption remains heavily skewed toward basic nutrition, yet local community spending dynamics are often overlooked in macroeconomic analyses. This study examined the consumption patterns of rural dwellers across South-Western Nigeria, specifically analyzing the determinants and distribution of food expenditure relative to household income. Grounded in Engel's Law, Keynes' Absolute Income Hypothesis, Friedman's Permanent Income Hypothesis, and the Life Cycle framework, the inquiry utilized a cross-sectional survey design. Primary data were elicited from 402 household heads across twelve rural communities in Ondo, Osun, and Oyo States using multistage sampling. An Ordered Logit model and cumulative binary logits were estimated alongside predictive classification evaluations. The findings indicate severe budget rigidity: 75.12% of households commit a moderately high or high share of income to food (mean = 2.943, Std. Dev. = 0.773). Econometrically, occupation emerged as the sole statistically significant driver of food-income share at the 5% level ($\beta = 0.1262$, Odds Ratio = 1.1345). Gender showed marginal significance at the 10% level ($\beta = -0.3158$, $p = 0.1016$, OR = 0.7293), whereas income ($\beta = -0.0688$, $p = 0.4356$) and perceived inflation ($\beta = 0.2244$, $p = 0.2297$) were statistically insignificant in the full specification (Log-Likelihood = -449.851, Pseudo $R^2 = 0.0134$). Predictive diagnostics produced an accuracy of 51.99% (209/402) by assigning all observations to the modal category, generating zero net gain (0.00%) over the constant-probability baseline. The study concluded that, high food expenditure burdens represent a pervasive, structural vulnerability across the rural population rather than isolated demographic differences. Consequently, state governments should implement localized food price stabilization reserves, provide targeted farm-input subsidies, and deploy broad-based community social safety nets.

KEYWORDS: Consumption Pattern, Food-Income Share, Ordered Logit Model, Rural Welfare, South-Western Nigeria.

ARTICLE DETAILS

Published On:
24 October 2026

Available on:
<https://ijiissh.com/>

INTRODUCTION

The two most often utilized methods for assessing people's living standards are income and consumption National Bureau of Statistics [NBS],2019). The overall demand for goods and services in a nation is reflected in its consumption pattern, and this significantly contribute to the nation's GDP (gross domestic product). It also illustrates the degree of poverty and welfare that a country faces. According to the National Bureau of Statistics (NBS, 2019), consumption is a more accurate measure of living standards. The distribution of household spending across urban and rural areas in 2007 reveals significant differences in food and non-food goods. In metropolitan regions, the percentage of food components is 57.6%, whereas the percentage of non-food components is 42.4%. Food accounted for the largest amount (67.0%) in rural regions, while non-food commodities accounted for 33.0%. Urban regions spend more money on non-food items than rural ones (NBS, 2007).

At the national level, household spending on food and non-food increased from N21.620 trillion in 2009/2010 to N40.208 trillion in 2019. Food accounted for 56.65% (60.2% in 2009–10) of household spending in 2019, with the remaining 43.35% (39.8% in 2009–10) going toward non-food products. Compared to N21.094 (N9.364 in 2009/10) trillion in rural regions, the total household spending in urban areas in 2019 was N19.114 (N8.413 in 2009/10) trillion. In light of this, the total amount spent on food in urban

areas was N9.848 trillion in 2019 compared to N3.654 trillion, in contrast, it was N12.930 trillion (or N9.364 in 2009–10) in rural regions. Different zones have different consumption trends. around N15.567 billion was spent on food consumption in South-Western Nigeria in 2007, and N9.773 billion was spent on non-food consumption, for a total consumption expenditure of around N25.341 billion in the region (NBS, 2007). With N12.043 trillion, or around 29.95% of total spending, the South-West region in 2019 had the highest household spending overall as well as the largest spending on food and non-food categories (NBS, 2019). “The mix of characteristics, qualities, volume, behaviours, and inclinations that define a community's or a human group's use of resources for comfort, enjoyment, and survival is known as the house hold consumption pattern. (2019 NBS)”. The general theory of Keynes, which is frequently cited as the foundation of macroeconomics, depends heavily on the theory of consumption. This has attracted countless theoretical and scientific investigations ever since. The total demand for all consumer products and services is the simplest definition of consumption. Anyanwu (1995) defined consumption as the spending by households on goods and services such as clothing, food items, entertainment, health services and acquisition of assets among others.

This means that there cannot be consumption without income that will be disposed off before an item is consumed or possessed. This position is in agreement with the finding of Lord Keynes, (1936), which reveals that consumers are most likely to raise their average consumption when income rises, even though, the amount by which their consumption increases will not be equivalent to the income. Keynes law is referred to as the absolute income hypothesis. Notwithstanding, further assessments have found that the amount people spend on consumption is not solely dependent on income, other considerations or contributing factors also play important role in consumption spending (Nathan, 2014). Walsh (2010) and Geetha (2011) identified interest rate, relative prices, capital gains, wealth, liquid assets, attitude and expectation and availability of consumer credit as determinants of consumption expenditure. Individual choices may also be affected by other factors such as individual's current income, age, family size, gender, educational level, occupation, and the overall economy may affect their choices. For example, young people pay more attention to fashion quality, while old people pay more attention to practicality and durability (Lin and Qi, 2023). Consumption is a major component of aggregate demand. A little disturbance in this component will have a far-reaching effect on the nations aggregate demand performance. Macroeconomics examines aggregate consumption, which is determined by the amount of real income. There are two parts of aggregate demand. These are investment and consumption; with consumption contributing to aggregate demand in greater proportion in most economies. Financial capability and basic economic activities largely determine the level of total consumption. However, when un-envisaged returns of a consumer impact his current income, his consumption behaviour will be on his long-term projection and not on his current financial capability (Tokoya, Aiyeku, Shonibare, Ipinloju & Dairo, 2022). In this study, we shall examine the consumption pattern of the rural dwellers in South-Western States of Nigeria.

STATEMENT OF THE RESEARCH PROBLEM

The consumption patterns of a nation reveal the status of that nation in the sense that it reveals whether such nation is a developing or developed one and normally contributes greatly to the social and economic policy of the country. Unlike most advanced economies, people in less developed world, of which Nigeria is part, spend less on non-consumable items; but as soon as a nation emerges from the status of a less-developed to a developed or advanced country, its consumption status also changes to more of non-consumable items.

In the West, larger part of the population lives in the rural areas where their dominant means of livelihood are agriculture and trading. Therefore, knowing the consumption patterns of the people in this region will assist their respective state governments in formulating appropriate social and economic policies that will foster improved living standards of their people.

Besides, studies on what determines the consumption habit has primarily been biased in favour of total nationwide consumption, side-lining the consumption of local community inhabitants at the regional level in Nigeria.

The objective of the study:

- i. Examine the pattern and distribution of food expenditure as a share of household income among rural dwellers in South-Western Nigeria;
- ii. Determine the effects of selected socioeconomic and household characteristics on the food-income share of rural households; and
- iii. Evaluate the predictive performance of the Ordered Logit model in classifying rural households according to their food-income share.

LITERATURE REVIEW

The absolute income hypothesis or theory is the modern name for Keynes' consumption function. He used the fundamental psychological rule as the foundation for his explanation of the link between income and consumption. According to Keynes' fundamental theory of consumption, current disposable income primarily determines current consumption expenditures. According to the law, current disposable income determines current consumption expenditures, and when income rises, consumption expenditures rise but at a slower rate. The linear version of the Keynesian consumption function is typically expressed as follows: $C_t = a + bY_t$. For several decades, the coefficient b , which Keynes referred to as the "marginal propensity to consume," or MPC,

and which we would succinctly describe as $\partial C/\partial Y$, would compete for the title of "most estimated coefficient." He asserts that as income rises, the average propensity to consume (APC) decreases and that the marginal propensity to spend (MPC) is lower. Keynes' hypothesis was supported by the first linear econometric consumption functions computed using ordinary least squares: consumption appeared to be positively correlated with current disposable income, and the MPC appeared to be smaller than one. It should be noted that Keynes's consumption function is based on fundamental psychological laws, such as intuition and prior experience, rather than any actual observations. Numerous studies on the variables influencing consumption in every culture have been conducted as a result of the fact that economic theories cannot be founded on intuition. James Duesenberry's (1949) relative-income theory was one of the first efforts to reconcile these contradictory pieces of data about the link between consumption and income. This theory had a significant impact in the 1950s and 1960s, but it has virtually disappeared from modern macroeconomics.

Its discontinuation may have been due more to its nonconformity with the presumptions that macroeconomists often make than to its reasoning or conclusions. A cross-sectional and a time-series version of the relative-income model were developed. The cross-section and time-series components of the Kuznets paradox are represented by these variations. Both variations rely on current income in relation to a standard of income that the household establishes either on its own historical income or the income of nearby families. Duesenberry tapped on the concept of "keeping up with the Joneses" in the cross-sectional form. He maintained that a household's spending would be determined by both its income in relation to members of the demographic grouping it identifies with and its own present income level (Duesenberry, 1949). The home will make an effort to match its consumption expenses to those of its fellow group members. Families with higher earnings relative to the group will save more and consume less, whereas families with lower incomes within the group will spend a bigger portion of their income to "keep up." The finding that families or households with the same income appeared to eat consistently different amounts based on the group they belonged to provided credence to this theory. A Black family with a particular income, for instance, would typically consume less than a white family with the same income, according to survey data. This is explained by the relative economic gap.

Due to the greater average salaries of white people, it was assumed that white families would want to achieve parity with other white families by consuming more relative to their income, but black families were less affected by this pressure. Duesenberry $MPC=APC$ Milton Friedman's 1957 hypothesis, similar to Duesenberry's RIH, asserts that the fundamental link between income and consumption is proportionate. However, Friedman argues that consumption is dependent on "permanent" income, which is based on anticipated future income, rather than "absolute" or "relative" income. The "permanent income hypothesis" (PIH) is the term used to describe his theory. Friedman separates the actual income received, or current measured income, into two categories: transitory income (Y_t) and permanent income (Y_p). $Y = Y_p + Y_t$, thus. Permanent income, which is based on the projected or anticipated income to be received over an extended period of time, can be thought of as "the mean income." Conversely, transitory income is any sudden, unforeseen, or fortuitous increase or decrease in income (such as money won in a lottery or race). He also makes a distinction between transitory consumption (C_t) and permanent consumption (C_p). One way to think of transitory consumption is as unexpected expenditure (e.g., sudden illness). Therefore, the total of both permanent and transitory components of consumption is measured consumption. In other words, $C = C_p + C_t$. Friedman's main contention is that permanent income is necessary for permanent consumption. The fundamental tenet of PIH is that permanent income with a somewhat constant APC is proportionate to permanent consumption.

That is, if k is constant and equal to both APC and MPC, then $C = kY_p$. Friedman assumes that there is no association between Y_p and Y_t , between Y_t and C_t , or between C_p and C_t in order to arrive at the aforementioned result. That is, $C_t = RC_t$, $C_p = 0$, $Y_p = RY_t$. A large (or low) permanent income follows because Y_t is not rectified with Y_p . The average transitory income would be zero if all households from all income categories had their transitory incomes (both positive and negative) cancel each other out. This also applies to temporary consumption components. Therefore, the average transitory income and average transitory consumption for all family members combined are zero, meaning that $Y_t = C_t = 0$, where Y and C are the average values. Consequently, $Y = Y_p$ and $C = C_p$. According to the life cycle hypothesis (LCH), which was proposed by Ando and Modigliani in 1960, a person arranges their savings and consumption over the course of their lifetime. In this instance, every resource at the consumer's disposal influences their choice to buy. The consumer saves to ensure the most acceptable level of consumption in old age, while allocating his money to optimize enjoyment throughout his life. The main idea behind the LCH is that customers' lifetime projected income determines their spending. The consumer's resources, the rate of return on capital, the spending plan, and the age at which the plan is created all influence consumption. The theory is based on the simple assumptions that the consumer does not inherit any assets and that his net assets are the product of his own savings, as well as that prices and interest rates remain constant. The consumer's life may be divided into three stages, according to Franco Modigliani: The early years, when little or no money is earned.

Sichuan, China, Lin and Qi (2023) investigated how rural inhabitants' consumption choices were impacted by the city's growing urbanization. 300 authentic questionnaires were gathered for their study using the questionnaire survey method. They performed multiple linear regression and statistical analysis of the questionnaire data using SPSS 2.0. The main determinants of rural populations' consumption decisions were identified. According to their results, the primary determinants of rural inhabitants' purchasing decisions include sociocultural variables, family size, income, education level, and consumption views. Rural inhabitants' consumption decisions are also significantly influenced by their own attitudes and ways of thinking. They also discovered that

customer decisions are somewhat positively impacted by social influence. Using Akoko North-West local government area as a case study, Fasoranti (2021) investigated the impact of a few chosen factors found in consumption literature on the level of consumption in Ondo state, Nigeria. Adepoju et al (2011) examined the vulnerability of rural poverty households in South-West Nigeria using primary data from a two-wave panel survey (lean versus harvesting periods). Results revealed that averagely, there was 0.56 likelihood of becoming poor a period ahead in the region and relatively greater poverty incidence were correlated with much higher vulnerability while low poverty incidence were correlated with considerably low vulnerability.

Families that have large number of people who are mostly children, old people, those that have lost their husbands, families headed by females are usually more vulnerable. She used both primary and secondary sources to gather data, and she randomly picked 100 respondents from the research locations to deliver a well-structured questionnaire. Simple multiple regression analysis was used to analyze the collected data. The findings indicated that whereas predicted future income and bank deposits are inversely correlated with consumption, current income, expected pension fund, shares, and durable assets are favourably correlated. Among other things, the study established that shares, bank accounts, and anticipated future income are important factors that influence consumption in the study region.

Similarly, Nathan (2014) used a survey approach to study consumption trends in rural Nigeria, concentrating on Bayelsa state. Certain factors were found to be predictors of consumption in rural Nigeria based on the questionnaire and the researched literature. Five thousand randomly chosen respondents from rural Bayelsa State, Nigeria, were given a structured questionnaire to complete in order to gather primary data. Two hypotheses were tested by analysing the data and classifying them into seven factors. Consumption was shown to be significantly influenced by current income, projected future income, bank savings, share investments, pension fund returns, and durable assets. Adedotun's (1978) study in Nigeria revealed a favourable relationship between per capita income and consumer spending. Conversely, Uwujaren (1977) linked Nigerian consumption to Friedman's permanent income hypothesis, and his results demonstrated that consumption is influenced by both present and future income. All the studies above did not research into the pattern of consumption in South-Western states of Nigeria, the focus of this study.

METHODOLOGY

The study adopted a cross-sectional survey research design to examine the consumption pattern of rural dwellers in the South-Western States of Nigeria. The cross-sectional design was considered appropriate because information on respondents' demographic, socioeconomic and household characteristics, as well as their food expenditure relative to income, were collected from respondents at a particular period. The design enables the study to examine the relationship between household characteristics and the observed level of food-income share among rural households.

In order to choose participants from rural villages in Southwest Nigeria, this study used a multistage sampling strategy. Using basic random selection, three states, Ondo, Osun, and Oyo, were randomly chosen among the six states in the Southwest geopolitical zone for the first stage. Two Local Government Areas (LGAs) from each state that were primarily rural were randomly chosen for the second stage. The LGAs that were chosen were Ibarapa East and Ibarapa North in Oyo State, Ayedire and Iwo in Osun State, and Akoko North-East and Ose in Ondo State. Using basic random selection, two rural settlements were randomly chosen from each LGA in the third round. Twelve rural communities were selected for the study: Aiyegunle and Ise (Akoko North-East LGA); Ijagba and Elegbeka (Ose LGA); Ile-Ogbo and Kuta (Ayedire LGA); Ogbagba and Oluponna (Iwo LGA); Temidire and Lanlate (Ibarapa East LGA); and Aba Oyo and Tapa (Ibarapa North LGA). Systematic random sampling was used in the fourth step to pick households within the targeted villages.

By dividing the total number of households in each community by the number of homes needed for the study, a sample interval was established. One eligible adult respondent (18 years of age and older) was chosen using simple random sampling from each sampled household after the first household was chosen at random. This process continued until the necessary sample size was reached. Because the population is very large and unknown, we used Cochran's (1977) formula to calculate the sample size, which is: $n_0 = \frac{Z^2pq}{e^2}$, where n is the necessary sample size, z is the z -value (1.96 for 95% confidence level), p is the estimated population proportion with the characteristic of interest (0.5 is generally used when unknown), q is $1-p = 0.5$, and e is the margin of error. $n = (1.96)^2(0.5)(0.5) / (0.05)^2 = 384.16$, approximately 384. The sample size was expanded to 420 respondents in order to account for potential non-response and incomplete surveys.

The three chosen states received a proportionate share of the sample size of 420 respondents based on their projected population numbers for 2023. The goal of the proportionate allocation was to guarantee that each state was fairly represented given the size of its population. 191 questionnaires were assigned to Oyo State, 115 to Osun State, and 114 to Ondo State based on the estimated populations of 7,840,864 for Oyo State, 4,705,589 for Osun State, and 4,671,695 for Ondo State (National Bureau of Statistics [NBS] & National Population Commission [NPC], 2020). In the third round, the two chosen LGAs received an equal distribution of the questionnaires assigned to each state.

As a result, Oyo State got 191 questionnaires, of which 96 and 95 were divided amongst the two chosen LGAs. While 114 questionnaires allotted to Ondo State were divided evenly, with 57 questionnaires assigned to each selected LGA, the 115

questionnaires in Osun State were distributed as 58 and 57 questionnaires to the two selected LGAs. Lastly, the two chosen rural villages received an equal distribution of the surveys assigned to each LGA. As a result, each community in the Oyo State LGA with 96 questions received 48 surveys, whilst the LGA with 95 questionnaires received 48 and 47, respectively.

In Osun State, each village in the LGA with 58 questionnaires received 29 surveys, while the LGA with 57 questionnaires received 29 and 28 questionnaires, respectively. Each LGA in Ondo State was given 57 questionnaires, of which 29 and 28 were divided amongst the two rural villages that were chosen. To guarantee that every eligible family had an equal chance of being included in the research, respondents were chosen within each village using a simple random sampling procedure.

The Ordered Logit model was selected as the principal estimation technique because the dependent variable, *FOOD_INCOME_SHARE*, consists of four naturally ordered categories. The ordering contains meaningful information, while the intervals between the categories cannot reasonably be assumed to be equal. OLS would consequently impose an inappropriate cardinal interpretation on the dependent variable, while a conventional binary Logit would discard information by collapsing the four categories into only two outcomes.

The Ordered Logit framework preserves the ordinal information contained in the dependent variable and estimates the probability that an observation falls within each of the ordered categories. The approach is therefore consistent with the structure of the survey data and the objective of examining factors associated with differences in the food-income share of rural households. The explanatory variables comprise *GENDER*, *AGE*, *MARITAL_STATUS*, *EDUCATION*, *OCCUPATION*, *HOUSEHOLD_SIZE*, *MONTHLY_INCOME*, *SAVINGS*, *CREDIT_ACCESS* and *E9_INFLATION*. Most of these variables were obtained from categorical or ordinal questionnaire responses and subsequently assigned numerical codes for econometric estimation.

MODEL SPECIFICATION

The dependent variable, *FOOD_INCOME_SHARE*, is ordinal and takes four ordered values:

$$FOOD_INCOME_SHARE_i \begin{cases} 1, \text{Low food – income share} \\ 2, \text{Moderately low food – income share} \\ 3, \text{Moderately high food – income share} \\ 4, \text{High food – income share} \end{cases} \quad (1)$$

Where *FOOD_INCOME_SHARE_i* represents the ordinal category of food expenditure as a share of household income for rural household *i*. The four categories are ordered from the lowest to the highest food-income share.

Ordered Logit Model Specification

The ordered nature of the dependent variable, *FOOD_INCOME_SHARE*, is represented through an underlying continuous latent variable Y_i^* , which captures the unobserved propensity of household *i* to allocate income to food consumption. The latent-variable model is specified as:

$$Y_i^* = \beta_0 + \beta_1 GENDER_i + \beta_2 AGE_i + \beta_3 MARITAL_STATUS_i + \beta_4 EDUCATION_i + \beta_5 OCCUPATION_i + \beta_6 HOUSEHOLD_SIZE_i + \beta_7 MONTHLY_INCOME_i + \beta_8 SAVINGS_i + \beta_9 CREDIT_ACCESS_i + \beta_{10} E9_INFLATION_i + \varepsilon_i$$

where Y_i^* represents the unobserved propensity underlying the household's food-income share; β_0 is the constant term; $\beta_1, \dots, \beta_{10}$, are the parameters to be estimated; and ε_i is the stochastic error term. The observed ordinal dependent variable, *FOOD_INCOME_SHARE_i*, is generated from the latent variable according to three threshold or limit points, μ_1, μ_2, μ_3 :

$$FOOD_INCOME_SHARE_i \begin{cases} 1, \text{if } Y_i^* \leq \mu_1, \\ 2, \text{if } \mu_1 < Y_i^* \leq \mu_2, \\ 3, \text{if } \mu_2 < Y_i^* \leq \mu_3, \\ 4, \text{if } Y_i^* > \mu_3, \end{cases} \quad (2)$$

The four categories are interpreted as:

$$FOOD_INCOME_SHARE_i \begin{cases} 1, \text{Low food – income share} \\ 2, \text{Moderately low food – income share} \\ 3, \text{Moderately high food – income share} \\ 4, \text{High food – income share} \end{cases} \quad (3)$$

The odds ratio corresponding to each explanatory variable is calculated as:

$$OR_j = \exp(\beta_j) \quad (4)$$

RESULTS AND DISCUSSION

Table 1: Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Observations
Food_Income_Share	2.942786	3.000	4	1	0.773121	-0.42029	2.872412	402
Gender	1.440299	1.000	2	1	0.497042	0.240527	1.057853	402
Age	2.840796	3.000	5	1	1.26117	0.152166	2.020457	402
Marital_Status	2.189055	2.000	4	1	0.785834	1.22886	4.19408	402
Education	2.800995	3.000	6	1	1.206879	0.48843	2.901515	402
Occupation	2.151741	1.000	6	1	1.507871	1.082637	2.832187	402
Household_Size	2.318408	2.000	4	1	0.822447	0.268953	2.592907	402
Monthly_Income	2.012438	2.000	5	1	1.092867	1.065736	3.503042	402
Savings	1.542289	2.000	2	1	0.498829	-0.16976	1.028819	402
Credit_Access	1.666667	2.000	2	1	0.471992	-0.70711	1.5	402
E9_Inflation	4.751244	5.000	5	3	0.516859	-1.9868	6.073138	402

Source: Author's computation from Eviews 13 output, 2026

Table 1 provide an overview of the central tendencies, dispersion, and distributional natures of the variables across the 402 sampled rural households. The dependent variable, `FOOD_INCOME_SHARE`, has an average value of 2.943 with a standard deviation of 0.773, a median of 3.000, and a slight negative skewness of -0.420. This distribution indicates that rural household expenditure is greatly centered around the higher tiers of food-to-income allocations.

Among the explanatory variables, `AGE` has a mean of 2.841 (Std. Dev. = 1.261), and `HOUSEHOLD_SIZE` averages 2.318 (Std. Dev. = 0.822). `MONTHLY_INCOME` reports a mean index of 2.012 (Std. Dev. = 1.093) with a positive skewness of 1.066, indicating that the income distribution across these rural communities is converged at lower earnings levels. The perceived inflation variable, `E9_INFLATION`, exhibits a high mean of 4.751 out of a maximum score of 5.000, with a negative skewness of -1.987 and a kurtosis of 6.073. This reflects a proclaimed consensus among respondents regarding the severity of rising living costs. The financial indicators `SAVINGS` and `CREDIT_ACCESS` discloses means of 1.542 and 1.667, with standard deviations of 0.499 and 0.472, respectively, pointing to limited access to formal savings and credit mechanisms within the survey areas.

Table 2: Distribution of Questionnaires Across States

S/N	States	Number of Questionnaires	Percentage (%)
1	Ondo	114	27.14
2	Osun	115	27.38
3	Oyo	191	45.48
Total		420	100

Source: Field Survey, 2026

Table 2 shows the dissemination of questionnaires across the selected states which was carried out using proportionate allocation based on projected population figures to ensure balanced geographic representation across rural South-Western Nigeria. Out of the total 420 questionnaires administered across the three sampled states, Oyo State received the bulkiest share of 191 questionnaires (45.48%), reflecting its higher estimated population compare to the other states. Osun State was allocated 115 questionnaires (27.38%), while Ondo State received 114 questionnaires (27.14%).

At the community level, the allocated instruments were distributed across two designated rural local government areas (LGAs) per state and subsequently into two rural settlements per LGA. Of the 420 questionnaires administered, 402 were successfully retrieved and considered valid for econometric and statistical analysis, yielding an effective response rate of 95.71%. This proportionate multistage analysis ensures that the empirical findings sufficiently capture the demographic and socioeconomic experiences of agrarian households across the sub-region.

Table 3: Socioeconomic Characteristics of Respondents

S/N	Socioeconomic Characteristics	Category	Frequency	Percentage (%)
1	Sex	Male	225	55.97
		Female	177	44.03
		Total	402	100
2	Age	18–30 years	69	17.16
		31–40 years	100	24.88
		41–50 years	108	26.87
		51–60 years	76	18.9
		Above 60 years	49	12.19
		Total	402	100
3	Marital Status	Married	293	72.88
		Single	42	10.45
		Widowed	51	12.69
		Divorced	16	3.98
		Total	402	100
4	Highest Educational Qualification	No formal education	57	14.18
		Primary	109	27.11
		Secondary	144	35.82
		OND/NCE	50	12.44
		HND/BSc	33	8.21
		Postgraduate	9	2.24
		Total	402	100
5	Main Occupation	Farming	209	51.99
		Trading	67	16.66
		Artisan	50	12.44
		Civil servant	17	4.23
		Self-employment	50	12.44
		Others	9	2.24
		Total	402	100

Source: Field Survey, 2026

Table 3 displays the demographic profile outlines the structure of the sample across the selected rural areas. Male respondents make up 55.97% (225 individuals) of the sample, while female respondents account for 44.03% (177 individuals). In terms of age distribution, the largest unit consists of individuals aged 41–50 years (26.87%), followed by those aged 31–40 years (24.88%), 51–60 years (18.90%), 18–30 years (17.16%), and respondents aged above 60 years (12.19%). Marital status is dominated by married respondents, who constitute 72.88% of the sample, with widowed respondents accounting for 12.69%, single respondents at 10.45%, and divorced respondents making up 3.98%. Concerning educational attainment, 35.82% of respondents completed secondary education and 27.11% attained primary education, whereas 14.18% have no formal education, 12.44% possess an OND/NCE, 8.21% hold an HND/BSc, and 2.24% completed postgraduate studies.

Farming represents the dominant livelihood, engaging 51.99% of respondents, while trading accounts for 16.66%, artisan trades for 12.44%, self-employment for 12.44%, civil service employment for 4.23%, and other activities for 2.24%. The geographic distribution of questionnaires produced 191 respondents (45.48%) from Oyo State, 115 respondents (27.38%) from Osun State, and 114 respondents (27.14%) from Ondo State. The demographic formation reveals a primarily agrarian, family-centered rural economic structure where subsistence farming and small-scale trading serve as essential sources of income. This structural context accords the observations of Adepoju et al. (2011) and Fasoranti (2021), who noted that rural populations in Southwest Nigeria remain vulnerable to welfare shocks due to their reliance on seasonal agricultural yields.

Table 4: Dependent Variable Frequency (Food Income Share)

Value	Count	Percent	Cumulative Count	Cumulative Percent
1	16	3.98	16	3.98
2	84	20.90	100	24.88
3	209	51.99	309	76.87
4	93	23.13	402	100.00
Total	402	100.00	402	100.00

Source: Field Survey, 2026

Analysis of Consumption Pattern Among Rural Dwellers in South-Western States of Nigeria

Table 4 reveals the breakdown of the dependent variable that shows the allocation patterns of household budgets in the study zone. A total of 16 households (3.98%) fall into Category 1 (low food-income share), 84 households (20.90%) are in Category 2 (moderately low food-income share), 209 households (51.99%) belong to Category 3 (moderately high food-income share), and 93 households (23.13%) fall into Category 4 (high food-income share). Cumulatively, 75.12% of the surveyed households allocate a moderately high or high proportion of their total income strictly to food consumption.

These descriptive findings align with the theoretical predictions of Engel's Law and the Keynesian Absolute Income Hypothesis. At lower income thresholds, food constitutes an inelastic necessity, forcing households to spend the vast majority of their disposable receipts on daily nutritional needs. This pattern validates the macroeconomic evidence presented by the National Bureau of Statistics (2007, 2019), which noted that rural Nigerian spending remains heavily skewed toward basic food necessities compared to urban non-food allocations.

Table 5: Ordered Correlation

Variables	Food_Income_Share	Gender	Age	Marital_Status	Education	Occupation	Household_Size	Monthly_Income	Savings	Credit_Access	E9_Inflation
Food_Income_Share	1										
Gender	-0.07705	1									
Age	-0.04517	-0.01918	1								
Marital_Status	-0.01499	-0.02211	-0.01233	1							
Education	-0.04163	0.005088	0.049584	0.023992	1						
Occupation	0.086615	0.037073	-0.06988	-0.01164	-0.01762	1					
Household_Size	-0.06933	0.016116	0.01293	0.045534	-0.03147	0.079584	1				
Monthly_Income	-0.02277	-0.04683	0.023152	0.075656	0.056712	-0.02839	-0.09043	1			
Savings	-0.02281	0.00015	-0.06459	-0.09043	-0.03984	-0.0069	-0.00859	-0.05357	1		
Credit_Access	0.050116	0.03189	-0.05167	-0.08516	-0.03356	-0.03387	-0.05353	0.008058	0.06708	1	
E9_Inflation	0.039183	-0.01913	0.061516	-0.03742	0.080354	-0.07944	0.034265	0.018736	0.05582	-0.08519	1

Source: Author's computation from Eviews 13 output

Table 5 shows the bivariate correlation matrix demonstrates weak linear and monotonic correlations across the model variables. FOOD_INCOME_SHARE shows slight negative associations with GENDER ($r = -0.0771$), HOUSEHOLD_SIZE ($r = -0.0693$), AGE ($r = -0.0452$), EDUCATION ($r = -0.0416$), SAVINGS ($r = -0.0228$), MONTHLY_INCOME ($r = -0.0228$), and MARITAL_STATUS ($r = -0.0150$). Conversely, FOOD_INCOME_SHARE correlates positively with OCCUPATION ($r = 0.0866$), CREDIT_ACCESS ($r = 0.0501$), and E9_INFLATION ($r = 0.0392$).

Inter-variable correlations among the regressors remain low to moderate such as the correlation between HOUSEHOLD_SIZE and MONTHLY_INCOME ($r = -0.0904$), and between SAVINGS and MARITAL_STATUS ($r = -0.0904$) indicating an nonexistence of severe multicollinearity among the explanatory variables.

Table 6: Ordered Logit Results

Variable	Coefficient(Std. Error)	z-Statistic	Prob.	Odd Ratio
Gender	-0.31575(0.192849)	-1.63727	0.1016	0.7293
Age	-0.07025(0.076462)	-0.91873	0.3582	0.9322
Marital_Status	-0.00944(0.124871)	-0.07558	0.9398	0.9906
Education	-0.05803(0.080482)	-0.72106	0.4709	0.9436
Occupation	0.126178(0.064368)	1.960244	0.05	1.1345
Household_Size	-0.16742(0.116825)	-1.43308	0.1518	0.8459
Monthly_Income	-0.06878(0.088207)	-0.77972	0.4356	0.9335
Savings	-0.03561(0.193717)	-0.18385	0.8541	0.9650
Credit_Access	0.235093(0.204493)	1.149636	0.2503	1.2650
E9_Inflation	0.224364(0.186782)	1.201208	0.2297	1.2515
Limit Points				

Analysis of Consumption Pattern Among Rural Dwellers in South-Western States of Nigeria

Limit 2:C(11)	-2.92506(1.273482)	-2.2969	0.0216	
Limit 3:C(12)	-0.82052(1.252263)	-0.65523	0.5123	
Limit 4:C(13)	1.542134(1.255014)	1.228778	0.2192	
Pseudo R-Squared	0.013363	Akaike info criterion		2.302744
Schwarz Criterion	2.431982	Log likelihood		-449.851
Hannan-Quinn Criter.	2.353914	Restr. log likelihood		-455.944
LR Statistic	12.1853	Avg. log likelihood		-1.11903
Prob(LR Statistic)	0.272846			

Source: Author's computation from Eviews 13 output

Table 6 discloses the Ordered Logit regression which estimates the parameters governing the latent index Y_i^* . Among the socioeconomic regressors, OCCUPATION emerges as the only statistically significant determinant at the 5% level ($\beta = 0.1262$, $z = 1.9602$, $p = 0.0500$) with an odds ratio of 1.1345. This positive coefficient signifies that moving across occupational classifications increases the likelihood of a household occupying a higher food-income share category by 13.45%. This finding corroborates empirical studies by Nathan (2014) and Lin and Qi (2023), who established that rural occupation types determine income stability, seasonality, and the degree to which earnings must be directed toward self-provisioning. The coefficient for GENDER is negative and marginally significant at the 10% level ($\beta = -0.3158$, $z = -1.6373$, $p = 0.1016$) with an odds ratio of 0.7293. This suggests that male-headed households are about 27.07% less likely than female-headed households to be in higher food-income share categories, reflecting findings by Adepoju et al. (2011) that female-headed rural households in Southwest Nigeria undergo greater economic vulnerability.

The coefficients for MONTHLY_INCOME ($\beta = -0.0688$, $p = 0.4356$, OR = 0.9335) and SAVINGS ($\beta = -0.0356$, $p = 0.8541$, OR = 0.9650) are negative, which aligns conceptually with the consumption theories of Friedman (1957) and Ando and Modigliani (1960), though they lack statistical significance. Under the Permanent Income and Life Cycle hypotheses, accumulated assets and permanent income buffers allow households to smooth out consumption, diminishing the budget share claimed by food. However, the low rural earnings base across the sample seems to constrain this mechanism. CREDIT_ACCESS ($\beta = 0.2351$, $p = 0.2503$, OR = 1.2650) and E9_INFLATION ($\beta = 0.2244$, $p = 0.2297$, OR = 1.2515) both exhibit positive signs. In rural settings, reliance on consumer credit often finances essential food consumption during off-peak seasons, while sustained price inflation directly raises the expenditure share absorbed by basic foodstuffs.

Regarding the threshold parameters, LIMIT_2 is statistically significant ($\mu_1 = -2.9251$, $z = -2.2969$, $p = 0.0216$), while LIMIT_3 ($\mu_2 = -0.8205$, $p = 0.5123$) and LIMIT_4 ($\mu_3 = 1.5421$, $p = 0.2192$) are not. The model reports a McFadden Pseudo R^2 of 0.0134 and an LR statistic of 12.1853 with a p-value of 0.2728, showing that the overall explanatory power of the socioeconomic regressors remains modest when applied to the full sample.

Table 7: Three Cumulative Binary Logit Results

Variable	Y1 Coef.(Prob.)	Y2 Coef.(Prob.)	Y3 Coef.(Prob.)
C	6.590663(0.0603)	1.527539(0.3059)	-2.65613(0.1015)
Age	0.01623(0.9397)	-0.05334(0.5686)	-0.08339(0.3892)
Gender	-0.49987(0.3388)	-0.40566(0.0840)	-0.20033(0.4097)
Marital Status	-0.08524(0.8034)	-0.05778(0.6983)	0.046511(0.7622)
Education	-0.21427(0.2854)	-0.09902(0.3036)	-0.00108(0.9913)
Occupation	0.211436(0.2967)	0.101961(0.2105)	0.138152(0.0729)
Household Size	-0.38815(0.2022)	-0.22436(0.1190)	-0.10791(0.4643)
Credit Access	-0.1705(0.7628)	0.275448(0.2640)	0.241833(0.3567)
E9 Inflation	0.010058(0.9839)	0.174827(0.4348)	0.321376(0.2064)
Monthly Income	0.310621(0.2840)	-0.07641(0.4728)	-0.10123(0.3774)
Savings	-1.0308(0.0877)	-0.05391(0.8209)	0.051632(0.8315)
Statistics	Y1	Y2	Y3
McFadden R-Squared	0.068308	0.022873	0.017054
LR Statistic	9.188672	10.31597	7.416258
Prob(LR Statistic)	0.514297	0.413223	0.685649
Log Likelihood	-62.6648	-220.35	-213.731
Observations	402	402	402

Source: Author's computation from Eviews 13 output

Table 7 reveals the three cumulative binary logit models that decompose the ordered thresholds into distinct dichotomous decision boundaries: Y_1 (Category 1 vs. Categories 2, 3, 4), Y_2 (Categories 1 and 2 vs. Categories 3 and 4), and 3 (Categories 1, 2, and 3 vs.

Category 4). In the Y_1 equation, SAVINGS is negative and statistically significant at the 10% level ($\beta = -1.0308$, $p = 0.0877$) with a McFadden R^2 of 0.0683. This indicates that households with financial savings are significantly less likely to remain in the lowest category of food expenditure share, consistent with Friedman's permanent income theory where liquid assets provide a cushion against income disruptions.

In the Y_2 equation, GENDER is negative and statistically significant at the 10% level ($\beta = -0.4057$, $p = 0.0840$), demonstrating that household headship plays a perceptible role in separating low-to-moderate food share households from higher-share households. In the Y_3 equation, OCCUPATION is positive and statistically significant at the 10% level ($\beta = 0.1382$, $p = 0.0729$), affirming that occupational status is the primary factor that drives households across the highest threshold into extreme food expenditure commitments. The LR statistics across all three specifications (Y_1 : 9.1887, $p = 0.5143$; Y_2 : 10.3160, $p = 0.4132$; Y_3 : 7.4163, $p = 0.6856$) show that the predictive power of these socioeconomic factors remains concentrated around specific boundary modifications rather than across the whole spectrum uniformly.

Table 8: Prediction Evaluation of the Ordered Logit Model

Actual Food Income Share Category	Observations	Correct Predicted	Incorrect Predicted	% Correct
1	16	0	16	0.00
2	84	0	84	0.00
3	209	209	0	100.00
4	93	0	93	0.00
Total	402	209	193	51.99

Source: Author's computation from Eviews 13 output

Table 8 provides the classification table, which evaluate the predictive performance of the Ordered Logit model across each observed category of food-income share. The model correctly classifies 0 out of 16 observations in Category 1 (0.00%), 0 out of 84 observations in Category 2 (0.00%), 209 out of 209 observations in Category 3 (100.00%), and 0 out of 93 observations in Category 4 (0.00%). This yields an overall prediction accuracy of 51.99% (209 correctly classified cases out of 402).

The performance is driven by the presence of a modal group. Because Category 3 accounts for 51.99% of all responses, the Ordered Logit model defaults to assigning all 402 observations to this single category to minimize total classification error. Consequently, while the model achieves 100% sensitivity for the modal group, its specificity and predictive capacity for the tail categories (Categories 1, 2, and 4) are completely suppressed.

Table 9: Model versus constant-probability specification

Prediction Measure	Ordered Logit Model	Constant-Probability Specification	Gain
Observation	402	402	-
Correct Predictions	209	209	0
Incorrect Predictions	193	193	0
% Correct	51.99	51.99	0.00
% Incorrect	48.01	48.01	0.00
Total Gain	-	-	0
Percentage Gain	-	-	0.00

Source: Author's computation from Eviews 13 output

Table 9 displays the comparative evaluation table that tests the Ordered Logit model against a constant-probability baseline specification, which assigns every observation to the modal class without relying on explanatory regressors. Both the Ordered Logit model and the constant-probability specification yield an identical total of 209 correct predictions, 193 incorrect predictions, and an accuracy rate of 51.99%. The total predictive gain and the percentage gain from the Ordered Logit model are both 0.00%. This evaluation reveals that including the ten (10) explanatory socioeconomic regressors does not improve classification accuracy beyond a simple modal prediction rule. Empirically, this implies that food-income allocations in rural Southwest Nigeria are heavily uniform and driven by persistent structural conditions such as regional price levels and food dependence that affect households similarly regardless of demographic differences.

CONCLUSION

The empirical findings demonstrate that food insecurity and nutritional expenditure burdens remain structural challenges confronting rural communities across South-Western Nigeria. For the overwhelming majority of these households, food expenditure is not merely a component of consumption expenditure; it represents the primary budgetary commitment. With over 75% of the

sampled households allocating a substantial share of their disposable income to staple foodstuffs, discretionary resources for precautionary savings, human capital investment such as children's education and health shocks are virtually non-existent. The econometric estimates elucidate the micro-foundations of this budgetary rigidity: household reliance on agrarian livelihoods and informal commerce induces income volatility, rendering rural families vulnerable to seasonal cash flow disruptions and adverse agricultural price shocks. Furthermore, the predictive classification performance reveals that standard socio-demographic indicators fail to adequately differentiate households across distinct food-income share thresholds. In an economic environment where households universally experience high dietary budget shares alongside severe inflationary pressures, economic hardship ceases to be an idiosyncratic micro-level anomaly, manifesting instead as a pervasive, systemic rural welfare vulnerability.

POLICY RECOMMENDATIONS

Sub-national governments across South-Western Nigeria should establish community-level strategic grain and staple reserves to smooth seasonal supply deficits and insulate rural households from localized pre-harvest price volatility. Concurrently, agricultural policy must target farm-gate production constraints by expanding access to subsidized improved seedlings, affordable fertilizers, and localized transportation logistics, thereby lowering unit production costs and augmenting own-farm food availability.

Policy interventions should actively foster rural non-farm enterprise development. Given the empirical finding that occupational status significantly governs household food-income commitments, agricultural extension and rural development agencies should provide vocational training and capital support for cottage agro-processing and allied micro-enterprises to generate non-seasonal, counter-cyclical income streams. Furthermore, rural microfinance frameworks and donor agencies should prioritize female-headed and agrarian households through concessionary micro-credit facilities and revolving grant schemes, reducing reliance on informal, high-cost borrowing during agricultural lean periods or trading downturns.

Social protection architectures must be restructured to accommodate systemic rather than purely demographic deprivation. Because the econometric results demonstrate that elevated food-income shares cut broadly across household demographic profiles, intervention programs should avoid overly restrictive means-testing protocols in favor of community-wide social safety nets. Finally, social cash transfer mechanisms and welfare disbursements should be dynamically indexed to rural food consumer price inflation, ensuring that rapid cost-of-living increases do not erode the real purchasing power and nutritional intake of rural households.

REFERENCES:

- 1) Adepoji, et al. (2011). Vulnerability profile of rural households in South West Nigeria. *Journal of Agricultural Science*, 1(1), 23 – 35
- 2) Adetotun, P. (1978): Nigeria's public consumption expenditure, *The Journal of Economics and social Studies*, 20 (3), 13 – 15
- 3) Anyanwu, C. (1995): Revenue allocation and stable fiscal federalism in Nigeria. *Journal of Economic Management*, 2(2), 1-28.
- 4) Cochran, E. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Son
- 5) Duesenberry, J. S. 1949. *Income, Saving, and the theory of consumption behavior*. Cambridge, Mass.: Harvard University Press.
- 6) Engel, E. (1857). Die productions-und Consumtionverhaltnisse des konigrechrift des Statistischen des Koniglich Sachsischen Ministeriums des Innern, 8-9, 1-54
- 7) Fasoranti, M.M (2012). The determinants of consumption pattern among rural dwellers of Ondo state (case study of Akoko North West local government). *European Scientific Journal*, 8(6), 72-79.
- 8) Friedman, Milton. 1957. *A Theory of the consumption function*. Princeton University Press.
- 9) Geetha, K. T. (2011). Consumption patterns among selected rural and urban households in Coimbatore city. *Zenith International Journal of Multidisciplinary Research*, 1(2), 46-61.
- 10) Keynes, J. M. (1936). *The general theory of employment, interest and money*. Cambridge University Press.
- 11) Lin, X. & Qi, Y. (2023). Influence of consumption decisions of rural residents in the context of rapid urbanization: Evidence from Sichuan, China. *Sustainability*, 15, 16524. <https://www.mdpi.com/journal/sustainability.1-14>
- 12) Modigliani, F. and A. Ando, (1960). Permanent income and the life cycle hypothesis of savings Behaviour: Comparisons and test. In I. Friend, & R. Jones, (Eds.), *Consumption and savings*, (Vol. 2). University of Pennsylvania Press.
- 13) Nathan, P.A (2014). Consumption dynamics in rural Nigeria: The experience of Bayelsa State. *Journal of Economics and Sustainable Development*, 5(20), 59-69
- 14) National Bureau of Statistics. (2007). *Consumption expenditure pattern in Nigeria*. Federal Republic of Nigeria.
- 15) National Bureau of Statistics. (2019). *Consumption expenditure pattern in Nigeria*. Federal Republic of Nigeria.
- 16) National Bureau of Statistics, & National Population Commission. (2020). *Nigeria population projections and demographic indicators*. National Population Commission

- 17) Tokoya, et al. (2022). Income and household consumption expenditure in Nigeria (1986–2020). *Journal of Economics, Management and Trade*, 28(3), 30- 41.<https://doi.org/10.9734/jemt/2o22v28i330399>
- 18) Uwujaren G. P. (1977): Specification and estimation of an economy-wide macro econometric model of Nigeria. *Nigerian Journal of Economic and Social Studies*, 19 (2), 107 – 134
- 19) Walsh, C. E. (2010). *Monetary theory and policy*. Cambridge (3rd ed): The MIT Press

Objective	Section
Identify consumption patterns	B,C,F
Compare food/non-food expenditure	C,D
Determine socioeconomic factors	A,E