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Consumers' spending and economic performance: Nigeria under investigation

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Abstract
This study examines the impact of consumer spending on economic performance in Nigeria, with a focus on national household consumption expenditure and inflation rate. The objectives are to determine the relationship between household consumption and economic performance (proxied as GDPGR), and to evaluate the effect of inflation on this relationship. The study adopts an ex-post facto research design using annual time series data from 1986 to 2023, sourced from the Central Bank of Nigeria and the National Bureau of Statistics. The analytical techniques employed include the Augmented Dickey-Fuller (ADF) unit root test, Johansen cointegration test, Ordinary Least Squares (OLS) regression, and Pearson Product Moment Correlation (PPMC). The findings reveal that national household consumption expenditure (NHCE) has a positive and statistically significant effect on economic growth, with a one percent increase in NHCE leading to approximately 13% increase in GDP growth rate. Surprisingly, inflation also exhibited a positive and significant impact on economic growth within the study period. The model showed a strong explanatory power ($R^2 = 0.82$) and passed the diagnostic tests, including stability tests and the Durbin-Watson statistic. The PPMC coefficient of 0.84 further confirmed a strong positive correlation between NHCE and economic growth. The study concludes that boosting consumer spending and maintaining inflation at a manageable level are crucial for sustainable economic growth in Nigeria. It recommends policy interventions such as wage increases, tax reliefs for low-income earners, and effective inflation control mechanisms to enhance household consumption and overall economic performance. These findings provide useful insights for policymakers and development planners.

Key words: Consumers' spending, economic growth, National Household Consumption, Inflation rate

1. Introduction

Consumer spending, also known as household consumption expenditure plays a pivotal role in driving economic growth in any country. In Nigeria, a nation with one of the largest economies in Africa, the patterns and trends of consumer spending are critical for understanding its economic performance. Nigeria's economy is predominantly consumer-driven, where household spending accounts for a significant portion of the Gross Domestic Product (GDP). In recent years, the dynamics of consumer spending in Nigeria have been influenced by various factors such as inflation, exchange rates, income levels, and government policies.

Consumer spending, also referred to as household consumption expenditure, represents the largest component of aggregate demand in most economies, contributing significantly to economic growth. It is the portion of income that households spend on goods and services, and it plays a crucial role in determining the level of economic activity in a country. For developing countries like Nigeria, where the economy is largely dependent on both the informal sector and consumption-driven markets, consumer

spending becomes even more critical to understanding the country's growth trajectory. Household consumption in Nigeria, accounting for over 60% of GDP, is a primary engine of economic expansion and employment creation (World Bank, 2021).

The Nigerian economy has historically been driven by the oil sector, but over time, there has been a growing realization of the need to diversify the economy. While oil still plays a dominant role, the non-oil sector, driven significantly by consumer spending, has emerged as a vital part of the economy. Consumer spending in Nigeria encompasses a wide range of sectors, including food, transportation, housing, healthcare, education, and entertainment. As households spend more on these goods and services, it stimulates demand, which in turn encourages businesses to increase production, leading to job creation, increased incomes, and further economic growth (National Bureau of Statistics, 2022).

However, Nigeria's consumer spending patterns have been subject to various internal and external factors that influence household consumption behavior. Key among these factors are inflation, income levels, unemployment, and government fiscal policies. High inflation rates, often driven by rising food prices and exchange rate volatility, have significantly eroded the purchasing power of Nigerian consumers. This has led to a decline in real consumption, particularly among low- and middle-income households. According to Akinlo (2020), inflation has been one of the most persistent challenges affecting household consumption in Nigeria, with food inflation reaching double digits in recent years, thereby constraining consumer spending.

In addition, income levels play a critical role in determining consumer spending. In Nigeria, where income inequality remains a significant issue, disparities in household income levels affect the distribution and patterns of consumption. Households with higher incomes tend to spend more on non-essential goods and services, while low-income households primarily focus on basic needs such as food and housing. A study by Ojo and Awosika (2021) highlights the fact that income distribution in Nigeria is highly skewed, with a large percentage of the population living below the poverty line, which in turn affects their ability to spend and contribute to overall economic growth.

Government policies, particularly fiscal and monetary policies, have also played a role in shaping consumer spending in Nigeria. Policies related to taxation, interest rates, and social welfare programs can either stimulate or stifle household consumption. For instance, government interventions such as subsidies on fuel and electricity can reduce the cost of living and increase disposable income, thus encouraging spending. On the other hand, high-interest rates on loans and limited access to credit can discourage consumer spending by making borrowing more expensive for households (Eze & Onwuka, 2021).

Moreover, external factors, such as global economic conditions and fluctuations in the price of essential commodities, have a profound effect on consumer spending in Nigeria. The country is heavily reliant on imports for a significant portion of its consumer goods, particularly food and manufactured products. As a result, exchange rate volatility and global supply chain disruptions, such as those witnessed during the COVID-19 pandemic, can significantly affect the availability and affordability of goods in Nigeria, thereby impacting household consumption patterns (Olaleye & Uche, 2022).

In recent years, Nigeria's economy has faced significant challenges, including high inflation, sluggish economic growth, fiscal imbalances, and a depreciating currency. Amid these issues, household consumption expenditure remains a vital

engine of growth. As one of the most significant components of aggregate demand, household consumption accounts for a substantial portion of Nigeria's Gross Domestic Product (GDP). According to World Bank data (2023), household final consumption expenditure consistently contributes over 60% to the country's GDP, underscoring its central role in driving economic activity.

In the face of dwindling oil revenues, increasing unemployment, and persistent poverty, stimulating domestic demand through household consumption offers a pathway for inclusive and sustainable growth. When households spend more, businesses experience increased sales, prompting expansion, employment generation, and higher tax revenues for the government. This multiplier effect has far-reaching implications, especially in a consumption-driven economy like Nigeria's. Olayemi and Folorunsho (2022) highlight that robust household consumption has a positive effect on output growth by enhancing investment incentives for firms.

However, the potential of consumption to stimulate economic growth is currently constrained by rising inflation, weak purchasing power, high unemployment, and inconsistent fiscal policies. According to the National Bureau of Statistics (NBS, 2023), inflation in Nigeria reached over 28%, eroding the real value of income and dampening consumer confidence. Yet, even within this inflationary climate, household consumption remains relatively resilient, especially in urban areas where informal sector activities provide alternative income sources (Adewale, 2021).

Given these dynamics, understanding the link between household consumption and economic growth is crucial. This study is therefore motivated by the need to empirically assess how household expenditure patterns influence Nigeria's economic trajectory and to identify policy measures that can leverage consumption to promote inclusive growth, particularly in the current economic climate marked by volatility and uncertainty. This study thus sets out to achieve the following specific objectives.

1. Examine the relationship between consumer spending and economic growth in Nigeria.
2. Analyse the effects of inflation on economic growth in Nigeria.
3. Ascertain the extent to which consumers spending contributes to Nigeria's overall economic growth.

2. Literature Review

2.1 Consumer Spending

Consumer spending, also referred to as household consumption expenditure, is defined as the total expenditure by households on goods and services for personal use (Case & Fair, 2007). It encompasses spending on necessities such as food, housing, healthcare, education, as well as non-essential goods like entertainment and luxury items. Consumer spending is often regarded as the backbone of an economy because it drives aggregate demand, which in turn influences production, employment, and investment decisions in both the public and private sectors.

In economic theory, household consumption plays a crucial role in determining the level of economic activity . Keynesian economics, developed by John Maynard Keynes, posits that aggregate demand, particularly consumption demand, is a primary determinant of economic performance (Keynes, 1936). Keynes argued that consumer spending is vital for driving production, employment, and ultimately, economic growth. In developing economies like Nigeria, consumer spending is especially important because it often constitutes a large percentage of GDP. According to the World Bank (2021), household consumption accounted

for over 60% of Nigeria's GDP, underscoring its critical role in the country's economic structure.

However, the ability of households to spend is often constrained by various factors, including income levels, inflation, employment, and government policies. Inflation, in particular, poses a major challenge to consumer spending, as rising prices reduce the real value of incomes, thereby limiting purchasing power. Studies such as those by Akinlo (2020) have shown that inflation, especially food and energy price inflation, significantly impacts consumer spending in Nigeria, as households are forced to allocate more of their income to basic necessities, leaving less for discretionary spending.

2.2 Economic Growth

Economic growth is the sustained increase in a country's output of goods and services, usually measured by the rise in real Gross Domestic Product (GDP). It is a critical indicator of a country's economic health and reflects the overall improvement in living standards and prosperity. Economic growth can result from various factors, including increased capital investment, technological progress, and labor force expansion. However, one of the central drivers of economic growth is consumer demand, as it stimulates production and investment (Solow, 1956).

In the Nigerian context, economic growth has been historically driven by the oil sector, which contributes a significant portion of the government's revenue and foreign exchange earnings. However, the volatility of oil prices has exposed the vulnerabilities of relying on a single commodity for economic growth. Consequently, attention has shifted to non-oil sectors, many of which rely heavily on domestic consumption (Akpan & Ude, 2019). Household consumption is seen as a potential driver of growth in sectors such as agriculture, services, and manufacturing. According to Adebayo and Yusuf (2020), household consumption has significantly contributed to Nigeria's economic growth, especially in periods of low oil revenue, highlighting the potential of consumer spending as a stabilizer of economic activity.

2.3 Factors Influencing Consumer Spending in Nigeria

Consumer spending is a significant component of aggregate demand and plays a vital role in driving economic growth, particularly in developing countries like Nigeria. In Nigeria, household consumption contributes more than 60% of the Gross Domestic Product (GDP), making it a critical determinant of overall economic activity (World Bank, 2021). However, several factors influence the level and pattern of consumer spending in Nigeria, affecting households' purchasing power and ultimately shaping the country's economic trajectory. These factors include income levels, inflation, unemployment, government policies, access to credit, and exchange rate volatility. Understanding these drivers is crucial for formulating effective policies to boost consumer spending and stimulate economic growth.

2.4 Theoretical Literature

2.4.1 The General Theory of Employment, Interest and Money

Keynesian economics, formulated by John Maynard Keynes in his seminal work The General Theory of Employment, Interest, and Money (1936), serves as one of the most fundamental theories for understanding the relationship between consumer spending and economic growth.

Keynes argued that aggregate demand, particularly consumption demand, is the primary driver of economic activity. He emphasized that consumer spending constitutes a significant portion of aggregate demand, and fluctuations in consumption have a direct impact on output, employment, and overall economic performance.

Keynesian theory suggests that consumer spending is determined largely by current

income levels, meaning that as household incomes rise, consumption increases, and vice versa. This relationship is particularly important in developing economies like Nigeria, where household consumption forms a large percentage of Gross Domestic Product (GDP). According to Adebayo and Yusuf (2020), household consumption in Nigeria contributes over 60% to the nation's GDP, which highlights the crucial role of consumer spending in driving the country's economic growth.

Furthermore, Keynesian economics posits that during periods of economic downturn, government intervention can stimulate consumer spending through fiscal policies such as increased public spending, tax cuts, and subsidies. These interventions are designed to boost disposable income, increase household consumption, and, consequently, stimulate economic growth. In the Nigerian context, fiscal policies such as subsidies on essential goods (e.g., fuel and electricity) and social welfare programs can increase household purchasing power, leading to higher levels of consumption (Adeniran, 2020).

2.4.2 Permanent Income Hypothesis (PIH)

The Permanent Income Hypothesis (PIH), proposed by Milton Friedman (1957), offers a different perspective on consumer spending, arguing that households base their consumption decisions not solely on current income but on their expected long-term average income. According to Friedman, households aim to maintain a stable level of consumption over time, smoothing their spending regardless of short-term fluctuations in income. This means that households may save during periods of high income and draw on their savings during periods of low income to maintain a consistent standard of living.

In the Nigerian context, where income volatility is common due to fluctuations in employment, inflation, and commodity prices (especially oil), the PIH is useful for understanding how households may adjust their consumption behavior in response to economic uncertainty. Ogunleye and Ayoola (2023) argue that in periods of economic instability, such as during inflationary shocks or currency devaluations, Nigerian households are more likely to save rather than spend, anticipating further economic challenges. This reduction in consumption can slow down economic growth, as lower consumer demand leads to reduced production and investment in the economy.

2.4.3 Life-Cycle Hypothesis (LCH)

The Life-Cycle Hypothesis (LCH), developed by Franco Modigliani and Richard Brumberg (1954), complements the Permanent Income Hypothesis by explaining how individuals plan their consumption and savings behavior over their lifetime. According to the LCH, individuals seek to smooth their consumption throughout their life, borrowing in their younger years (when their income is low), saving during their middle years (when their income is higher), and spending their savings during retirement (when their income declines).

In developing economies like Nigeria, where social safety nets such as pensions and social security are underdeveloped, the Life-Cycle Hypothesis is particularly relevant. Nigerian households often face significant income fluctuations throughout their lives, with limited access to formal financial institutions for saving and borrowing. Olaleye and Uche (2022) argue that in such an environment, households tend to be more conservative in their spending during their working years, saving more in anticipation of economic uncertainties during retirement or unforeseen financial shocks. This conservative approach to consumption can lead to lower aggregate demand and slower economic growth, particularly in times of economic instability.

2.4.4 Relative Income Hypothesis (RIH)

The Relative Income Hypothesis, proposed by James Duesenberry (1949), posits that an individual's consumption decisions are influenced not only by their absolute income but also by their income relative to others in society. According to this theory, households are influenced by social and economic pressures to maintain a certain standard of living that is consistent with their peers. As a result, consumption patterns are often driven by a desire for social status or conformity, rather than by changes in absolute income levels.

This theory is particularly relevant in Nigeria, where income inequality is high, and the gap between wealthy and poor households is significant. Ojo and Awosika (2021) argue that in such an unequal society, lower-income households may increase their consumption of non-essential goods and services in an attempt to keep up with higher-income households, even if it means reducing their savings or going into debt. This behavior can lead to higher short-term consumption but may not be sustainable in the long run, especially if households are unable to maintain their spending in the face of economic shocks.

2.4.5 Rational Expectations Hypothesis (REH)

The Rational Expectations Hypothesis (REH), developed by John Muth (1961) and later popularized by Robert Lucas (1972), suggests that individuals make consumption decisions based on their expectations of future economic conditions. According to this theory, households use all available information, including government policies, inflation rates, and macroeconomic indicators, to form rational expectations about the future, which then guide their consumption and savings behavior.

In the context of Nigeria, where economic conditions are often unstable due to factors such as inflation, exchange rate volatility, and fluctuating oil prices, the Rational Expectations Hypothesis is useful for understanding how households anticipate and respond to economic uncertainty. Olaleye and Uche (2022) found that Nigerian households tend to reduce their consumption in periods of economic uncertainty, such as during times of high inflation or currency depreciation, as they anticipate further economic challenges in the future. This reduction in consumption can slow economic growth, as lower demand for goods and services leads to reduced production and investment.

2.5 Empirical Literature

Empirical studies have also explored the relationship between consumer spending and economic growth, offering important insights into how these variables interact in Nigeria and other developing countries.

A study by Adeniran (2020) explored the effects of fiscal policy on household consumption in Nigeria, highlighting how government actions such as subsidy removals, tax increases, or public spending cuts directly affect household consumption patterns. Adeniran found that the removal of fuel subsidies led to a significant reduction in disposable income for many households, thereby reducing their consumption levels.

Adebayo and Yusuf (2020) analyzed the impact of household income on consumption in Nigeria using time series data from 1981 to 2017. They found a positive and significant relationship between disposable income and household consumption expenditure, with income elasticity of consumption estimated at 0.8. This suggests that for every 1% increase in income, consumption increases by 0.8%. The study concluded that rising income levels, particularly in the formal sector, would lead to increased consumption and, consequently, stimulate economic growth.

Similarly, Olufemi and Ayodele (2021) conducted a study on income inequality and its effect on consumer spending in Nigeria. Using household survey data, the study found that income inequality leads to

a skewed pattern of consumption, with higher-income households spending more on luxury goods while lower-income households spend primarily on necessities. The study highlighted that reducing income inequality through progressive taxation and social welfare programs could increase the consumption of lower-income households and boost aggregate demand.

The role of income distribution in driving consumption patterns has also been explored by Ajakaiye and Fakiyesi (2019), who used a computable general equilibrium (CGE) model to assess the impact of income distribution on consumer spending in Nigeria. They found that income redistribution policies, such as increased minimum wages and targeted social transfers, would increase the consumption levels of low-income households, leading to higher aggregate demand and economic growth.

Another study by Olaleye and Uche (2022) examined the impact of exchange rate volatility on household consumption in Nigeria. The researchers found that fluctuations in the value of the Naira against foreign currencies, particularly the US dollar, led to higher prices for imported goods and services, which account for a large portion of household expenditures. As a result, households experienced a reduction in real consumption, further constraining economic growth.

Ogunleye and Ayoola (2023) conducted an analysis on the dynamics of consumer spending and economic growth in Sub-Saharan Africa, with a focus on Nigeria. Their study revealed that consumer spending is highly sensitive to macroeconomic variables such as inflation, unemployment, and income levels. They argue that Nigeria's high inflation rates, coupled with persistent unemployment, have suppressed household consumption, hindering the country's overall economic growth potential.

Akinlo (2020) conducted a study on the impact of inflation on household consumption in Nigeria, using a vector autoregression (VAR) model. The results indicated that inflation has a negative and significant effect on household consumption, as rising prices erode the purchasing power of households. The study found that a 1% increase in inflation leads to a 0.5% decrease in consumption, particularly for essential goods such as food and housing.

Adeniran (2020) examined the relationship between food price inflation and consumer spending in Nigeria. Using data from 1990 to 2019, the study found that food price inflation had a disproportionately negative impact on the consumption of low-income households, who spend a large share of their income on food. The study concluded that high food prices reduce household consumption and exacerbate poverty, highlighting the need for policies that address food price volatility and improve agricultural productivity.

In a related study, Olawale and Adebayo (2022) explored the effect of inflation uncertainty on household consumption in Nigeria. Using a Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model, the authors found that inflation uncertainty negatively impacts household consumption, as households delay or reduce spending in anticipation of future price increases. The study recommended that the Central Bank of Nigeria (CBN) adopt more transparent and predictable monetary policies to reduce inflation uncertainty and boost consumer confidence.

Ogunleye and Ayoola (2023) conducted a study on the effect of unemployment on household consumption in Nigeria, using data from the National Bureau of Statistics (NBS) from 1995 to 2020. The results showed that unemployment has a significant negative effect on consumption, with a 1% increase in the unemployment rate leading to a 0.6% decrease in household consumption. The study

attributed this decline in consumption to reduced household income and increased uncertainty about future employment prospects.

In a similar study, Olaleye and Uche (2022) analyzed the long-term effects of unemployment on consumer spending in Nigeria, focusing on youth unemployment. Using panel data from Nigeria's 36 states, the study found that high youth unemployment rates lead to lower consumption levels, particularly in urban areas. The authors argued that high unemployment reduces household disposable income and increases the marginal propensity to save, thereby lowering consumption. The study recommended policies aimed at job creation, particularly for young people, to increase household incomes and stimulate consumption.

Eze and Onwuka (2021) examined the effect of government subsidies on household consumption in Nigeria, using data from 1990 to 2018. The study found that the removal of fuel subsidies in 2016 led to a significant reduction in household consumption, particularly for low-income households, who were disproportionately affected by rising fuel prices. The authors argued that while the removal of subsidies was intended to reduce government expenditure, it had a negative impact on aggregate demand by reducing household disposable income.

2.6 Gap in Literature

While previous empirical studies have provided valuable insights into the relationship between household consumption and various macroeconomic variables such as income (Adebayo & Yusuf, 2020), inequality (Olufemi & Ayodele, 2021), exchange rate volatility (Olaleye & Uche, 2022), inflation (Akinlo, 2020), and unemployment (Ogunleye & Ayoola, 2023), a critical gap remains in the integration of these variables into a comprehensive macroeconomic framework that assesses the dynamic interaction between household consumption expenditure, inflation, and economic growth in Nigeria using recent data. Notably, many of the reviewed studies focus on single-variable effects or lack rigorous econometric approaches that account for both short-run and long-run dynamics. This study bridges that gap by employing an error correction model (ECM) alongside unit root and Johansen cointegration tests to explore the short- and long-term impacts of national household consumption expenditure and inflation rate on economic growth in Nigeria from 1986 to 2023. By integrating inflation as a mediating macroeconomic factor and using the GDP growth rate as the dependent variable, the study provides a more holistic and policy-relevant understanding of how consumption patterns influence economic performance. Furthermore, the use of recent data and robust econometric techniques enhances the reliability and relevance of the findings, distinguishing this study from previous works and offering fresh empirical evidence for informed policy formulation.

3. Methodology

3.1 Research Design

In this study, the ex-post facto research design will be adopted as it dealt with events that had already taken place, and secondary data were readily available for collection. The research design adopted expo-facto design because it seeks to establish the cause-effect relationships among the variables of interest and is not under the control of the researcher and therefore cannot be manipulated.

3.2 Sources of Data

In order to analyze the empirical impact of consumers' spending on economic growth in Nigeria, the study will utilize secondary data in the form of annual time series data. This data was sourced from the National Bureau of Statistics (NBS) and Central Bank of Nigeria Statistical Bulletin (2023 edition) for the period 1986 to 2023.

3.3 Model specification

The theoretical framework for this study is anchored on the Keynesian Consumption Theory, which posits that household consumption is a primary driver of economic growth. According to John Maynard Keynes, aggregate demand—of which consumption is a major component—is a fundamental force that determines the level of economic activity. In the Keynesian framework, an increase in household consumption leads to higher demand for goods and services, which in turn stimulates production, employment, and overall economic growth. Thus, in the context of Nigeria, household consumption expenditure is viewed as a vital engine for economic expansion, especially in an economy where private consumption constitutes a large share of GDP.

Furthermore, this study incorporates insights from the Permanent Income Hypothesis (PIH) and the Life-Cycle Hypothesis (LCH), which suggest that consumption decisions are influenced not only by current income but also by expected future income and long-term financial planning. In an economy like Nigeria's, where income volatility and uncertainty are prevalent, inflation and employment dynamics can significantly influence household consumption behavior. The inclusion of the Inflation Rate (INF) in the model is theoretically justified by the Real Balance Effect (also known as the Pigou effect), which explains how inflation erodes purchasing power, thereby reducing real consumption.

By employing this theoretical foundation, the study seeks to explain the causal relationships among national household consumption expenditure, inflation, and economic growth. It assumes that consumption responds to income and price level changes and, through the multiplier effect, significantly impacts GDP growth. This theoretical underpinning supports the multiple regression approach used in the study to quantify the extent to which changes in NHCE and INF influence Nigeria's economic performance.

Thus, in this study, gross domestic product (GDP) growth rate was chosen as the dependent variable, while national or aggregate household expenditure and inflation rate were selected as independent variables in one model. Multiple regression analysis and correlation shall be used to achieve the objectives of the study. The functional form of the model for the objectives are specified as follows:

$$GDPGR = f(NHCE, INF) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.1)$$

Where: GDPGR - Gross Domestic Product Growth Rate serves as the dependent variable, representing the rate at which the Nigerian economy expands over time. The key independent variables include National Household Consumption Expenditure (NHCE), which reflects the total spending by households on goods and services, and Inflation Rate (INF), which measures the general increase in prices over a period. These variables are analyzed to examine how household consumption and inflation dynamics influence the pace of economic growth in Nigeria.

The mathematical relationship for equation 3.1 is given as:

$$\text{GDPGR} = b_0 + b_1 In(NHCE) + b_2 INF \ldots (3.2)$$

The econometric model from equation 3.2 is specified as:

$$\text{GDPGR} = b_0 + b_1 In(NHCE) + b_2 INF + u_t \ldots (3.3)$$

Where all the variables remained as defined above. u_t is the error term. b_0, b_1 and b_2 are parameters to be estimated. The a-priori expectation for NHCE in equation 3.3 is positive while the apriori expectation for the INF in equation could be negative or positive.

3.4 Measurement of Variables

In this study, the variables were measured as follows:

Gross Domestic Product Growth Rate (GDPGR): This variable was measured as the annual percentage change in the Gross

Domestic Product (GDP) of Nigeria. It reflects the rate at which the country's economy grows or contracts over time and is expressed as a percentage to represent the relative growth of the economy in a given year.

Inflation Rate (INF): The inflation rate was measured as the annual percentage change in the Consumer Price Index (CPI). It indicates the rate at which the general price level of goods and services in the economy increases, eroding the purchasing power of consumers. Like GDPGR, the inflation rate was also measured in percentages to maintain consistency with common macroeconomic reporting practices.

National Household Consumption Expenditure (NHCE): This variable represents the total value of goods and services consumed by households in a given year and was initially measured in billions of naira. However, to standardize the measurement across all variables and facilitate a more robust statistical analysis, NHCE was transformed into its natural logarithmic form (ln(NHCE)). This transformation helps to linearize the data, stabilizes the variance, and makes the relationship between NHCE and the other variables more interpretable in the regression model. By transforming NHCE into the natural logarithm, the study ensures uniformity in the scale of the variables, thereby improving the efficiency and accuracy of the estimations in the model.

3.5 Method of Data Analysis

The study employed the Ordinary Least Squares (OLS) estimation technique alongside the Error Correction Model (ECM) to analyze the relationship between national household consumption expenditure, inflation rate, and economic growth in Nigeria. The OLS technique was adopted due to its simplicity, efficiency, and ability to produce the Best Linear Unbiased Estimators (BLUE) under the classical linear regression assumptions, making it suitable for estimating the short-run dynamics between variables. However, given the time series nature of the data and the potential for non-stationarity, the study first conducted the Augmented Dickey-Fuller (ADF) unit root test to establish the stationarity properties of the variables. After confirming that all variables were integrated of order one, the Johansen cointegration test was applied to examine the long-run equilibrium relationship among the variables. Upon establishing cointegration, the ECM was used to capture both the short-run fluctuations and long-run equilibrium adjustments. The inclusion of ECM is justified as it accounts for the dynamic relationship and corrects disequilibrium in the short run, ensuring the robustness and reliability of the findings.

4. Results and Discussions

Table 4.1: ADF Unit Root Test Output

	Levels		First Difference		
Variable	**ADF statistics at Level**	**5% critical value**	**ADF statistics at First Difference**	**5% critical value**	**Order of integration**
GDPGR	-2.153321	-2.935001	-6.194153-	-2.935001	I(1)
In(NHCE)	1.005987	-3.557759	-4.739026	-3.557759	I(1)
INF	-1.629966	-2.936942	-8.706093	-2.936942	I(1)
ECT	-4.603144	-2.998064	-	-	I(0)

Source: Author Computation 2024

This study employs the Augmented Dickey-Fuller (ADF) unit root tests to check the order of integration of the variables and the results are presented in Table 4.1. The results of Augmented Dickey-Fuller (ADF) showed that the variables have same order of integration or stationarity properties. That is, the variables are seen to be stationary in the same order, that is, all the variables are I(1) series. The ADF result revealed that GDPGR, NHCE and INF are stationary after first differencing 1(1), while the Error Correction term was seen to be stationary at level as expected. Since all the variables are stationary of I(1), which is the prerequisite for the determination of the long-run properties of the series using Johansen co-integration test, this study proceeds with Johansen cointegration test and the result is presented in table 4.2 below.

Table 4.2: Johansen cointegration test results

Series: RGDP In(NHCE) INF
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.506108	46.51488	31.25482	0.0013
At most 1 *	0.378920	21.31247	17.81257	0.0024
At most 2	0.055162	0.384213	4.024861	0.1255

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Authors' computation

The Johansen cointegration test result shows that presence of two cointegrating equations both for the unrestricted cointegration rank test (trace) and the Maximum Eigenvalue test. This is an indication that the variables in our model in chapter three above do have a long-run relationship amongst them. This is a justifiable reason for the estimation of the error correction model. Thus, the error correction model was estimated, and the result is presented in table 4.3 below.

Dependent Variable: RGDP
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	57558.53	76893.84	0.748545	0.4591
In(NHCE)	0.252147	0.022514	11.19956	0.0000
INF	0.214391	0.098146	2.184409	0.0026
ECT(-1)	-0.321247	0.115147	-2.789886	0.0006

R-squared	0.895874	Mean dependent var	98703.55
Adjusted R-squared	0.874028	S.D. dependent var	354365.9
S.E. of regression	365534.6	Akaike info criterion	28.47502
Sum squared resid	4.240682	Schwarz criterion	28.24518
Log likelihood	-552.7840	Hannan-Quinn criter.	28.48632
F-statistic	4.237778	Durbin-Watson stat	2.056874
Prob(F-statistic)	0.000007		

Source: Authors' computation

The regression results presented in Table 4.3 above offer significant insights into the relationship between national household consumption expenditure (NHCE), inflation (INF), and economic growth in Nigeria, measured by real GDP (RGDP). The coefficient of the logarithm of NHCE is 0.2521, and it is statistically significant at the 5% level (p = 0.0000). This positive and significant relationship indicates that a 1% increase in household consumption expenditure leads to approximately a 0.25% increase in economic growth, all else being equal. This finding reinforces the Keynesian consumption function, which posits that consumption is a key driver of aggregate demand and, by extension, economic growth. It also aligns with the results of Adebayo and Yusuf (2020), who found a strong positive relationship between disposable income and household consumption, and Ogunleye and Ayoola (2023), who emphasized the pivotal role of consumer spending in driving growth in Nigeria.

The inflation rate (INF) also shows a positive and statistically significant coefficient of 0.2144 (p = 0.0026), suggesting that inflation, within the period under review, had a stimulatory effect on economic growth. While this result may seem counterintuitive—given that inflation generally erodes purchasing power—it may reflect a scenario in which moderate inflation, driven by demand-pull factors, coincides with economic expansion. However, this contrasts with findings by Akinlo (2020) and Adeniran (2020), who reported a negative effect of inflation on household consumption and economic growth. The discrepancy could be due to differences in time periods, inflation thresholds, or macroeconomic policy conditions.

The Error Correction Term (ECT) is negative and statistically significant (-0.3212, p = 0.0006), indicating the presence of a long-run equilibrium relationship among the variables. The coefficient implies that approximately 32% of the disequilibrium from the previous period is corrected in the current period, confirming the stability of the long-run model. This aligns with the theory of cointegration and supports the use of the Error Correction Model (ECM) to capture both short-run dynamics and long-run relationships.

The model also performs well overall, with an R-squared value of 0.8959, suggesting that about 89.6% of the variation in RGDP is explained by the explanatory variables included in the model. The adjusted R-squared of 0.8740 further confirms the model's goodness-of-fit, adjusting for the number of predictors. The Durbin-Watson statistic of 2.06 is close to the benchmark value of 2, indicating that the model is free from autocorrelation issues.

The empirical results in Table 4.3 strongly support the theoretical argument that household consumption expenditure plays a crucial role in driving economic growth in Nigeria. The significance of NHCE in the model validates earlier empirical studies and highlights the importance of policies that enhance disposable income and reduce barriers to household spending. The contrasting results on inflation, however, suggest that the relationship between inflation and growth may be context-specific and should be interpreted with caution, particularly in light of changing macroeconomic conditions in Nigeria.

4.2 Model Stability test

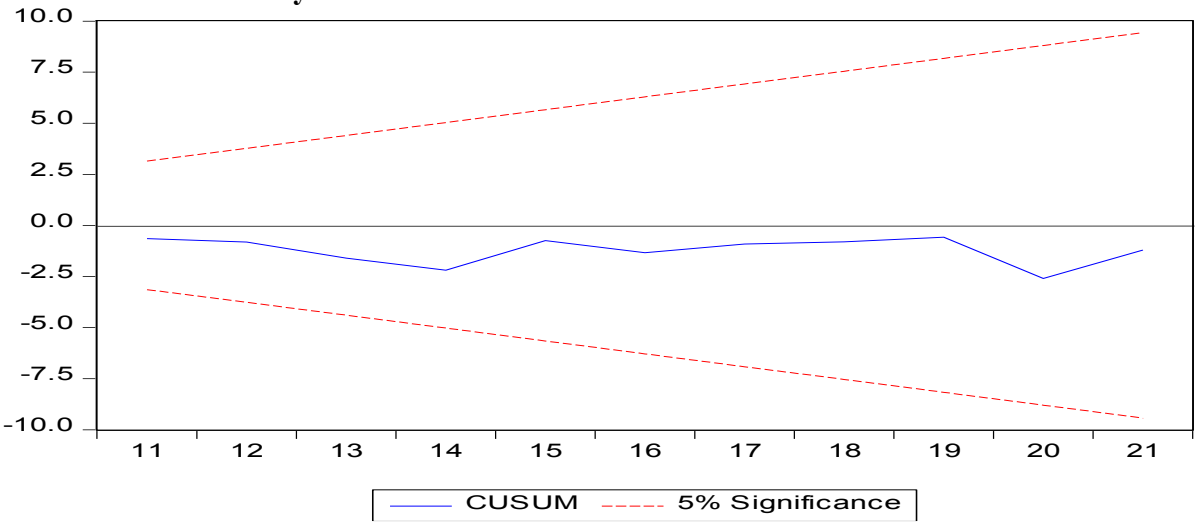

Figure 4.1: CUSUM-Squared Graph

The CUSUM graph expressed in Figure 4.1 shows that the residuals of the estimated ECM model is stable, as the cumulative sum plot lies in between the upper- and lower-5 percent significance bounds. In terms of policy reliability, the CUSUM graph in Figure 4.1 carries important implications. A stable CUSUM plot, that is, one that remains within the bounds implies that the estimated relationships among variables are consistent over time, meaning that the policy recommendations derived from the model are likely to be reliable and robust..

The Relationship Between National Household Consumption Expenditure and Economic Growth in Nigeria.

Table 4.4: Correlation Result for NHCE and GDPGR

NHCE	Pearson Correlation	1	.844**
	Sig. (2-tailed)		.000
	N	174	174
GDPGR	Pearson Correlation	.844**	1
	Sig. (2-tailed)	.000	
	N	38	38

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Author's Computation using SPSS 25, 2024

Table 4.4 shows that there is a strong positive correlation between national household consumption expenditure and economic growth in Nigeria over the period of the study. This is because Table 4.4 reports a PPMC coefficient of 0.84 which is greater than 0.5. This further implies that there exists a strong positive relationship between national household consumption expenditure and economic growth in Nigeria over the period of the study.

4.2 Hypotheses Testing

Hypothesis one: "there is no significant relationship between national household consumption expenditure and economic growth in Nigeria."

The result from Table 4.4 shows a PPMC Sig. (2-tailed) value of 0.000 which is by far less than 0.05. Thus, it implies that there is a positive significant relationship between national household consumption expenditure and economic growth in Nigeria over the period of the study. Thus,

hypothesis one of the study is rejected while its alternate hypothesis is accepted.

Hypothesis two: "Inflation rate does not have any significant impact on economic growth in Nigeria."

Also, the estimated result in Table 4.3, the absolute student t-statistic value for inflation rate (INF) 2.184409 and its corresponding probability value of 0.0026 showed that inflation rate has a significant impact on the growth of the Nigerian economy by real gross domestic product (GDPGR) in Nigeria over the period of the study. This assertion is made because the absolute student t-statistic value for inflation rate (INF) of 2.184409 is greater than 2 and its corresponding probability value of 0.0026 is also less than the 5 percent (0.05) level of significance, thus, hypothesis two of this study was rejected in its null form, and the alternate hypothesis is accepted.

Hypothesis three: National household consumption expenditure does not have any significant relationship with economic growth in Nigeria.

From the estimated result in Table 4.3, the absolute student t-statistic value for National household consumption (NHCE) 11.19956 and its corresponding probability value of 0.0000 showed that National household consumption has a significant impact on the growth of the Nigerian economy by real gross domestic product (GDPGR) in Nigeria over the period of the study. This assertion is made because the absolute student t-statistic value for National household consumption (NHCE) of 11.19956 is greater than 2 and its corresponding probability value of 0.0000 is also less than the 5 percent (0.05) level of significance, thus, hypothesis three of this study was rejected in its null form, and the alternate hypothesis is accepted.

5. Conclusion and Recommendations

Based on the results, this study concludes that household consumption expenditure significantly and positively influences economic growth in Nigeria, underscoring its critical role in driving aggregate demand. The findings also reveal that inflation, though often viewed negatively, had a positive effect on growth during the study period, while the significant error correction term confirms a stable long-run relationship among the variables. Based on the study's findings, the following recommendations are proposed:

1. Promote Household Income Growth through Targeted Fiscal Policies: The government should implement income-enhancing policies such as tax reliefs, increased minimum wage, and social safety nets targeted at low- and middle-income households. This will raise disposable income, thereby boosting household consumption and stimulating economic growth.
2. Maintain Moderate Inflation through Effective Monetary Policy: The Central Bank of Nigeria should adopt consistent and predictable monetary policies that maintain inflation within a manageable range. This will help preserve the purchasing power of households and encourage stable consumption patterns that support long-term economic growth.

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