IMPACT OF INDIVIDUAL AND COLLECTIVE CONSUMPTION EXPENDITURE OF GENERAL GOVERNMENT ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

The study empirically analyzed the impact of individual and collective consumption expenditure of the general government on Nigeria's economic growth for 1981-2023. The dependent variable is the gross domestic product growth rate (GDPGR), while the explanatory variables are Individual Consumption Expenditure of General Government (ICEGG) and Collective Consumption Expenditure of General Government (CCEGG). The data were all sourced from the Central Bank of Nigeria Statistical Bulletin 2023. The preliminary analysis was carried out using the Augmented Dickey-Fuller Unit Root test and Johansen Cointegration, while the main estimation technique is the Vector Error Correction Method and Granger Causality/Block Exogeneity Wald Tests. Government spending on individual services (ICEGG) positively impacts growth in the short term (8.61 percentage points) but reverses in the long term (-10.85 percentage points). Collective Consumption Expenditure (CCEGG) consistently negatively impacts GDP growth. The Granger Causality Test indicated individual and collective government expenditures do not Granger-cause GDP growth. Given the positive short-term impacts of individual government expenditures on services like healthcare and education, reforms should focus on increasing their long-term efficiency to foster economic growth. The government can achieve this by introducing monitoring and evaluation systems to track spending effectiveness, ensuring resources are allocated where they will yield the greatest benefits. Again, the consistent negative impact of collective government spending on GDP growth indicates a need for better resource allocation. Rather than broad-based spending, the government should prioritize high-impact infrastructure projects in the transportation, energy, and digital infrastructure sectors.

Keywords*: Individual, Collective, Consumption Expenditure, Government, Economic Growth*

1. INTRODUCTION

After the Great Depression of the 1930s, which led to the emergence of Keynesian Economics, many nations shifted their focus to the importance of government intervention in stabilizing and regulating the overall economy. This contrasted with the classical view, which emphasised the role of the invisible hands of supply and demand in determining output and employment adjustments (Johnson et al., 2001; Shaikh, 2009; Backhouse, 2015).

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Accordingly, the Keynesian model argues that an increase in aggregate demand stimulates economic activities, contrary to classical postulations of increased aggregate supply. In literature, government consumption expenditure and household consumption expenses have been extensively used in both emerging and advanced economies (Tapsin & Hepsag, 2014; Koyuncu & Unal, 2020). Consumption spending has been a fundamental driver of economic growth; an increase in consumption expenditure by households and the government boost aggregate demand in the economy, which also makes it profitable for firms to increase their production level by employing more workers, and this implies more taxable income for the government (Mankiw, 2019).

Individual Consumption Expenditure of General Government (ICEGG) demonstrated a consistent upward trend from 1981 to 2020. It rose from ₦57.11 billion in 1981 to ₦69.11 billion in 1990 to ₦82.46 billion in 2000. The following decade saw a significant leap to ₦1,124.44 billion in 2010, as CBN's Annual Economic Report reported. This growth continued, reaching ₦1,715.06 billion in 2020. However, a slight decline was observed in 2022, with ICEGG dropping to ₦1,009.80 billion (CBN, 2023), possibly due to fiscal adjustments in response to global economic challenges. Collective Consumption Expenditure of General Government (CCEGG) also showed substantial growth. Starting at ₦162.56 billion in 1981, it increased to ₦196.72 billion in 1990 and ₦234.68 billion in 2000. The subsequent decade saw a dramatic rise to ₦3,707.71 billion in 2010, as the Federal Ministry of Finance budget reports documented. This upward trend continued, reaching ₦4,941.74 billion in 2020. However, like ICEGG, CCEGG experienced a significant decrease to ₦2,946.50 billion in 2022, potentially reflecting changes in government spending priorities or fiscal constraints.

The Nigerian government has employed one critical tool: fiscal policy, which involves adjusting government spending, taxation, and borrowing to steer the economy toward desired outcomes (Medee & Nembee, 2011). Fiscal policy modifies the pattern and magnitude of aggregate demand, output, and employment, thus playing a pivotal role in shaping economic trends and growth. In 2022, the government introduced tax incentives and lower interest rates to encourage investment and boost consumption expenditure (CBN, 2022; CBN, 2020; African Development Bank, 2021).

Despite these efforts, consumption expenditures are not stable due to the business cycle, government expenditures, and fiscal trajectory in most cases (Usman & Idris, 2022). Also, consumption expenditures are not directed towards domestic economic activities, so they might not significantly support job creation processes and enhance the standard of living (Olumuyiwa, 2021; Sule, 2019).

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The motivation for this study stems from the instability in Nigeria's economic growth trajectory and consumption patterns, evidenced by high inflation rates, unemployment and widespread poverty rate. Also, reviewed studies have not taken into cognisance the roles of individual consumption expenditure of the general government and collective consumption expenditure of the general government in Nigeria. Hence, this current study examines the nexus among the components of government consumption expenditure-individual and collective consumption expenditure of general government on economic growth in Nigeria from 1981 to 2023.

This study has two major objectives: to analyze the impact of individual consumption expenditures of the general government on economic growth in Nigeria and to assess the impact of collective consumption expenditures of the general government on Nigerian economic growth. The paper is structured into six parts: introduction, literature review, methodology, results and discussion of findings, conclusion, recommendations, and references.

2. LITERATURE REVIEW

Brief conceptual clarifications

According to the Organization for Economic Cooperation and Development (OECD) and Eurostat (2012), individual services are the services that the general government provides to specific identifiable households. This includes expenditure on goods and services related to health, education, or social protection. The general government's individual consumption expenditure is further defined as goods and services for individual consumption (individual goods and services) that are acquired by a household and used to satisfy the needs and wants of members of that household (Půlpánová, 2013).

Collective services are those that the general government provides simultaneously to all community members (Zuzana & Igor, 2014). These services include defence and public order and safety, overall policymaking, planning, regulatory, budgetary, coordinating, and monitoring responsibilities of ministries overseeing individual services consumed by households collectively. Unlike the services to which they relate, these activities cannot be identified with specific individual households and are considered to benefit households collectively.

Theoretical literature

Harrod-Domar Growth Theory

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This was propounded by Harrod in 1939 and Domar in 1946. The model was designed to explain economic growth within an economy by utilising savings levels and capital productivity. The model's assumptions are: Long-run equilibrium economic development is not natural in an economy and is nearly impossible to accomplish; The concept of 'fixed proportions' in which labour cannot be substituted by capital in production is a major assumption in the Harrod-Domar model. Using the savings ratio, the capital-output ratio, and the rate of increase in the labour force, this model suggests that if any of the variables were to deviate from equilibrium, the economy would suffer from rising unemployment or prolonged inflation.

Absolute Income Hypothesis

The Absolute Income Hypothesis (AIH), proposed by John Maynard Keynes in his 1936 work 'The General Theory of Employment, Interest and Money,' is a fundamental theory in macroeconomics that explains the relationship between income and consumption. According to this hypothesis, current consumption is primarily determined by current disposable income, with individuals typically spending a decreasing proportion of their income as their income rises (Keynes, 1936). The AIH posits that there is a stable relationship between consumption and income, represented by the consumption function: $C = a + bY$, where C is consumption, Y is disposable income, 'a' is autonomous consumption (consumption when income is zero), and 'b' is the marginal propensity to consume (MPC). The MPC, which represents the fraction of an additional dollar of income spent on consumption, is assumed to be positive but less than one, implying that as income increases, consumption also increases but at a decreasing rate (Friedman, 1957).

The Keynesian Cross

The theoretical foundation of this study is rooted in the Keynesian Cross articulated by Keynes in his general theory of interest rate, employment and money (1936). According to Keynes, stimulating economic growth hinges primarily on aggregate demand. On the other hand, the aggregate supply function is considered given in the short run, as it is determined by technical production conditions and the availability of raw materials and machinery, which remain relatively constant. Consequently, the level of employment within the economy is largely determined by the aggregate demand function, which, in turn, relies on consumption. Unemployment is attributed to declines in consumption expenditure. Boosting consumption is posited to elevate employment levels. This premise operates on the notion that not only does the private sector contribute to the overall efficiency of the economy, but so does the government. The application of the Keynesian model occupies a middle ground between a market-based economy and a state-controlled one. Within this framework, fiscal policy, particularly government spending, is analysed. According to Keynesian

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Cross, government intervention through increased spending during economic slowdowns can spur job creation. The underlying principle is that increased government spending leads to more disposable income for employed individuals, stimulating overall demand (Keynes, 1936).

Empirical Review

Kulsom, Cui, Naeem, Madiha and Hira (2024) examined the relationship between government expenditure, household consumption and economic growth of Pakistan using data from 1971 to 2020. The Vector Error Correction Model was used to check the long-run association between study variables. Finally, the Granger Causality Test checks the causation at different lag levels. The findings of the study supported the literature. The results showed that government expenditure and Household consumption significantly impact Pakistan's economic growth. Strong causation between the variables was found. This implies that welfare policies related to enhancing trade subsidies and sustainable resource allocation boost economic growth in the long and short run.

Lumabao and Rosales (2023) examined General Government Consumption Expenditure (GGCE), Household and NPISHs Final Consumption Expenditure (HFCE) as major determinants of GDP growth to know their contribution to economic growth in the Philippines between 1970-2020. The data was analysed using the Ordinary Least Squares Method (OLS). Gross Domestic Product Growth (GDPG) is one of the driving factors of economic development. The analysis used Gretl to acquire the results needed for the study. Microsoft Excel, on the other hand, was used to generate the trendlines of the variables. The result of the analysis shows that there is a significant relationship between the variables: General Government Consumption Expenditure (GGCE), Household and NPISHs Final Consumption Expenditure (HFCE), and Exports of Goods & Services (EoGS), the dependent variable, GDPG, also increases/decreases respectively. However, the relationship to Foreign Direct Investment (FDI) does not have a significant relationship with GDPG. The graphs show a positive uptrend; however, the economy experienced a rapid decline due to economic shocks, especially between 1980-1990 and 2020, during the COVID-19 pandemic.

Ceesay, Biagie and Bittaye (2022) examined the impact of the final consumption expenditure of the general government- the economic growth nexus for the Gambia, from 1977 to 2017. The econometrics technique used is the Ordinary Least Square (OLS) method. Data for the study were obtained from the World Bank (WDI). The findings were interpreted based on a 5 per cent significance level of alpha. The multiple regression results revealed that government consumption has no significant impact on the economic growth of the Gambia. This opposes the traditional Keynesian macroeconomic theory. This study suggested that

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Capital and recurrent expenditures on economic facilities should be directed mainly to productive economics.

Usman and Idris (2022) examined government final consumption and household final consumption expenditure in Nigeria from 1981 to 2019. This study employed the Vector Error Correction Model. The study results revealed that the Government's final consumption expenditure coefficient positively affects household consumption expenditure in the long run. A long-run and short-run relationship exists between gross fixed capital formation and household consumption expenditure. The coefficients credit to the private sector (cpsgdp), which are financial deepening indicators and gross fixed capital formation, negatively impact household final consumption expenditure. The coefficient of money supply (lm2gdp) is another proxy for financial deepening, and the coefficient of FDI positively affects household final consumption expenditure in the long run. Therefore, this study recommended that Gross fixed capital formation stimulates household consumption expenditure; a legal framework to support investment is a panacea to increasing household income and consumption and reducing poverty in Nigeria.

Ogretim (2022) analysed the relationship between public consumption expenditures and economic growth for the period of 1960-2021 for Turkiye. The data used in the analysis were obtained from the World Bank website. Unit root tests were performed, and Todo Yamamoto analysis was applied. Considering the chi-square test statistic and probability values, causality from GDP variable to public consumption expenditures was determined. The causality relationship between public consumption expenditures and the GDP variable could not be determined. It was revealed that increased economic growth is not possible with increased public consumption expenditures. However, with the economic growth, public consumption expenditures increase for the relevant period.

Abdikani (2020) examined the causal and dynamic relationship between consumption expenditure and economic growth in Somalia. The study covers the sample period of 1970-201. A vector error correction model has been employed. The study revealed that consumption expenditure and economic growth have long- and short-term relationships. The error correction model performs well, as it has been negative and statically significant, signifying that adjustments towards the convergence are ascertained each year. However, the VECM-based Granger causality test indicated a unidirectio nal short-run relationship between consumption expenditure and economic growth. The study recommended that policymakers embolden policies that lead to productivity increase.

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Blaževski (2018) empirically investigated the dynamic relationships between the government's final consumption expenditure, household consumption expenditure, and NPISH and the gross domestic product in the Republic of Croatia. Quarterly data for the government's final consumption expenditure, household consumption expenditure, NPISH and the gross domestic product from 2000 to 2017 are analysed using the unrestricted vector autoregressive (VAR) model. The results of empirical analysis imply that the final consumption expenditure of households and NPISH had a positive influence on economic growth, while the influence of government final consumption expenditure on economic growth is not significant. On the other hand, economic growth only impacts the government's final consumption expenditure.

Zuzana and Igor (2014) analysed the impact of collective and individual expenditures of the general government in their study on the expenditures on collective and individual services classification of government expenditure regarding economic growth. An empirical analysis was performed for a panel of 34 Organization for Economic Cooperation and Development (OECD) Countries in the period 2000-2012, and the result showed that the impact of expenditure on collective services on economic growth is positive, while the effect of expenditures on individual services on growth is negative. In their recommendations, restructuring the expenditures side of a budget could thus improve the economy's performance without any negative effects on fiscal balance.

Gaps in Literature

Although there are sizable studies across the globe on the nexus between consumption expenditure and economic growth, they are mostly limited to household and government consumption expenditure (Olumuyiwa, 2021; Usman & Idris, 2022). This current study seeks to differ by analysing the impact of the identifiable components of government consumption expenditure (Individual and Collective) on economic growth in Nigeria.

3. METHODOLOGY

Theoretical framework

The theoretical foundation of this study is rooted in the Keynesian Cross articulated by Keynes in his general theory of interest rate, employment and money (1936). According to Keynes, stimulating economic growth hinges primarily on aggregate demand. On the other hand, the aggregate supply function is considered given in the short-run, as it is determined by technical production conditions and the availability of raw materials and machinery, which remain relatively constant. Consequently, the level of employment within the economy is largely determined by the aggregate demand function, which, in turn, relies on consumption.

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Unemployment is attributed to declines in consumption expenditure. Boosting consumption is posited to elevate employment levels. This premise operates on the notion that not only does the private sector contribute to the overall efficiency of the economy, but so does the government. The application of the Keynesian model occupies a middle ground between a market-based economy and a state-controlled one. Within this framework, fiscal policy, particularly government spending, is analysed. According to Keynesian Cross, government intervention through increased spending during economic slowdowns can spur job creation. The underlying principle is that increased government spending leads to more disposable income for employed individuals, stimulating overall demand (Keynes, 1936).

Model for the study

This study adopted the Vector Error Correction Model (VECM). The Vector Error Correction Model (VECM) is an econometric model that analyses the long-term equilibrium relationship and short-term dynamics between multiple time series variables. VECM has various applications in economics, finance, and time series analysis. It is widely used to analyse relationships among economic variables, such as exchange rates, interest rates, GDP components, and asset prices. VECM is employed when the time series variables under consideration are cointegrated. VECM typically operates on differenced variables to ensure stationarity. By differencing the variables, non-stationary components are removed, allowing for the analysis of the stationary residual series.

Model Specification

In order to empirically analyse the impact of the components of government consumption expenditure-Individual and Collective consumption expenditure of the general Government on economic growth in Nigeria, this study adapted the work of Abdikani (2020) on the causal and dynamic relationship between the consumption expenditure and economic growth in Somalia using Vector Error Correction Model (VECM). The model of Abdikani (2020) is expressed as:

$$\Delta logGDP_t = \alpha + \beta_1 \Delta logCONS_t + \gamma ECT_{t-1}\, e_t \text{-} \quad \text{-} \quad \text{--} \quad \text{-}1$$

LogGDPt and ΔlogCONSt are the first and logged differences of the gross domestic product and consumption expenditure variables, respectively. Δ, is the first difference operator of the series, α is a constant term, β_1 indicates the short-run coefficient parameter for the consumption expenditure, ECT_{t-1} is the lagged residuals from the co-integrating regression and denotes the disturbance term. Here $\boldsymbol{\gamma}$ represents the long-run coefficient parameter that adjusts the disequilibrium.

However, in this current study, the model by Abdikani (2020) is modified considering the two components of government consumption expenditure, including individual consumption expenditure of the general

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government and collective consumption expenditure of the general government. The functional model for this study is expressed as:

$GDPGR = f(ICEGG, CCEGG)$ ----------*2*

The econometric form of the model is written as follows in the equation.

$GDPGR_t = \beta_o + \beta_1 ICEGG_t + \beta_2 CCEGG_t + \mu_t$----------*3*

Where:

GDPGR = Gross Domestic Product Growth Rate

ICEGG = Individual Consumption Expenditure of General Government

CCEGG = Collective Consumption Expenditure of General Government

$\beta_o = intercept\ parameter, \beta_1 - \beta_2$: are the slope parameters that measure the explanatory variables' impacts on the explained variable.

μ_t = (white-noise error term).

A priori Expectation

The a priori expectation is that, $\beta_1, \beta_2 > 0$That is, individual and collective general government consumption expenditures should positively influence economic growth.

Definitions and Measurement of Variables

Gross Domestic Product Growth Rate (GDPGR): The GDP growth rate refers to the percentage increase in the value of all goods and services produced in an economy, adjusted for inflation, over a specific period, typically annually or quarterly.

Individual Consumption Expenditure of General Government

Individual Consumption Expenditure of General Government in Nigeria refers to government spending on goods and services that directly benefit individual households. This includes expenditure on goods and services related to health, education, or social protection. It is measured in billions of Naira (₦'Billion).

Collective Consumption Expenditure of General Government

Collective Consumption Expenditure of General Government in Nigeria refers to government spending on services that benefit the community rather than individual households. This type of expenditure is crucial for the functioning of the state and the provision of public goods. This includes defence and public order and safety, R&D for individual services, and overall policymaking, planning, regulatory, budgetary,

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coordinating, and monitoring responsibilities of ministries overseeing individual services. This is measured in billion Naira (₦'Billion).

Pre-estimation Tests

Unit Root Test

The Augmented Dickey-Fuller (ADF) test determines whether a time series has a unit root, which indicates non-stationarity. Its main purpose is to test the null hypothesis that a time series is non-stationary (i.e., it has a unit root) against the alternative hypothesis of stationarity. The ADF test helps assess whether shocks to the time series have permanent effects or dissipate over time.

Cointegration Test

Cointegration tests will ascertain whether there is a long-run relationship between the dependent variable and its regressor. This test implies that an adjustment process must be in place to prevent the deviations from the long-run equivalent relationship from becoming larger and larger.

Post-estimation Test

Causality Test

The collected data will be subjected to a causality test using the Granger Causality test statistic to determine the direction of causality between the macroeconomic variables intended in the regression analysis.

Stability Test

The stability test analyses whether the explanatory variable coefficients hold steady throughout the sample period. The Inverse Root of the AR Characteristics Polynomial is employed to evaluate the models' stability over time.

4. RESULTS AND DISCUSSION OF MAJOR FINDINGS

Table 1: Augmented Dickey-Fuller (ADF) Unit Root Test Results

Augmented Dickey-Fuller Unit Root

Variable	Level	Prob.	First Difference	Prob.	I(d)
GDPGR	-2.607366*	0.5065	-8.303627***	0.0000	I(1)
ICEGG	-0.779247	0.8146	-7.538715***	0.0000	I(1)
CCEGG	-0.763117	0.8191	-6.506870***	0.0000	I(1)

Source: *Authors' computation from E-view 12 Output, 2024*

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From table 1 above, all the variables; GDPGR, ICEGG and CCEGG are stationary at first difference, this presents enough evidence to estimate VECM estimation technique.

Table 2: Johansen Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.573918	70.99035	69.81889	0.0402
At most 1	0.312945	36.01232	47.85613	0.3957
At most 2	0.258726	20.62332	29.79707	0.3815

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
** denotes rejection of the hypothesis at the 0.05 level*
***MacKinnon-Haug-Michelis (1999) p-values*

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.573918	34.97803	33.87687	0.0368
At most 1	0.312945	15.38900	27.58434	0.7169
At most 2	0.258726	12.27478	21.13162	0.5208

Max-eigenvalue test indicates 1 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 from E-view 12 Output, 2024*

From Table 2, Specifically, for the null hypothesis of no cointegration among the variables (None), the trace statistic is 70.99035, which exceeds the critical value of 69.81889, with a p-value of 0.0402. This result allows for rejecting the null hypothesis, suggesting at least one cointegrating relationship among the variables. However, for the subsequent hypotheses (at most one cointegrating equation and most two), the trace statistics fall below their respective critical values, with higher p-values (0.3957, 0.3815). Therefore, the null hypotheses for one and two cointegrating relationships cannot be rejected. The maximum eigenvalue test examines whether adding one more cointegrating equation significantly improves the model. The test also indicates one cointegrating equation at the 5% level. For the null hypothesis of no cointegration (None), the maximum eigenvalue statistic is 34.97803, slightly above the critical value of 33.87687, with a p-value of 0.0368. This result confirms the rejection of the null hypothesis, supporting the presence of one cointegrating equation. The test statistics are below their corresponding critical values for hypotheses suggesting up to one and two cointegrating equations, with p-values of 0.7169 and 0.5208. As such, the null hypotheses for additional cointegrating relationships cannot be rejected. Both the trace test and the maximum eigenvalue test consistently indicate the presence of one cointegrating equation among the

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variables at the 5% level. This suggests that while the variables may individually be non-stationary, they share a long-run equilibrium relationship. The existence of one cointegrating relationship implies that although short-term fluctuations may occur, the variables tend to move together over time, maintaining a stable, long-term association.

VECM Regression Results

Table 3: Short-run and Long-run Coefficients of VECM

Short-run Coefficients				
Variables	**Coefficients**	**Std. Error**	**t-statistics**	**Probability**
D(ICEGG(-1))	8.611093	3.97527	3.40528	0.0078
D(CCEGG(-1))	-8.725681	3.95565	-3.68906	0.0155
CointEq1/ECM	**-0.471821**	**0.12152**	**-3.88275**	**0.0005**
Long-run Coefficients				
ICEGG(-1)	-10.85421	5.13634	-3.36100	0.0008
CCEGG(-1)	-12.70885	4.85136	-3.55837	0.0004
R^2	**0.817805**	**Adjusted R^2**	**0.715064**	
DW	**1.917217**			

Source: *Authors' computation from E-view 12 Output, 2024*

From 3, Individual consumption expenditure of the general government (ICEGG) exhibits a dramatic reversal in its impact on GDP growth. In the short run, individual consumption expenditure of the general government (ICEGG) is positively signed at (8.611093), about 8.6%. This conformed with the apriori expectation with a probability of 0.0078. This implies that a one-unit increase in ICEGG leads to an 8.61 percentage point rise in GDP growth rate. The null hypothesis is rejected since the P-value (0.0078) is less than the 5% significance level. This implies that the individual consumption expenditure of the general government has a strong positive short-run effect on economic growth. However, this effect flips in the long run, with a negative sign at (-10.85421), where a one-unit increase in ICEGG causes a substantial 10.85 percentage point decrease in GDP growth. This disagreed with the apriori expectation with a probability value of 0.0008. The null hypothesis is rejected since the P-value (0.0008) is less than 5% significance level. This implies that the individual consumption expenditure of the general government has a strong negative long-term effect on economic growth. This stark reversal suggests that while government individual spending may stimulate immediate economic activity, it might crowd out private investment or lead to inefficiencies over time, hampering long-term growth.

Collective consumption expenditure of general government (CCEGG) consistently negatively affects GDP growth, intensifying its impact over time. In the short run, a one-unit increase in CCEGG leads to an 8.73 percentage point decrease in GDP growth rate (p=0.0155). This negative effect strengthens in the long run, with each unit increase in CCEGG resulting in a 12.71 percentage point reduction in GDP growth

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(p=0.0004). The negative coefficient of both periods disagreed with the apriori expectation. The probability values of the short run (0.0155) and the long run (0.0004) are less than the 5% significance level. Hence, we reject the null hypothesis and conclude that CCEGG has a persistent negative effect on economic growth. The persistent and growing negative impact suggests that collective government spending may consistently crowd out private sector activity or create inefficiencies that hinder economic growth, with these effects compounding over time. Table 3 also presents the R^2 measures how well the estimates have explained the dependent variable– a measure of the model's strength. Adjusted R^2 is used to assess if adding an independent variable has contributed to the increased strength of the model. R-squared (R^2) of 0.817805 indicates that approximately 81.78% of the variance in the dependent variable can be explained by the independent variables in the model. Adjusted R-squared of 0.715064 accounts for the number of predictors in the model, providing a more accurate measure of goodness-of-fit. In this case, it indicates that the independent variables explain about 71.51% of the variance in the dependent variable.

Causality Tests

Table 4: Granger Causality/Block Exogeneity Wald Tests Result

Null Hypothesis:	Obs	Chi-sq	Prob.	Decisions	Remarks
ICEGG does not Granger Cause GDPGR	41	0.003257	0.9545	Accept H_0	Unidirectional
GDPGR does not Granger Cause ICEGG		3.3611990	0.0667	Reject H_0	
CCEGG does not Granger Cause GDPGR	41	0.011715	0.9138	Accept H_0	No Causality
GDPGR does not Granger Cause CCEGG		2.645993	0.1038	Accept H_0	

Source: *Authors' Computation 2024, using E-view 12.0 version*

The Granger causality test result indicated that there is uni-directional causality between the Individual Consumption Expenditure of General Government (ICEGG) and Gross Domestic Product Growth rate (GDPGR), and it flows from Gross Domestic Product Growth rate (GDPGR) to the Individual Consumption Expenditure of General Government (ICEGG). This means the Gross Domestic Product Growth rate (GDPGR) Granger causes Individual Consumption Expenditure of General Government (ICEGG) as its probability value is less than the 5% level significance. This reveals that the Gross Domestic Product Growth rate (GDPGR) strongly and significantly influences Individual Consumption Expenditure of the General Government (ICEGG). In a different turn, the Granger causality test result revealed there is a causality between Collective Consumption Expenditure of General Government (CCEGG) and Gross Domestic Product Growth Rate (GDPGR); likewise, no causality between Gross Domestic Product Growth Rate (GDPGR) and Collective Consumption Expenditure of General Government (CCEGG). This implies that CCEGG does not Granger cause GDPGR; likewise, GDPGR does not Granger cause CCEGG to have probability values of 0.9138 and 0.1038, respectively, higher than the 5% significance level. This suggests, to a large extent, that there is no causal influence between CCEGG and GDPGR in Nigeria.

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Stability Test using the Inverse Root of AR Characteristics Polynomial

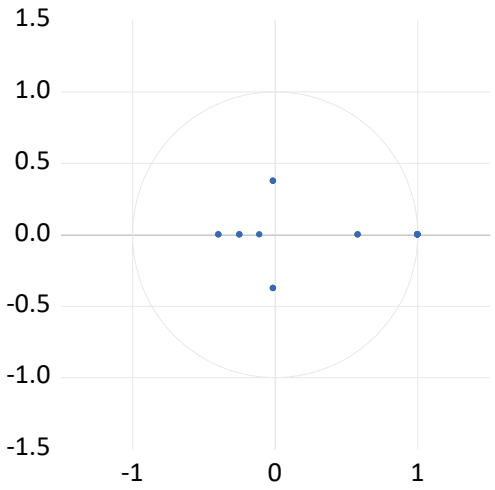

Fig 1 Inverse Root of AR Characteristics Polynomial
Source: Authors' computation from E-view 12 output, 2024

For the diagnostic test, Figure 1 shows the AR Roots Graph. The AR Roots Graph shows that all inverse roots lie within the unit circle, indicating a stable AR model. This stability suggests the model is stationary, with shocks dissipating over time rather than persisting. The roots are symmetrically distributed near the centre, implying quick shock decay and mean-reverting behaviour in the time series. Overall, the model appears reliable for forecasting, with no risk of explosive growth or divergence.

Discussions of finding

The Individual Consumption Expenditure of General Government (ICEGG) reveals a drastic reversal in its impact on GDP growth. Initially, a one-unit increase in ICEGG enhances GDP growth by 8.61 percentage points (p=0.0078), highlighting the positive role of government spending on individual services like healthcare, education, and social services, which conform to the finding by Usman and Idris (2022) but contrary to the finding of Blaževski (2018) and Zuzana and Igor (2014). This aligns with Nigeria's efforts to provide essential public services that address immediate needs. However, the long-term effect of an additional unit decreases by 10.85 percentage points (p=0.0008), suggesting that government spending on these services may eventually crowd out private investment or lead to inefficiencies, especially if public funds are not managed sustainably. This long-run result is in line with the findings by Ceesay, Biagie and

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Bittaye (2022), Ogretim (2022) and Zuzana and Igor (2014). This is reflective of the ongoing debates on the Nigerian government's capacity for efficient public spending, as highlighted by issues such as bureaucratic waste, corruption, and misallocation of resources, which ultimately stifle economic growth by reducing investment and private sector participation. Finally, Collective Consumption Expenditure of General Government (CCEGG) consistently demonstrates a negative impact on GDP growth, with a one-unit increase resulting in an 8.73 percentage point reduction in the short term (p=0.0155) and a 12.71 percentage point decrease in the long term (p=0.0004), which agrees with the finding of Ogretim (2022). This is contrary to the findings of Kulsom, Cui, Naeem, Madiha and Hira (2024), Lumabao and Rosales (2023) and Zuzana and Igor (2014). This negative effect, which intensifies over time, indicates that collective government spending on public goods—such as infrastructure, defence, and public administration—may contribute to inefficiencies and reduce resources available for the private sector, thereby crowding out private investment. Nigeria's historical reliance on such expenditures, high debt servicing costs, and budgetary constraints raise questions about fiscal sustainability. The persistence of these negative impacts underscores concerns about the government's efficiency in deploying funds towards high-impact projects and the challenges it faces in maintaining fiscal discipline.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

This study empirically analysed the impact of individual and collective government consumption expenditure on economic growth in Nigeria. The findings indicated that Individual consumption expenditure of the general government (ICEGG) exhibits a dramatic reversal in its impact on GDP growth. In the short run, the expenditure of individual consumption by the general government has a strong and positive impact on economic growth. However, this effect flips in the long run, where Individual Consumption Expenditure of the General Government has a strong and negative long-run impact on economic growth. Collective consumption expenditure of general government (CCEGG) consistently negatively affects GDP growth, intensifying its impact over time.

Recommendations

i. Given the positive short-term impacts of individual government expenditures on services like healthcare and education, reforms should focus on increasing their long-term efficiency. The government can achieve this by introducing monitoring and evaluation systems to track spending effectiveness, ensuring resources are allocated where they will yield the greatest benefits.

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ii. The consistent negative impact of collective government spending on GDP growth indicates a need for better resource allocation. Rather than broad-based spending, the government should prioritise high-impact infrastructure projects in the transportation, energy, and digital infrastructure sectors. These foundational investments can create an enabling environment for private sector development, facilitating job creation and economic expansion.

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