Effects of Government Sectoral Expenditures on Economic Growth in Nigeria: New Evidence from ARDL Bounds Testing Approach.

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ABSTRACT
This study empirically examined the effect of government sectoral expenditure on economic growth in Nigeria between 1985 and 2023. The study proxied government sectoral expenditure by government expenditure on agriculture, government expenditure on road & construction, government expenditure on health, government expenditure on internal security and government expenditure on transport & communication while Real Gross Domestic Product was used as the indicator of economic growth. Augmented Dickey-Fuller (ADF) approach of unit root test, bounds cointegration test and Autoregressive Distributed Lag (ARDL) technique were the main data analysis techniques adopted in this study while E-views 12.0 statistical package facilitated the data analysis. The findings of the study revealed that government expenditure on agriculture, government expenditure on road & construction, and government expenditure on health have a positive and significant effect on Real Gross Domestic Product in Nigeria in both short-run and long-run while government expenditure on internal security and government expenditure on transport & communication have a positive and non-significant short-run and long-run effect on Real Gross Domestic Product in Nigeria. Based on the findings, the study therefore concluded that government sectoral expenditure is significantly influences and drives economic growth in Nigeria. Among other things, the study recommended that Nigerian government should allocate a higher percentage of the national budget to the agricultural sector to improve food security, rural employment, and export potential. These investments should focus on mechanization, irrigation systems, research, and development. This can be achieved by establishing transparent agricultural subsidy programs and enhance public-private partnerships (PPPs) to attract investments in agribusiness.

Key words: *Government Sectoral Expenditure, Autoregressive Distributed Lag technique, bounds cointegration, Real Gross Domestic Product.*

1. INTRODUCTION

Public expenditure remains a critical tool through which governments influence the pace and structure of economic development. In Nigeria, government spending across key sectors such as education, health, infrastructure, and agriculture are widely regarded as a vital mechanism for stimulating economic growth and achieving socio-economic transformation. According to Keynesian economic theory, increased government spending - particularly in productive sectors – can boast aggregate demand, generate employment and enhance overall economic output (Musgrave & Musgrave 1989).

The direction and magnitude of relationship between government expenditure and economic growth has continued to generate series of debate among scholars. It is obviously presumed that government performs two basic functions: protection (security) and provisions of certain public goods. The Protective function entails creation of rule of law and enforcement of property rights which helps to minimize risks of criminality, protect life and property, and the nation from external attacks; while defense, roads, education, health, and power, etc are goods provided by government (Abullahi 2018). Generally, government expenditure in Nigeria can be categorized into two component parts, namely; capital expenditure and recurrent expenditure. Capital expenditure is incurred on the creation or acquisition of fixed assets (new or second-hand). In other words, expenses on capital projects like roads, airports, health, education, telecommunication, electricity generation etc. are referred to as capital expenditure while the recurrent expenditure are government expenses on administration such as wages, salaries, interest on loans, maintenance etc. Both capital expenditure and recurrent expenditure play a vital role in driving economies in developed and developing countries, Nigerian inclusive (Al-Yousif, 2019).

According to Oludare and Olufemi (2022), government expenditure as an aspect of fiscal policy has therefore remained an indispensable task on governments for countries across the globe regardless of the economic system in practice. Government expenditure is the total in cash of the Federal, State and Local government spending including that of their agencies and financial transfers to the parastatals at the tree tiers of governments. It also refers to the expenses which a government incurs for its own maintenance, the society and the economy, and in helping other countries. According to Nazar and Tabar (2013) government expenditure is an aspect of public finance that deals with how government spends revenue generated in meeting the needs of the public at large. Government expenditure can be for the acquisition of goods and services for current use to directly satisfy individual or collective needs of the members of the community or it can be for acquisition of goods and services intended to create future benefits such as infrastructure, investment and so on.

Miftahu and Rosni (2017) held that government expenditure occurs in an economy for two major reasons: to provide the necessary and required facilities needed for the maintenance of law and order and further enhance allocative efficiency in the presence of externalities and also, to provide all the necessary and required infrastructural facilities that will heighten productivity and encourage economic activities in the long-run. Nteegah (2017) noted that it is inevitable for the government of a nation to spend on cultural and welfare services; including education and income redistribution, maintenance of law and order as well as its role in activities relating to economic regulations, whether it is 'capital expenditure' which is, government spending on acquiring or improving relatively permanent asset or 'recurrent expenditure' which is spending on operating items, goods, or services that are used up over a short time. Government expenditure is an important instrument for government to control the economy and enhance economic growth. According to Gbosi and Omoke (2014) economic growth means the expansion of a country's capacity to produce goods and services its people want within a given period. Economic growth is also conceptualized as increase in output of an economy's capacity to produce goods and services needed to improve the welfare of the country's citizens. Economic growth is enabled by increase in productivity, which lowers the inputs (labor, capital, material, energy, etc.) for a given amount of output. Oladosu and Goodluck (2020) opined that increase in government expenditure on socio-economic and physical infrastructures will encourage economic growth. For example, government expenditure on health and education raises the productivity of labour and increase the growth of national output. Similarly, expenditure on infrastructure such as roads, communications, power,

etc, reduces production costs, increases private sector investment and profitability of firms, thus fostering economic growth and improving economic growth. Also, Nwadiubu and Onuka (2015) established that government expenditure on infrastructure such as roads, drainages, ports, or communication systems, public research spending and the provision of basic education, health and medical services raises the growth potential of an economy. Consequently, government expenditure especially on different sectors in Nigeria has continued to rise due to the huge receipts from production and sales of crude oil, and the increased demand for public goods like roads, communication, power, education and health. Therefore, the breakdown of total government expenditure in different sectors is very important because capital government expenditure has a lasting impact on the economy and helps in providing a more efficient and productive economy unlike current expenditure

Theoretically, government expenditure is a key factor in economic growth and development. Various economic theories provide insights into the mechanisms by which government spending influences growth, such as through its impact on aggregate demand, investment in public goods, and long-term productivity. According to Keynesian economics, government expenditure plays a crucial role in managing economic cycles and stimulating growth, especially during economic downturns. Keynesians argue that increased government spending boosts aggregate demand, leading to higher output and employment. This approach views government expenditure as a necessary tool to counteract demand deficiencies and to prevent recessions (Keynes, 1936). For instance, by investing in infrastructure, government spending can create jobs, raise incomes, and promote consumption, which leads to a multiplier effect on the economy. The neoclassical perspective on government expenditure is somewhat different. In the Solow growth model, government spending does not influence long-term economic growth unless it affects factors like productivity or technological progress. Here, government spending on productive investments, such as education and healthcare, can improve the human capital stock, leading to higher productivity and economic growth. However, high levels of government spending financed by taxation could potentially deter private investment, leading to "crowding out" effects, especially if the spending is directed toward non-productive purposes. Thus, in the neoclassical view, the effect of government expenditure on growth largely depends on the quality and productivity of the spending (Lipsy & Crystal, 2017).

Empirically, the size of government expenditures and its effect on economic growth, and vice versa, has been an issue of sustained interest for over decades now. In other words, the relationship between government expenditure and economic growth has continued to generate series of debate and conflicting results among scholars. For instance, Nathan, Stanley and Adu (2024) found that that government spending has a substantial and favourable effect on economic growth. Also, Olurin, Omosebi, Soetan and Akintola (2024), Ibrahim and Yahaya (2023) Ifarajimi and Ola (2017 Chandana, Adamu and Musa (2021), established that government expenditure has positive and significant impact on economic growth in Nigeria. On the other hand, Oguntuase, Oyeneye, Olabisi and Oyedele (2024) concluded that budgetary allocation and implementation of expenditure on education, transport, and agriculture were not properly allocated and utilized to improve the nation's productive capacity. In line with the foregoing, this study aims at determining the effect of government sectoral expenditure on economic growth in Nigeria.

Interestingly, government expenditure in Nigeria has continued to rise due to the huge revenue from production and sales of crude oil, and the increased demand for public (utilities) goods like roads, communication, power, education and health while there is also increasing need to provide both internal and external security for the people and the nation. Available statistics show that total

government expenditure (capital and recurrent) and its components have continued to rise in the last three decades. Sadly, this increases in government expenditure in Nigeria has not translated to meaningful growth and development in Nigeria as the provision of infrastructural services to meet the demands of business, households, and other users still remains one of the major challenges of economic growth and development in Nigeria. Consequently, Nigeria still ranks among the poorest countries in the world. In addition, many Nigerians have continued to wallow in abject poverty while more than 50 percent live on less than two dollars per day. Couple with this, is dilapidated infrastructure (especially roads and power supply) that has led to the collapse of many industries, leading to high level of unemployment.

While the sectors like education and health etc. are considered growth-enhancing, actual government allocations to these areas have frequently fallen below recommended international benchmarks (world bank 2021). Moreover, recurrent expenditure continues to dominate the national budget, leaving limited fiscal space for capital investments that can drive long-term growth (Olayemi & Osabuohien. 2018)

Therefore, with rising government expenditure profile over the years accompanied by astronomically increasing deficit financing especially in the recent federal government budgets in Nigeria alongside instability in economic growth and the recent economic recession, critical research is reignited in the relationship between government expenditure and economic growth which is the main thrust of this study. However, the paradoxical situation in Nigeria between rising government expenditure and economic growth makes it unclear on the exact relationship between government expenditure and economic growth. This motivated the researcher to empirically determine the impact of government sectoral expenditures on economic growth in Nigeria.

2. LITERATURE REVIEW

Theoretical Framework

Musgrave's Theory of Government Expenditure

This theory was propounded by Musgrave in 1939. Musgrave found changes in the income elasticity of demand for public services in three ranges. These include allocation of resources, distribution of income and stabilization. He posits that at low levels of per capita income, demand for public services tends to be very low, this is so because according to him, such income is devoted to satisfying primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health, education and transport starts to rise, thereby forcing government to increase expenditure on them. He observes that at the high levels of per capita income, typical of developed economics, the rate of public sector growth tends to fall as the more basic wants are being satisfied. Musgrave's theory emphasizes three primary roles of government expenditure: allocation, distribution, and stabilization. These three functions, known as Musgrave's Three-Function Framework, describe how government spending can influence the economy by addressing different needs within a nation.

Allocation function aspect of Musgrave's theory suggests that the government should allocate resources efficiently, particularly in the presence of market failures. Musgrave argued that certain goods and services, such as public goods (e.g., defense, public infrastructure), cannot be provided efficiently by private markets alone due to issues like non-excludability and non-rivalry. Therefore, government intervention is needed to provide these essential goods and services to improve social welfare and economic efficiency (Musgrave, 1959).

With distribution function, Musgrave also highlighted the role of government in addressing income inequality and ensuring a fair distribution of resources. Through taxation and targeted public expenditure, the government can redistribute income to achieve greater equity, a function that markets alone may not adequately provide. Redistribution aims to reduce disparities and promote social cohesion, as well as address issues like poverty and social injustice (Stiglitz & Rosengard, 2015). The third function, stabilization, is crucial in times of economic fluctuations, such as inflation or recession. Musgrave suggested that government spending and taxation policies (fiscal policy) can stabilize the economy by managing aggregate demand. During a recession, for example, increased government spending can boost demand and reduce unemployment, while in times of inflation, reducing spending can help control excessive demand and price stability (Keynes, 1936; Musgrave, 1959). Musgrave's framework remains influential in public finance and economic policy, with applications in various areas of government expenditure, including healthcare, education, infrastructure, and welfare programs. Each function addresses a unique aspect of economic performance and social welfare, providing a structured approach to understanding how government expenditure can address market inefficiencies and societal needs.

Keynesian Theory

The Keynesian theory, developed by John Maynard Keynes during the Great Depression, emphasizes the role of government expenditure in stabilizing economic fluctuations and achieving full employment. According to Keynesian economics, fluctuations in aggregate demand drive fluctuations in employment and output, leading to periods of unemployment during economic downturns. Keynes argued that during periods of insufficient private sector demand, government intervention through increased spending can boost aggregate demand, stimulate economic activity, and create employment. This is based on the multiplier effect, where an initial increase in government spending leads to subsequent rounds of increased consumption and investment, further boosting demand and employment. Keynesian fiscal policy involves counter-cyclical measures to address unemployment and economic recessions. During downturns, governments can increase spending on infrastructure projects, public works programs, and social welfare initiatives to support job creation and consumer spending. By increasing aggregate demand, government expenditure stimulates production and employment in the economy. Empirical studies have provided support for the effectiveness of Keynesian fiscal policy in reducing unemployment and stimulating economic growth. For example, research by Romer and Romer (2010) found that increases in government spending have a positive and significant impact on employment, particularly during periods of economic downturns.

Multiplier-Accelerator Theory

The multiplier-accelerator theory combines Keynesian insights with accelerator theory to explain how changes in government expenditure can amplify the impact on employment and economic activity. According to the multiplier-accelerator model, increases in government spending lead to higher aggregate demand, which stimulates investment and production, leading to further increases in income and employment. The multiplier effect refers to the initial increase in spending by the government, which generates additional rounds of spending as income earned by households and businesses leads to higher consumption and investment. The accelerator effect, on the other hand, suggests that changes in aggregate demand led to changes in investment spending by firms, amplifying the initial impact of government expenditure on employment. The combined effect of the multiplier and accelerator can result in larger-than-expected changes in income and

employment in response to changes in government spending. This is because increases in government expenditure not only directly create employment through public sector projects but also stimulate private sector investment and consumption, leading to further job creation. Empirical studies have provided evidence of the multiplier-accelerator effect in action. For example, research by Blanchard and Perotti (2002) found that increases in government spending have a positive impact on GDP and employment, with multiplier effects varying depending on the economic context and fiscal policy measures.

Conceptual framework

Government Sectoral Expenditure

Government expenditure refers to the total amount of money spent by the government on goods, services, programs, and activities to fulfill its functions and responsibilities. It encompasses spending across various sectors, including education, healthcare, defense, infrastructure, social welfare, public safety, and administrative expenses. It is the total amount of money spent by the government on goods, services, and transfer payments to fulfill its functions and responsibilities, including investments in infrastructure, social programs, and administrative expenses Stiglitz (2020). Government expenditure refers to the sum of government purchases of goods and services, transfer payments, and interest payments on government debt Samuelson & Nordhaus (2010). Government expenditure is the money spent by the government on goods and services, as well as transfer payments such as social security benefits and unemployment compensation Mankiw (2019). It is the total amount of money spent by the government on goods, services, and public investments, including spending on education, healthcare, defense, infrastructure, and social welfare programs Blanchard (2021). Government expenditure is the sum of government purchases of goods and services, transfer payments, and interest payments on government debt, which represent the outlays of public funds Barro (2015).

Blinder (2020) defined government expenditure as "the aggregate spending by the government on consumption goods and services, investment in public infrastructure, transfer payments, and interest payments on public debt). According to Mankiw (2020) government expenditure is the sum of government purchases of goods and services and transfer payments to individuals and businesses, excluding interest payments on government debt.

Government expenditure consists of spending on real goods and services purchased from outside suppliers; spending on employment in state services such as administration, defense and education; spending on transfer payments to pensioners, the unemployed and disabled; spending on subsidies and grants to industries; and payment of debt interest. It is becoming increasingly difficult to classify the portion of government expenditure that includes the maintenance of government and those that go into benefiting the other sectors of the economy. Although, government expenditure is found to be continually increasing over time in almost all countries and with unprecedented growing importance in National economy especially in developed countries (Ebipre & Eniekezimene, 2021). Government sectoral expenditure therefore refers to government spending allocated to specific sectors, such as education, health, and agriculture, intended to address the unique needs and growth potentials of these areas to contribute to national development.

Empirical Review

Oguntuase, Oyeneye, Olabisi and Oyedele (2024) delved into the relationship between capital expenditure and economic growth over a three-decade period, spanning from 1992 to 2021. The ex-post facto research design was adopted, using historical data extracted from Central Bank of

Nigeria (CBN) statistical bulletins. Augmented Dickey Fuller (ADF) unit root test was carried out to test for the stability of data. Co-integration test was done with Johansen and Engle-Granger methods. Findings showed that, when lagged by one year, government expenditure on education has a positive and insignificant relationship with gross domestic product. While government expenditure on healthcare has a positive and significant relationship with the gross domestic product; government expenditure on transportation has a negative and insignificant relationship with the gross domestic product; and government expenditure on agriculture has a negative and significant relationship with the gross domestic product. The study concluded that budgetary allocation and implementation of expenditure on education, transport, and agriculture were not properly allocated and utilized to improve the nation's productive capacity. The study suggested that the allocation and execution of budget to the identified critical sectors should be more done carefully for accelerated economic growth

Ibrahim and Yahaya (2023) analyzed the impact of government expenditure on Nigeria's economic growth rate from 1970 to 2020. Ordinary Least Square (OLS) was used to estimate the connection between the variables over the long run. The findings show a positive link between the Log of Gross Domestic Products (LGDP's) log and its initial lag, which is statistically significant. The result reveals a positive association between the (LGDP) and the log of recurrent government expenditure (RGE), as well as between the (LGDP) and the log of first lag of recurrent government expenditure (RGE). A positive link exists between the (LGDP) and the log of capital government expenditure (CGE), but a negative relationship exists between the (LGDP) and the log of first (CGE). The link between the (LGDP) and the domestic debt of the federal government (LFGDD) is inverse, while the relationship between the logs of the first lag of the domestic debt of the federal government (LFGDD) is positive. The R2 determination coefficient is 0.698968. The outcome demonstrates that explanatory factors account for 70% of the variation in the (LGDP). The model is acceptable since the F-statistic 3595.905 with a probability of 0.000000 is significant at 1%. The long-term trend of the explanatory variables, which has increased since the year 1985, is linked to GDP. The outcome presented above also depicts the predicted short-run relationship. Therefore, it is recommended that government expenditure be examined and bolstered to have a positive impact on Nigeria's growth rates.

Zinabari and Olukemi (2022) investigated the impact of government expenditure on economic growth from 1981 to 2020 using Dynamic Ordinary Least Squares that incorporates endogenity in its estimation. The unit root test using Augmented Dickey Fuller revealed that all the series were stationary at first difference. The two-step Engle-Granger residual test showed that the residual was stationary at level; thus, there was a long run relationship among the series. The findings obtained from the long run Dynamic OLS showed that government expenditure on administration, government expenditure on economic services and nominal exchange rate were significant and had the expected signs except government expenditure on economic services. The empirical findings further indicated that the ECM was negative and statistically significant at 5%. The speed of adjustment was 71.38%. Lastly, in the short-run analysis, findings revealed that the nominal exchange rate was significant and had the expected sign. This might have been due to the influence of naira depreciation on government expenditure. The study therefore recommends that there is need for restructuring of government expenditure to be in line with macroeconomic objectives and also to reduce expenditure on transfers through economic diversification. Government should also take decisive steps to diversify the economy in order to reduce dependence on oil and to stabilize the value of naira.

Adole, Abraham and Sunday (2021) examined the impact of government expenditure on economic growth in Nigeria for the period, 1984- 2015 with view to re-assess the Keynesian and Endogenous Growth Models proposition that public expenditure stimulates economic growth. The study employed Johansen co-integration and Error Correction Model. The empirical results showed that public (recurrent and capital) expenditure has significant positive impact on the growth of the economy in the long run and an insignificant negative impact on the Nigerian economy in the short run, reinforcing the Keynesian and Endogenous Growth Models that public expenditure stimulates economic growth in Nigeria when seen in the long run. The study therefore recommended that Nigerian government should readjust spending priority to accommodate more capital expenditure and channeling of increase expenditure into some critical sectors of the economy such as health, power, education and general infrastructure are fundamental in maximizing government expenditure in Nigeria.

Chandana, Adamu and Musa (2021) investigated the impact of Nigerian government expenditure (disaggregated into capital and recurrent) on economic growth using time series data for the period 1970-2019. The study employed Autoregressive Distributed Lag (ARDL) model. To ensure robustness of results, the study showed the structural breaks in the unit root test and the co-integration analysis. The key findings of the study are that capital expenditure has positive and significant impact on economic growth both in the short run and long run while recurrent expenditure does not have significant impact on economic growth both in the short run and long run. The study recommended that government should increase the share of the capital expenditure especially on meaningful projects that have direct bearing on the citizen's welfare. Government should also improve the spending patterns of recurrent expenditure through careful reallocation of resources toward productive activities that would enhance human development in the country.

Edmund, Choong and Lau (2017) analyzed the impact of government expenditure and efficiency on economic growth of Sub Saharan African low income countries. The study used a panel data of 25 Sub-Saharan African low- income countries spanning from 2002 – 2015 which are obtained from World Development Indicators (WDI) database. The study executed panel unit root tests by using ADF tests. The study also used Pedroni test to accomplish panel cointegration tests. Finally Generalized Methods of Moments (GMM) was applied to answer the two research questions. The results demonstrate that increasing government expenditure accelerates economic growth of low-income countries in Sub Saharan Africa. However, when government expenditure was interacted with government efficiency, the study found no evidence for government efficiency to boost the impacts of government expenditure on economic growth. Fiscal policy makers in Sub Saharan African low-income region should consider the rationale for using their spending to accelerate economic growth.

Kareem, Bakare, Ademoyewa, Bashir, Ologunla and Arije (2014) investigated the impact of public sector spending (administration, agriculture, education, economic, social and community transfer, industry and health services) on economic growth in Nigeria for the period spanning between 1960 and 2010. The objectives of the study were to estimate the relationship between aggregate public sector spending on economic growth and determining the specific public sector spending variables on economic growth. The variables were tested for stationarity and cointegration while regression and correlation analyses were used as analytical techniques. The results found out that recurrent and capital expenditure contributed positively to economic growth during particular reference to the period under review. The result therefore showed that capital and recurrent expenditures are

significant at 1% level. The study concluded that the government recurrent and capital expenditure have significant influence on economic growth in Nigeria.

Literature Review/Value addition

This study has reviewed related literatures on government sectoral expenditures and economic growth in Nigeria. Based on the empirical literature reviewed, it was observed that there exist some empirical studies on the effect of government expenditure on economic growth in Nigeria but sadly, the findings of the related studies reviewed are conflicting while very few studies exist on the effect of government sectoral expenditure on economic growth in Nigeria. Also, none of the related studies adopted government expenditure on agriculture, on road & construction, on health, on internal security, and on transport & communication together to proxy government sectoral expenditures on real gross domestic product as proxy for economic growth which created a gap in literature. This study filled the gap identified by determining the effects of government sectoral expenditures on economic growth in Nigeria, using government expenditure on agriculture, government expenditure on road & construction, government expenditure on health, government expenditure on internal security, and government expenditure on transport & communication to proxy government sectoral expenditures. Thus, providing a robust understanding of their effects on real gross domestic product in Nigeria and adding to the literature.

3. METHOD OF STUDY

This study adopted the *ex-post-facto* research design. It investigated effects of the independent variables (measures of government sectoral expenditures) on the dependent variable (economic growth) proxied by real gross domestic product, by using existing annual time series data spanning 1985 to 2023, which were sourced from the Central Bank of Nigeria (CBN) statistical bulletin and the World Bank's development indicators.

Model Specification

The specific objectives in this study were analyzed based on the theoretical foundation of the Musgrave theory propounded by Musgrave & Musgrave 1989. The theory emphasizes three primary roles of government expenditure: allocation, distribution, and stabilization. Musgrave's Three-Function Framework, describes how government spending can influence the economy by addressing different needs within a nation. Therefore, in specifying the analytical model for this study, the selected sectoral government expenditure measures are expected were regressed on real gross domestic product.

The functional specification of the model was stated as follows:

Functionally, the model is stated as follows:

$$RGDP = f(GEA, GRC, GEH, GIS, GTC) \quad (3.1)$$

Where:

RGDP = Real Gross Domestic Product,
GEA = Government Expenditure on Agriculture,
GRC = Government Expenditure on Road & Construction,
GEH = Government Expenditure on Health,
GIS = Government expenditure on Internal Security,
GTC = Government expenditure on Transport & Communication

The log linear regression equation was specified as follows:

$$\log(RGDP) = \beta_0 + \beta_1\log(GEA) + \beta_2\log(GRC) + \beta_3\log(GEH) + \beta_4\log(GIS) + \beta_5\log(GTC) + \mu_t \quad (3.2)$$

Specifically, the ARDL model for this study based on the variables in equations (3.2) is provided below:

$$\Delta \log RGDP_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \Delta logGEA_{t-1} + \sum_{i=1}^{q} \alpha_2 \Delta logGRC_{t-1} + \sum_{i=1}^{q} a_3 \Delta logGEH_{t-1} + \sum_{i=1}^{q} a_4 \Delta logGIS_{t-1} + a_5 \Delta logGTC_{t-1} + \lambda_1 RGDP_{t-1} + \lambda_2 GEA_{t-1} + \lambda_3 GRC_{t-1} + \lambda_4 GEH_{t-1} + \lambda_5 GIS_{t-1} + \lambda_6 GTC_{t-1} + \varepsilon_{1t} \quad 3.3$$

Where:

α0 = constant parameter to be estimated, α1 – α5 = short run parameters, λ_1 - λ_6 = long-run multipliers, p = optimal lag for each of the dependent variables, q = optimal lag of the independent variables, Δ = first difference operator, log = Natural logarithm ε_{1t} = error term

A Priori Expectation: β_1 -- $\beta_5 > 0$

Method of Data Analysis

The Autoregressive distributed lag (ARDL) technique was adopted for model estimation. ARDL is a least square method developed by Pesaran, Shin and Smith (2001) that allows us to include the lag values of the dependent and independent variables of a model while carrying out regression analysis. This test is usually adopted because the literature behind it states that if the series are of different order of integration 1(0) and 1(1), ARDL bound test then becomes the appropriate Co-integrating technique for possible long run relationship among the series. This method has three decision options which are existence of cointegrating, no cointegrating and inconclusive relationships, when the calculated F-statistic value is respectively greater than the upper bound *I(1),* below the lower bound *I(0)* and between the lower *I(0)* and the upper *I(1)* bounds. The general model for ARDL Bounds cointegration equation is:

$$Y_t = \Delta_t Y_{t-1} + \ldots \Delta_p Y_{t-p} + \delta R_t + U_t \quad (3.4)$$

Where Y_t = the time series variables under consideration in time t, Y_{t-1} and Y_{t-p} = cointegrating equations estimates, Δ= First difference operator and U_t = stochastic error term.

equel to establishing long-run relationship among the variables, the ARDL long-run and the short-run dynamic estimations were carried out to examine the theoretical and significance relationship between the dependent and independent variables of the model.

In addition, post-diagnostic tests such as: the serial correlation **test** to know whether the residuals are serially independent, the heteroscedasticity test to check for homoscedasticity, the Jarque-Bera normality statistic test to ascertain if all variables are jointly normally distributed, and the CUSUM stability test to check whether the estimated model is stable were conducted to validate the robustness of the model's estimated results.

4. RESULTS ANALYSIS AND DISCUSSION N OF FINDINGS

Unit Root Test

The data representing variables in this study were subjected to test of stationarity by testing for the presence or absence of unit root using Augmented Dickey-Fuller (ADF) to overcome this undesirable outcome. The results are summarized in the table below:

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

	At Levels		At First Difference			
Variables	**ADF**	**Mackinnon Critical Value @ 5%**	**ADF**	**Mackinnon Critical Value @ 5%**	**Remark** Stationary @	**Order of Integration**
$InRGDP_t$	-0.734100	-2.943427	-4.031729	-2.943427	1st Difference	I(1)
$InGEA_t$	-3.209296	-2.945842	-	-	Level	I(0)
$InGRC_t$	-1.290267	-2.948404	-6.407664	-2.948404	1st Difference	I(1)
$InGEH_t$	-2.675732	-2.957110	-7.934764	-2.957110	1st Difference	I(1)
$InGIS_t$	-4.949678	-2.945842	-	-	Level	I(0)
$InGTC_t$	-2.028459	-2.941145	-8.184432	-2.943427	1st Difference	I(1)

Source: *Researcher's Computation (EViews 12), 2024.*

The results of the ADF Unit Root Test as shown in Table 1 indicates that at 5% level of significance, the Augmented Dickey Fuller (ADF) test statistics, government expenditure on agriculture (GEA) and government expenditure on internal security (GIS) are greater in absolute value than the critical values. This therefore indicates that government expenditure on agriculture (GEA) and government expenditure on internal security (GIS) were stationary at levels and were therefore integrated at order zero [that is, I(0)]. On the other hand, the Augmented Dickey Fuller (ADF) test statistic for Real Gross Domestic Product (RGDP), government expenditure on road & construction (GRC), government expenditure on health (GEH) and government expenditure on transport & communication (GTC) are greater in absolute value than the critical values. This therefore indicates that Real Gross Domestic Product (RGDP), government expenditure on road & construction (GRC), government expenditure on health (GEH) and government expenditure on transport & communication (GTC) were stationary at first difference and were therefore integrated at order one [that is, I(1)]. Therefore, given that some of the variables were stationary at level while others are at first difference, it implies that they are mixed of integrated at order zero [I(0)] and integrated at order one [I(1)], we therefore proceed to establish or ascertain the existence or nonexistence of long-run cointegrating relationship among the variables in the equation using ARDL bounds cointegration test.

Lag Selection Criteria

The lag selection criteria result is presented in Table 2:

Table 2: Lag Selection Criteria

Lag	LogL	GRC	FPE	AIC	SC	HQ
0	-1176.445	NA	8.91e+21	67.56830	67.83493	67.66034
1	-1019.165	251.6483	9.00e+18	60.63801	62.50442	61.28229
2	-981.0703	47.89059	9.66e+18	60.51830	63.98451	61.71484
3	-901.2714	72.95904	1.39e+18	58.01551	63.08150	59.76429
4	-730.5692	97.54408*	2.54e+15*	50.31824*	56.98402*	52.61927*

Source: *Researcher's Computation (EViews 12), 2024.*

Table 2 induces that the appropriate optimal lag length that will leads to a meaningful cointegration result according to Akaike Info Criterion (AIC) is lag four and as a result, other subsequent analyses were carried out using the optimal lag length four.

Bounds Cointegration Test

The results of the bounds cointegration test are presented in Table 2 below:

Table 3: Bounds Cointegration Test Result

Null Hypothesis: No Long-Run Relationships Exist				
Critical Value Bounds				
T-statistic	Value	Significance	I(0)	I(1)
F-statistic	15.62864	10%	2.08	3
K	5	5%	2.39	3.38
		1%	3.06	4.15

Source: *Researcher's Computation (EViews 12), 2024.*

From the result of the Bound cointegration test in Table 3, since the computed F-statistic (15.62864) is greater than upper bound critical value (4.15) at 5% significant level, the null hypothesis (H_0) is therefore rejected. This implies that there is cointegration among the variables. Thus, there is sufficient statistical evidence to conclude that there exists a long run relationship or cointegration among Real Gross Domestic Product (RGDP), government expenditure on agriculture (GEA), government expenditure on road & construction (GRC), government expenditure on health (GEH), government expenditure on internal security (GIS) and government expenditure on transport & communication (GTC). However, the existence of long run relationship together with mixed order of stationarity is a pre-condition for fitting the Autoregressive Distributed Lag (ARDL) model. Hence, we therefore proceeded to estimate the long run coefficients by estimating an ARDL.

Estimation of Autoregressive Distributed Lag (ARDL) Model

Short-run ARDL Analysis results

The ARDL model Short-run results are presented in Table 4.

Table 4: Result of Short-Run ARDL Coefficients

	Dependent Variable = $InRGDP_t$			
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
$D(InGEA_t)$	0.031038	0.009821	3.160476	0.0091
$D(InGEA_{t-1})$	0.001665	0.006502	0.256109	0.8026
$D(InGEA_{t-2})$	0.064999	0.011068	5.872703	0.0001
$D(InGEA_{t-3})$	0.001665	0.006502	0.256109	0.8026
$D(InGRC_t)$	0.014045	0.006372	2.204242	0.0497
$D(InGRC_{t-1})$	0.101652	0.012495	8.135334	0.0000
$D(InGRC_{t-2})$	-0.084379	0.012660	-6.665171	0.0000
$D(InGRC_{t-3})$	-0.031496	0.010124	-3.110913	0.0099
$D(InGEH_t)$	0.015223	0.004447	3.423090	0.0057
$D(InGEH_{t-1})$	0.100753	0.011117	9.062568	0.0000
$D(InGEH_{t-2})$	-0.052111	0.007652	-6.809656	0.0000
$D(InGEH_{t-3})$	-0.031678	0.005816	-5.446645	0.0002
$D(InGIS_t)$	0.024421	0.015694	1.556105	0.1480
$D(InGTC_t)$	0.005191	0.005724	0.906875	0.3839
$D(InGTC_{t-1})$	-0.007466	0.004597	-1.624077	0.1326
$D(InGTC_{t-2})$	-0.008565	0.005914	-1.448319	0.1754
CointEqM(-1)*	-0.545667	0.041965	-13.00282	0.0000
Adjusted R-squared = 0.807316; Durbin-Watson stat = 2.732421				

Source: *Researcher's Computation (EViews 12), 2024.*

The results short -run ARDL in Table 4 revealed that government expenditure on agriculture has positive and significant effect on Real Gross Domestic Product in Nigeria. This is evidenced by the positive coefficient value (0.031038) of government expenditure on agriculture and its p-value (0.0091) which is less than 0.05. This implies that an increase in the government expenditure on agriculture by a unit will lead to 0.031038 increase in Real Gross Domestic Product while a decrease in the government expenditure on agriculture by a unit will lead to 0.031038 decrease in Real Gross Domestic Product in the short -run.

The results short-run ARDL in Table 4 revealed that government expenditure on road & construction has a positive and significant relationship with the Real Gross Domestic Product in Nigeria. This is evidenced by the positive coefficient value (0.014045) of government expenditure on road & construction and its p-value (0.0497) which is less than 0.05. This implies that an increase in the government expenditure on road & construction by a unit will lead to 0.014045 increase in Real Gross Domestic Product while a decrease in the government expenditure on road & construction by a unit will lead to 0.014045 decrease in Real Gross Domestic Product in the short run.

Furthermore, the results of the short-run estimates of the ARDL model in Table 4 revealed that government expenditure on health has positive and significant impact on Real Gross Domestic Product in Nigeria. This is evidenced by the positive coefficient value (0.015223) of government expenditure on health and its p-value (0.0057) which is less than 0.05. This implies that an increase

in the government expenditure on health by a unit will lead to 0.015223 increase in Real Gross Domestic Product while a decrease in the government expenditure on health by a unit will lead to 0.015223 decrease in Real Gross Domestic Product in the short run.

Moreso, the results of the short-run estimates of the ARDL model in Table 4 revealed that government expenditure on internal security has positive and non-significant effect on Real Gross Domestic Product in Nigeria. This is evidenced by the positive coefficient value (0.024421) of government expenditure on internal security and its p-value (0.1480) which is greater than 0.05. This implies that an increase in the government expenditure on internal security by a unit will lead to 0.024421 increase in Real Gross Domestic Product while a decrease in the government expenditure on internal security by a unit will lead to 0.024421 decrease in Real Gross Domestic Product in the short run.

In the same vein, the results of the short-run estimates of the ARDL model in Table 4 revealed that government expenditure on transport & communication has positive and non-significant effect on Real Gross Domestic Product in Nigeria. This is evidenced by the positive coefficient value (0.005191) of government expenditure on transport & communication at lag two and its p-value (0.3839) which is greater than 0.05. This implies that an increase in the government expenditure on transport & communication by a unit will lead to 0.005191 increase in Real Gross Domestic Product while a decrease in the government expenditure on transport & communication by a unit will lead to 0.005191 decrease in Real Gross Domestic Product in the short run.

Moreover, the Adjusted R-squared (Adj. R^2) value of 0.807316 indicates that 81 percent of the systematic variation in Real Gross Domestic Product is explained by government expenditure on agriculture, government expenditure on road & construction, government expenditure on health, government expenditure on internal security and government expenditure on transport & communication in the short-run while the remaining 19 percent of the variation in the model is captured by the error term (unknown factors outside the model).

Lastly, the coefficient of the CointEq(-1)* at -0.545667 indicates that the speed of adjustment to long run equilibrium is 55% when any past deviation will be corrected in the present period. This means that Real Gross Domestic Product adjusts rather rapidly to changes in government expenditure on agriculture, government expenditure on road & construction, government expenditure on health, government expenditure on internal security and government expenditure on transport & communication.

Long-Run ARDL Analysis

The long run ARDL results are presented in Table 5:

Table 5: Result of Long-Run ARDL Coefficients

Dependent Variable = $InRGDP_t$

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
$InGEA_t$	0.190426	0.023270	8.183257	0.0000
$InGRC_t$	0.267487	0.019420	13.77350	0.0000
$InGEH_t$	0.196327	0.059141	3.319629	0.0068
$InGIS_t$	0.148466	0.083528	1.777434	0.1031
$InGTC_t$	0.079440	0.043219	1.838064	0.0932
C	10.18016	0.123050	82.73160	0.0000

Source: *Researcher's Computation (EViews 12), 2024.*

The results long-run ARDL in Table 5 revealed that government expenditure on agriculture has positive and significant effect on Real Gross Domestic Product in Nigeria in line with a priori expectation. This is evidenced by the positive coefficient value (0.190426) of government expenditure on agriculture and its p-value (0.0000) which is less than 0.05. This implies that an increase in the government expenditure on agriculture by a unit will lead to 0.190426 increase in Real Gross Domestic Product while a decrease in the government expenditure on agriculture by a unit will lead to 0.190426 decrease in Real Gross Domestic Product in the long-run.

The results long-run ARDL in Table 5 revealed that government expenditure on road & construction has a positive and significant relationship with the Real Gross Domestic Product in Nigeria in line with a priori expectation. This is evidenced by the positive coefficient value (0.267487) of government expenditure on road & construction and its p-value (0.0000) which is less than 0.05. This implies that an increase in the government expenditure on road & construction by a unit will lead to 0.267487 increase in Real Gross Domestic Product while a decrease in the government expenditure on road & construction by a unit will lead to 0.267487 decrease in Real Gross Domestic Product in the long run.

Furthermore, the results of the long-run estimates of the ARDL model in Table 5 revealed that government expenditure on health has a positive and significant impact on Real Gross Domestic Product in Nigeria in line with a priori expectation. This is evidenced by the positive coefficient value (0.196327) of government expenditure on health and its p-value (0.0068) which is less than 0.05. This implies that an increase in the government expenditure on health by a unit will lead to 0.196327 increase in Real Gross Domestic Product while a decrease in the government expenditure on health by a unit will lead to 0.196327 decrease in Real Gross Domestic Product in the long run.

Moreso, the results of the long-run estimates of the ARDL model in Table 5 revealed that government expenditure on internal security has positive and non-significant effect on Real Gross Domestic Product in Nigeria in line with a priori expectation. This is evidenced by the positive coefficient value (0.148466) of government expenditure on internal security and its p-value (0.1031) which is greater than 0.05. This implies that an increase in the government expenditure on internal security by a unit will lead to 0.148466 increase in Real Gross Domestic Product while a decrease in the government expenditure on internal security by a unit will lead to 0.148466 decrease in Real Gross Domestic Product in the long run.

similarly, the results of the long-run estimates of the ARDL model in Table 4.7 revealed that government expenditure on transport & communication has positive and non-significant effect on Real Gross Domestic Product in Nigeria in line with a priori expectation. This is evidenced by the positive coefficient value (0.079440) of government expenditure on transport & communication and its p-value (0.0932) which is greater than 0.05. This implies that an increase in the government expenditure on transport & communication by a unit will lead to 0.079440 increase in Real Gross Domestic Product while a decrease in the government expenditure on transport & communication by a unit will lead to 0.079440 decrease in Real Gross Domestic Product in the long run.

Post-Estimation Tests

This study conducted diagnostic test to determine how reliable and valid the result analyzed above were. The results of the diagnostic tests conducted are presented below:

Normality Test

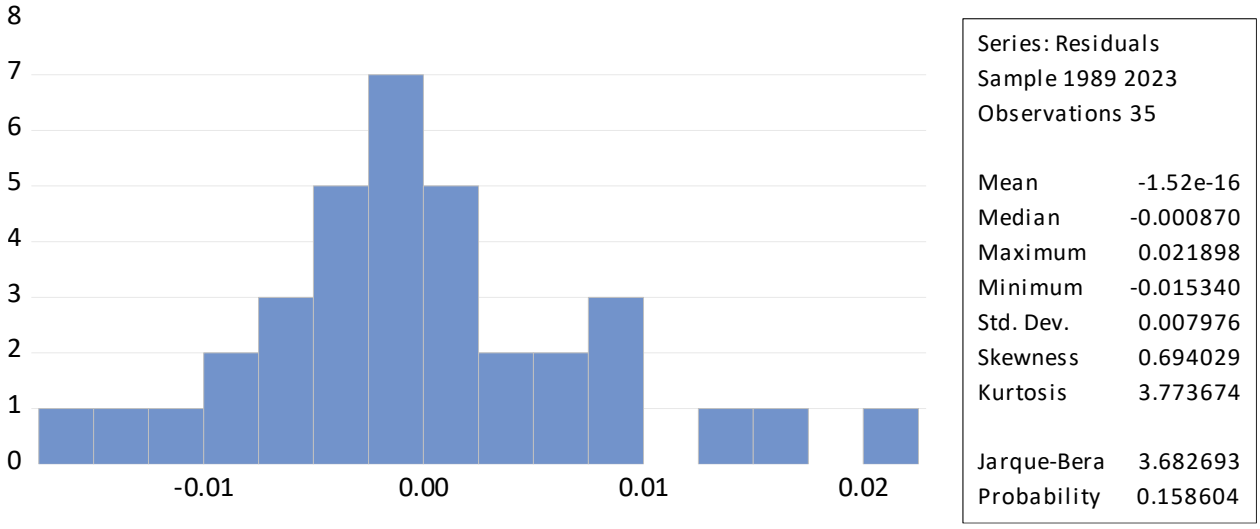

Figure 1: Normality Test Result

Jarque-Bera statistics was used to test the null of normal distribution. Since the probability value (0.158604) of Jarque-Bera statistics is greater than 5 percent in Figure 1, we therefore retain the null hypothesis and conclude that the residuals from the estimates were normally distributed.

Serial Correlation Test

Table 6: Breusch-Godfrey Serial Correlation LM Test Result

F-statistic	DF	P-Value	Decision
2.521013	F(2,9)	0.1351	The null hypothesis of no serial correlation is retained

Source: *Researcher's Computation (EViews 12), 2024.*

The Breusch-Godfrey Serial Correlation LM test was used to test the null hypothesis of no serial correlation at 5 percent level of significance. Since the probability value (0.1351) of Breusch-Godfrey Serial correlation LM test is greater than 5 percent, we therefore retain the null hypothesis and conclude that there is no serial correlation in the estimates.

Heteroscedasticity Test

Table 7: Breusch-Pagan-Godfrey Heteroscedasticity Test Result

F-statistic	DF	P-Value	Decision
0.443943	F(23,11)	0.9515	The null hypothesis of homoscedasticity is be retained

Source: *Researcher's Computation (EViews 12), 2024.*

The Breusch-Pagan-Godfrey Heteroscedasticity Test was used to test the null hypothesis of no heteroskedasticity at 5 percent level of significance. Since the probability value (0.9515) of Breusch-Pagan-Godfrey Heteroscedasticity statistics is greater than 5 percent, we therefore retain the null hypothesis and conclude that the model is free from the problem of heteroskedasticity.

Ramsey RESET Test

Table 8: Ramsey RESET Test Result

F-statistic	DF	P-Value	Decision
0.138671	1, 10	0.7174	The null hypothesis of the model being correctly specified is retained

Source: *Researcher's Computation (EViews 12), 2024.*

The Ramsey RESET test was used to test the null hypothesis of correctly specified model at 5 percent level of significance. Since the probability value (0.7174) of Ramsey RESET statistics is greater than 5 percent, we therefore retain the null hypothesis and conclude that the model is correctly specified.

Stability Test

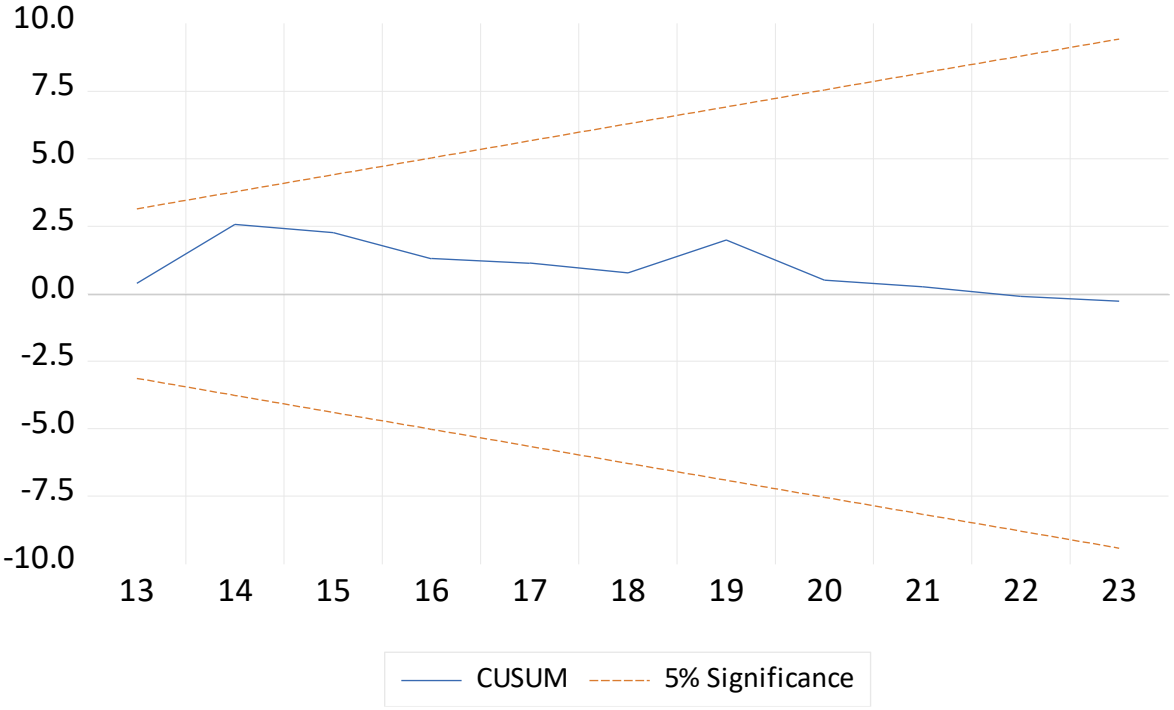

Figure 2: Cumulative sum (CUSUM) test

In an attempt to ensure that the Error Correction Model is well fitted, the study employed cumulative sum (CUSUM) test developed. The test decision is that, if the plotted CUSUM statistics lies within 5% significance level, the coefficient estimates are accepted. Figure 4.3 shows that the CUSUM plot falls within the 5% level of significant (indicated by the two red lines). This shows that the model is stable and not spurious.

Discussion of Findings

Government Sectoral Expenditure to Agricultural Sector (GEA) and Real Gross Domestic Product (RGDP)

The results of this study revealed that government expenditure on agriculture (GEA) has positive and significant effect on Real Gross Domestic Product in Nigeria in both short-run and long-run. The implication of this is that an increase in government expenditure on agriculture (GEA) will lead to significant increase in Real Gross Domestic Product while a decrease in government

expenditure on agriculture (GEA) will lead to significant decrease in Real Gross Domestic Product in both short-run and long-run. The finding is related to the findings of Kareem, Bakare, Ademoyewa, Bashir, Ologunla and Arije (2014) who in their study found that the impact of public sector spending (administration, agriculture) on economic growth is positive and significant.

Government Expenditure on Road & Construction (GRC) and Real Gross Domestic Product (RGDP)

The results of this study revealed that government expenditure on road & construction (GRC) has significant positive short-run and long-run relationship with Real Gross Domestic Product in Nigeria. This implies that an increase in government expenditure on road & construction (GRC) at this period will lead to increase in Real Gross Domestic Product while a decrease in the government expenditure on road & construction (GRC) will lead to decrease in Real Gross Domestic Product. The result showed consistency with the earlier finding of Edmund, Choong and Lau (2017) which showed that government expenditure on construction has a significant positive effect on economic growth of Sub Saharan African low-income countries.

Government Expenditure on Health (GEH) and Real Gross Domestic Product (RGDP))

The results of this study revealed that government expenditure on health (GEH) has significant positive short-run relationship with Real Gross Domestic Product in Nigeria and also has a significant positive long-run relationship with Real Gross Domestic Product in Nigeria. This implies that an increase in government expenditure on health (GEH) at this period will lead to an increase in government expenditure on health while a decrease in the government expenditure on health (GEH) will lead to a decrease in Real Gross Domestic Product. The result showed consistency with the earlier findings of Oguntuase, Oyeneye, Olabisi and Oyedele (2024). Oguntuase, Oyeneye, Olabisi and Oyedele (2024) in their study found government expenditure on healthcare to have a positive and significant relationship with the gross domestic product.

Government Expenditure on Internal Security (GIS) and Real Gross Domestic Product (RGDP)

The results of this study revealed that government expenditure on internal security (GIS) has positive and non-significant short-run effect on Real Gross Domestic Product in Nigeria as well as a positive and non-significant long-run effect on Real Gross Domestic Product in Nigeria. The implication of this is that an increase in government expenditure on internal security (GIS) will lead to an increase in Real Gross Domestic Product while a decrease in government expenditure on internal security (GIS) will lead to a decrease in Real Gross Domestic Product in both short-run and long-run. The finding is related to the findings of Zinabari and Olukemi (2022). Zinabari and Olukemi (2022) in their study found that government sectoral expenditure showed positive short and long-run impacts on economic growth (GDP) in Nigeria.

Government Expenditure on Transport & Communication (GTC) and Real Gross Domestic Product (RGDP)

The results of this study revealed that government expenditure on transport & communication (GTC) has a positive and insignificant short-run and long-run effect on Real Gross Domestic Product in Nigeria. The implication of this is that an increase in government expenditure on transport & communication (GTC) will lead to an increase in Real Gross Domestic Product while a decrease in government expenditure on transport & communication (GTC) will lead to a decrease

in Real Gross Domestic Product in both short run and long run. The finding is related to the findings of Adole, Abraham and Sunday (2021). Adole, Abraham and Sunday (2021) in their study found that government expenditure on transport & communication has insignificant positive effect on economic growth in Nigeria depicted a positive relationship.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

Government expenditure is a key factor in economic growth and development. Various economic theories provide insights into the mechanisms by which government spending influences growth, such as through its impact on aggregate demand, investment in public goods, and long-term productivity. Therefore, in order to contribute to the existing literature and in recognition of the vital role played by government sectoral expenditures in the economy, this study has empirically examined the effect of government sectoral expenditures on economic growth in Nigeria. Based on the findings, the study therefore concluded that government sectoral expenditure is significantly influences and drives economic growth in Nigeria.

Recommendations

Based on the findings and conclusion drawn from this study, the following recommendations are made:

1. Nigerian government should allocate a higher percentage of the national budget to the agricultural sector to improve food security, rural employment, and export potential. Investments should focus on mechanization, irrigation systems, research, and development. This can be achieved by establishing transparent agricultural subsidy programs and enhance public-private partnerships (PPPs) to attract investments in agribusiness.
2. Government should invest in the rehabilitation and expansion of Nigeria's road network to facilitate efficient transportation of goods and services for increased economic growth.
3. Nigerian government should increase healthcare funding to meet global standards such as the Abuja Declaration target of allocating at least 15% of the national budget to health. Then, government should focus on building healthcare infrastructure, training medical professionals, and expanding health insurance coverage, particularly for underserved populations.
4. Government should allocate resources to strengthen internal security by equipping law enforcement agencies, addressing insurgencies, and improving cybersecurity. This can be achieved through the use of technology-driven solutions, such as surveillance systems, and engage community policing initiatives to tackle security challenges comprehensively.
5. Government should increase expenditure on modernizing Nigeria's transport infrastructure (rail, road, air, and waterways) and communication networks to drive economic integration. This can be achieved by fostering collaboration with international development agencies and PPPs to finance large-scale infrastructure projects, ensuring sustainable and efficient operations.

REFERENCES

Abullahi, H. (2018). Does government expenditure inhibit or promote economic growth: Some empirical evidence from Saudi Arabia. *Indian Economic Journal*, 48(2), 215-222.

Al-Yousif, Y. (2019). Does government expenditure inhibit or promote economic growth: Some Empirical Evidence from Saudi Arabia. *Indian Economic Journal*, 48(2), 67-78.

Chandana, A., Adamu, J. & Musa, A. (2021). Impact of government expenditure on economic growth in Nigeria,1970-2019. *CBN Journal of Applied Statistics,* 12(1), 139-174.

Ebipre, P. & Eniekezimene, F. (2020). Government expenditure and economic growth in Nigeria. *International Journal of Business & Law Research*, 8(3), 63-71.

Gbosi, A. & Omoke, P. (2014). *Inflation – impacts on the economic growth of Nigeria*. Pack publishers.

Ibrahim, M., & Yahaya, I. (2023). Impact of Government Expenditure on Economic Growth in Nigeria: 1970-2020. International Journal of Management and Business Applied,2(2), 94-107

. Jhingan, M. L. (2013). Macroeconomic theory. 12th ed. New Delhi: Vrinda publications Ltd.

Keynes, J. M. (1936). *The General Theory of Employment, Interest, and Money*. Macmillan.

Lipsy, R. & Crystal, A. (2017). *Principles of economics*. Oxford University.

Mankiw, N. G. (2000). *The savers-spenders theory of fiscal policy*. Paper prepared for the meeting of the American Economic Association.

Miftahu, M. & Rosni, H. (2017). Government expenditure and economic growth in Nigeria, A disaggregated approach. *Central Bank of Nigeria Financial Review*, 43(1), 51 – 69.

Musgrave, R. A. (1959). *The Theory of Public Finance: A Study in Public Economy*. McGraw-Hill.

Nathan, E., Stanley, U. K. and Adu, M. J. (2024). Government Expenditure, Institutional Quality and Economic Growth Nexus in Nigeria. NG-Journal of Social Development, 13(1), 1-19.

Nazar, D. & Tabar, M. H. (2013). Government expenditures and its impact on poverty reduction (Empirical evidence from sistan and baluchestan province of Iran). *International Journal of Academic Research in Economics and Management Science*, 2(1), 251-260.

Ndubueze, E. O., Okoli, U. V., Onwuka, I. N. & Mba, S. E. (2020). Impact of government expenditure on unemployment in Nigeria: Evidence from Social Expenditure. *International Journal of Social Sciences and Management Research*, 6(1), 61-76.

Nteegah, A. (2017). Government expenditure and economic growth in Nigeria, A disaggregated approach. *Central Bank of Nigeria Financial Review*, 43(1), 51 – 69.

Nwadiubu, A. & Onuka, I. O. (2015). Public expenditure and economic development in Nigeria – A time serial study (1980 – 2012). *Journal of Arts, Social Sciences Humanities* 1(5), 20-30.

Oguntuase, A. T., Oyeneye, T. E., Olabisi, J. and Oyedele, O. D. (2024). Government expenditure: a catalyst for economic growth in Nigeria. Malete Journal of Accounting and Finance, 4 (2), 30-43.

Oludare, O. & Olufemi, O. S. (2019). The effect of government expenditure on economic growth in Nigeria. *International Journal of Business and Management Review*, 1(2), 111-124.

Olukayode, E. M. & Olorunfemi, Y. A. (2018). Fiscal policy tools, employment generation and sustainable development in Nigeria. *Acta Universitatis Danubius*, 14(3), 186 - 199

Olurin, O. T., Omosebi, R. T., Soetan, T. A. & Akintola, A. F. (2024). Government Expenditure, Inflation and Economic Growth in Nigeria. *Lapai Journal of Economics*, 8(1), 35-49.

Omojimite, O. (2022). The pattern of government expenditures and its effect on the unemployment problem in Nigeria. *International Journal of Business and Finance Management Research*, 2(1), 42-48.

Samuelson, P. A. (2015). *Who innovated the Keynesian revolution*? Revised version. In: Economics Econometrics and the LINK: Essays in Honour of Lawrence R. Klein. Published online: 2015; 08 Mar; pp. 3-19. Massachusetts Institute of Technology, Department of Economics, E52-383C; Cambridge, Massachusetts 02139.

Stiglitz, J. E., & Rosengard, J. K. (2015). *Economics of the Public Sector* (4th ed.). W.W. Norton.

Todaro, P. (2007). *Economic development: Pearson Education*. 8th Edition, India.

Ubi-Abai I. P. & Bosco, I. E. (2017). Fiscal policy and macroeconomic stability in Nigeria. *North Asian International Research Journal of Social Science & Humanities*, 3(5), 3-22

Ugochukwu, L. & Oruta, G. (2021). Government expenditure and economic growth in Nigeria: A disaggregated analysis. *Path of Science*, 7(11), 4022- 4035.

Usman, F. K. & Adeyinka, O. (2019). Effect of human capital development on economic growth of ECOWAS member states. *Advances in Sciences and Humanities*, 5(1), 27-42.

Wagner, A. (1962). *Three extracts on public finance*, in Musgrave R. A. and Peacock, A. T. (eds), Classics in the theory of public finance. London: Macmillan.