



GOVERNMENT EXPENDITURE: A CATALYST FOR ECONOMIC GROWTH IN NIGERIA

¹Alexander Tunde OGUNTUASE, ²Temitope Esther OYENEYE, ³Jayeola OLABISI and ⁴Oluwapelumi Damilola OYEDELE

¹Department of Accounting & Finance, Crawford University, Igbesa, Ogun State

²Department of Accounting, Anchor University, Lagos.

^{3&4}Department of Accounting, Federal University of Agriculture, Abeokuta.

Abstract

In the quest to unravel the intricate dynamics shaping Nigeria's economic trajectory, this study delves 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.

Keywords: *Economic growth, education, healthcare, transportation, agriculture*

JEL Classification Code: H50, H51, H52, O43, Q14

INTRODUCTION

Government expenditure is incurred to supply public goods that are important for the survival of citizens and the nation which cannot be provided by the private sector (Barilee & LeyiraChristain, 2021). It is borne out of revenue allocation referred to as redistributions of fiscal policy among various levels of government. Government spending goes to various sectors such as the nation's defense, transportation and communication, education, power, health care, housing, and welfare benefits, among others (Omodero, 2019; Selvanathan, Selvanathan & Jayasinghe, 2021). In addition, government subsidies to start-up businesses that cannot adequately fund their operations in the areas of transportation and power. Devesa and Doménech (2020) opined that the transfer payments for pension is not a flexible instrument of fiscal policy, while unemployment benefits depend on the cycle of the economy, hence government expenditure enables redistributions of income.

The federal government may increase taxes and borrowings to better finance the increasing expenditure. However, it must be noted that excessive income tax discourages productivity, and reduces income and aggregate demand. In addition, if the corporate tax is high, production costs will increase and firms' profitability will reduce. Moreover, if the government borrows a lot of money to finance expenditures; it will affect private investment negatively. However, in most African countries, politicians in government always increase expenditure and

investment in white elephant projects that are not productive for people just for them to continue in power. Thus, in most cases, government spending results in the misallocation of resources that hinders economic growth (Mitchel, 2005; Abu & Abdullahi, 2010; Babatunde, 2018).

Government expenditure has kept on rising in Nigeria as a result of massive earnings from crude oil, and this has led to an increased demand for public goods. However, the rise in government expenditure has brought about meaningful growth, because Nigeria is still classified to be among the poorest countries of the world. Government expenditure is an important instrument employed to control the economy of the country and it plays a significant role in economic growth and development of any economy. Government expenditure and its effect on economic growth has been an issue of concern and interest for over three decades.

Government expenditure and its relationship with economic growth has been a topical issue, generating heated arguments among scholars. Various scholars such as Abu and Abdullahi (2010), and Jelilov and Musa (2016) argued that an increase in government expenditure on socioeconomic and physical infrastructure enhances economic growth. They submitted that government expenditure on health, education, and housing improves the productivity of labor and national output. They concluded that expenditure on power and transportation reduce production cost, and increase private sector investment, thus fostering economic growth. AlYousif (2000), Ranjan, Sharma and Ghosh (2022). Couray (2009), Chude and Chude (2013), and Babatunde (2018), Okoye, Omankhanlen, Okoh, Urhie and Ahmed (2019), submitted that an increase in government expenditure enhances economic growth. Conversely, other scholars such as Abu and Abdullahi (2010); Khan, Zhang, Kumar, Zavadskas and Streimikiene (2020); and Fölster and Henrekson (2001) as cited in Jelilov and Musa (2016) held a divergent view and affirmed that an increase in government expenditure usually decelerates the overall growth of the economy. However, the discrepancy between the Nigerian economic growth and the quantum of government spending over the years raises critical questions on the role of government in promoting economic growth and development (Mitchel, 2005; Jelilov & Musa, 2016; Ifarajimi & Ola, 2017).

Research Hypotheses

- i. Ho₁: Government expenditure on education does not have any significant effect on economic growth in Nigeria;
- ii. Ho₂: Government expenditure on healthcare does not have any significant effect on economic growth in Nigeria;
- iii. Ho₃: Government expenditure on transportation and communication does not have any significant effect on economic growth in Nigeria; and
- iv. Ho₄: Government expenditure on agriculture and natural resources does not have any significant effect on economic growth in Nigeria.

This study is entrenched in the trust that government expenditure quickens the economic growth of any economy. The state of matters concerning government expenditure is an interesting question that has attracted so much debate in the public domain. Equally, government expenditure poses an unusual problem despite the supposed crucial roles played in economic growth. Therefore, the product of this study is beneficial to the three tiers of government especially those charged with the responsibility of managing government treasury. The study will provide an understanding of areas where public funds can be effectively allocated to promote economic growth. The study will also stand as a pointer for government

and stakeholders to make balanced decisions as to the origination and allocation of public funds among competing needs within the economy to promote economic growth.

LITERATURE REVIEW

Conceptual Review

Government expenditure is incurred by the government to maintain institutions, the economy, and society. It tends to increase over time as expansion in development and government activities keep increasing. Aluthge, Jibir, and Abdu (2021), government expenditure is a fiscal instrument that plays an important role in moderating inflation, unemployment, recession, balance of payment equilibrium, and foreign exchange rate stability. In the period of depression and unemployment, the government causes aggregate demand to rise and production and supply of goods and services follow the same direction.

In Nigeria, the federal government's expenditure is divided into capital and recurrent expenditure. The recurrent expenditure deals with expenditure on administration such as wages, salaries, interest on loans, and maintenance. Capital expenditures are expenditures for education, housing, power supply, transportation, work, electricity, and water. Capital expenditures are investments with multiplier effects on the economy in terms of public benefits. In most cases, government expenditure is an intervention that brings income stability and employment to the economy. Government expenditure is an important instrument that brings about an egalitarian society through the provision of welfare facilities (Onuoha, 2012). Government expenditure is functionally classified into four categories in Nigeria namely administration, economic services, social and community services, transfers with capital, and recurrent expenditure consumptions for each class (CBN, 2017).

Economic Growth in Nigeria

Economic growth increases the market value of goods and services produced within an economy over time. Economic growth refers to growth in potential output which is production at full employment. Nigeria is a middle-income economy with mixed and emerging markets with expanding financial services, e-commerce, communications technology, and entertainment sectors. Sachs and Warner (1995) pointed out that abundant natural resources tend to be a hindrance to economies for some reasons namely, the Dutch diseases or syndrome created from overrate of exchange rates, wasteful consumption, ineffective public investment attitudes, weakness to plan for a profitable export-oriented or import opposing manufacturing sector, rent-seeking attitudes and other sterile events and the declining nature of prices of natural resources in the global market.

Education and Economic Growth

The significance of education to any society cannot be over-emphasized. In a well-educated society, there is a propensity for higher economic output and fewer diseases and poverty. It is on this basis that the federal government has to continue to fund the educational sector. However, this is supported by various prior empirical studies such as Abu and Abdullahi, (2010); Babatunde, (2018) have found a negative relationship between government spending on education and economic growth. Abu and Abdullahi (2010) asserted that funds meant for the development of the educational sector have not been judiciously used to improve the educational sector. This has resulted, in most embezzlement cases that has precipitated the incessant strike by the Academic Staff Union of Universities (ASUU) and National Union of Teachers (NUT).

Healthcare and Economic Growth

An efficient and affordable healthcare delivery system is one of the Millennium developments goals. Every government is mandated to provide this for the benefit of its citizens, because of its effect on the well-being and impact on the productivity of the workers. Ogundipe (2013) investigated the impact of both government recurrent and capital expenditure on growth using an econometric analysis based on Johansen technique for the period 1970-2009. The results from the study indicated that capital expenditure on health services impacted positively on economic growth.

Transportation

Business activities are anchored on the efficiency of the transportation and communication system. This is because it has a significant effect on the cost of doing business in any economy. If there is no efficient transportation system it will be difficult for farmers in the rural areas to bring their produce to the urban centers where they are needed. Having an excellent communication system in place will enable the free flow of information and commercial activities will be enhanced. It is a result of the importance of transportation and communication systems in the economy that made every government commit a huge sum of money to developing the infrastructure. The question that demands an answer is does this huge investment translate to economic growth in Nigeria? Babatunde (2018) reported a positive and significant effect of government investment in transportation and communication on economic growth in Nigeria during the period 1980-2016.

Agriculture

Before the advent of petroleum in the late 1950s, agriculture was the mainstay of the Nigerian economy. The then-regional governments committed substantial funds for the development of the sector. Farm settlements were established and farmers were encouraged to go to the farm since their excess produce was guaranteed to be sold to the government. Varieties of cash crops such as cocoa, rubber, groundnut, palm produce, and cotton, among others, contributed over 90% of the foreign exchange to the country and over 70% of employment. However, the discovery of petroleum has led to the total neglect of agriculture with the resultant food security challenge and high unemployment rate.

Theoretical Review

This section highlights basic theory that have been used to support the effects of public expenditure on economic growth.

Musgrave Theory

Musgrave theory was proposed by Musgrave (1988) and cited in Jelilov (2016) as the theory established variations in the income elasticity of demand for public goods and services in the three series of per capita income. Musgrave's theory, particularly his classification of government expenditures, is highly relevant to understanding the dynamics of government expenditure as a catalyst for economic growth in Nigeria. Musgrave, an influential public finance theorist, introduced the concept of three categories of government expenditure: allocation, distribution, and stabilization. Musgrave's allocation function focuses on how government allocates resources to enhance the overall economic efficiency. In the context of your study, understanding how the Nigerian government allocates funds to key sectors such as education, healthcare, transportation, and agriculture is crucial. Musgrave's theory helps analyze whether the allocation aligns with the nation's economic growth objectives.

The distribution function pertains to how government expenditures can influence the distribution of income and wealth. In the Nigerian context, it's essential to assess how government spending in various sectors impacts income distribution. For instance,

government expenditure on education and healthcare may contribute to human capital development and reduce income inequality. Musgrave's stabilization function deals with the use of fiscal policy to stabilize the economy. Government expenditures, especially in sectors like transportation and agriculture, can play a role in stabilizing economic fluctuations. Understanding how government allocates resources for stabilization purposes becomes vital in the context of your study. By applying Musgrave's theory, this research on government expenditure in Nigeria can gain a conceptual framework to evaluate the effectiveness and efficiency of budgetary allocations. It allows for a nuanced analysis of how government spending impacts economic growth, income distribution, and economic stability, providing a more comprehensive understanding of the role of government expenditure as a catalyst for economic development in Nigeria.

Empirical Review

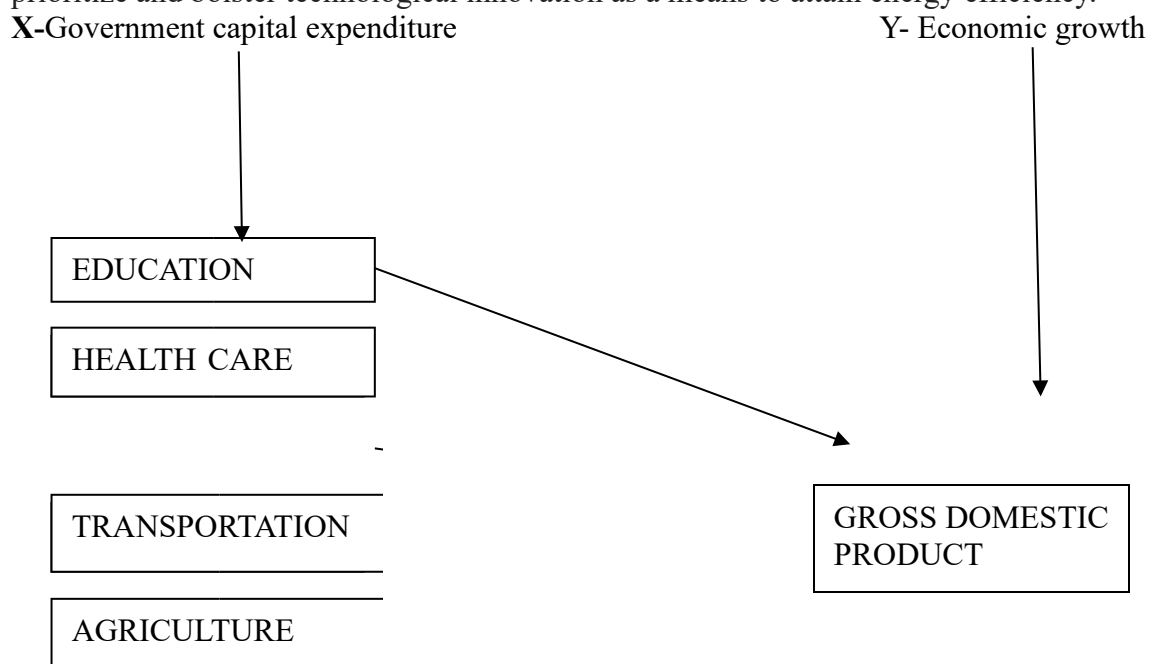
In this study, relevant literature linking government expenditure with economic growth was reviewed under this section. Babatunde (2018) assessed the relationship between capital expenditure and economic growth in Nigeria using secondary data that covered the period from 1980 to 2016. Weighted least square was adopted for analysis. The Vector Error Correction model was used as an estimation technique to test the hypotheses formulated. The study found that government spending on transport, communication, education, and health services has a significant effect on economic growth. While the spending on agriculture and natural resources hurt economic growth in Nigeria. The study concluded that allocation to agriculture should be increased and efficiently utilized to produce the desired results.

Okere, Uzowuru and Amako (2019) examined the relationship between of government expenditure and economic growth in Nigeria. Information was obtained from the Statistical Bulletin of the Central Bank of Nigeria (CBN) for the years 1981 to 2016. The study employs the Granger Causality method in econometrics and the error correction model (ECM) technique. The stationarity analysis shows first-order integration (1(1)), and the Johansen Cointegration test revealed a long-run relationship among the variables. Granger Causality test results demonstrated bidirectional causality between economic growth and government expenditure on administration, as well as between economic growth and government expenditure on economic services. Economic growth exhibits a unidirectional causality with Community Services. The study recommends vigilant monitoring of government expenditure through project audits to serve as a check on the executive branch. Additionally, increasing funding for education and health is suggested to mitigate strikes in these sectors.

Park, Seo and Ha (2019) investigated the role of maritime, land, and air transportation in economic growth: Panel evidence from OECD and non-OECD countries. This study uniquely explores the roles of diverse transport infrastructure types in both OECD and non-OECD nations. Hybrid production approach was used, integrating macroeconomic growth with transportation supply and demand, filling a gap in comparative research. The study employed the panel two-stage least squares method to estimate economic growth parameters. The study underscores the greater importance of maritime transportation in driving economic growth, surpassing the impact of air and land transport. Notably, air and land transport show limited or negative effects on economic growth, especially in developing nations. Additionally, transportation demand is shaped by diverse social and economic factors beyond pricing. The paper's conclusion delves into further implications, ultimately providing valuable insights into the influence of transport infrastructure on economic growth in both OECD and nonOECD countries.

Onifade, Çevik, Erdoğan, Asongu and Bekun (2020) examined the impact of public expenditures on economic growth in Nigeria. Capital and recurrent expenditures, and government fiscal expansion was the main focus. Pesaran's ARDL approach was used and data from 1981 to 2017. It identified a proportional link between public spending and economic growth, with recurrent expenditures adversely affecting growth, and positive effects of public capital expenditures being negligible. Granger Causality Test results underscored that government fiscal expansion, largely reliant on debt financing, significantly Granger causes public expenditures and domestic investment, the latter also Granger causing real growth. The study concluded with crucial policy recommendations derived from these empirical findings. Aluthge, Jibir, and Abdu (2021) investigated the impact of government expenditure on economic growth in Nigeria. Time series data that covered the period of 1970-2019 was adopted for the study. Autoregressive Distributed Lag (ARDL) technique was used for analysis. The unit root test revealed structural breaks and the co-integration analysis was adopted to examine the robustness of the results. Findings showed that capital expenditure exerted a positive and significant impact on economic growth both in the short and long run. While the recurrent expenditure did not either in the short run or long run. The study concluded that the government's spending patterns of recurrent expenditure have not been judiciously allocated when compared with productive activities that enhance human development. The study recommended that the government should improve the allocation to capital expenditure at the expense of recurrent expenditure to impact positively on the citizenry.

Acheampong, Dzator, Dzator and Salim (2022) investigated the impact of transport infrastructure and technological innovation on economic growth (GDP), energy consumption (EC) and carbon emissions (CO₂e) in the European Union (EU). The study used the dynamic system-generalized method of moment and data from 1995 to 2019. The study revealed that higher energy consumption (EC) is linked to a one-way increase in GDP, while GDP and EC have a reciprocal association with carbon emissions (CO₂e). Technological innovation contributes directly to both GDP and EC. In contrast, freight transport infrastructure positively influences GDP and CO₂e but decreases EC simultaneously. Consequently, EU nations should prioritize and bolster technological innovation as a means to attain energy efficiency.



METHODOLOGY

This study employed an *ex-post facto* research design for it made use of historical data extracted from the Central Bank of Nigeria (CBN) statistical bulletin over thirty years (1992-2021), The study used the data to assess the influence of government expenditure on economic growth in Nigeria. The data was subjected to a unit root test, using Augmented Dickey-Fuller (ADF). A co-integration test was performed to examine the existence of a long-run relationship among the independent variable measurements. Johansen cointegration test and Engle-Granger approaches were adopted for analysis of the data. Vector Error Correction (VEC), a brand of Error Correction Mechanism (ECM), restricted the long run behavior of variables to converge to their co-integrating relationships while allowing short-run adjustment, to be computed. VEC which incorporates the Ordinary Least Squares (OLS) estimation technique was used for inference. The probability of the t-test statistics at a 5% level of significance denotes the effect of each of the independent variables on the gross domestic product.

Model Specification

The general model for this study is:

$$Y = f(X)$$

Y = Economic Growth

X = Government Capital Expenditure

Where:

Economic Growth was measured by Gross Domestic Product (GDP) and Government Capital expenditure was measured by Expenditure on Education, Expenditure on Health, Expenditure on Transportation and Expenditure on Agriculture GDP= Economic Growth

EDU = Education

HLT= Health care

TRP=Transportation

AGR=Agriculture

t = time series

β_0 = constant

$\beta_1, \beta_2, \beta_3,$ and β_4 = coefficients of the 4 independent variables as stated above

Table 1: Measurement and Description of Variables

Variable	Type	Acronym	Measurement	Previous Studies
Economic Growth	Dependent	GDP	Log of annual real GDP (at 2010 constant basic prices)	
Education	Independent	EDU	Log of annual total government expenditure on education	
Healthcare	Independent	HLT	Log of annual total government expenditure on healthcare	
Transportation and communication	Independent	TRP	Log of annual total government expenditure on transportation	
Agriculture and natural resources	Independent	AGR	Log of annual total government expenditure on agriculture	

Source: Researchers' study (2023)

Table 2: A priori expectation

Variable	Parameter	Expectation
Expenditure on Education	1	1 > 0
Expenditure on Health	2	2 > 0
Expenditure on Transportation	3	3 > 0
Expenditure on Agriculture	4	4 > 0

Source: Authors' Computation, 2023

Hence, this study examined the Federal government expenditure and economic growth in Nigeria. The study variables are capital expenditure and economic growth. The economic growth was measured with notional GDP while the proxies for capital expenditure were expenditure on education, transportation, healthcare, and agriculture as contained in the Central Bank of Nigeria Statistical Bulletins and Annual Reports. The study covers a period of 30 years (1992-2021).

RESULTS AND DISCUSSION

Descriptive statistics

Table 3.1 depicts the descriptive statistics of the variables used in the study.

Table 3.1: Descriptive Statistics Summary

Variable	Mean	Minimum	Maximum	Std. Dev	Skewness	Kurtosis
GDP	3.6947E7	1.622E7	6.902E7	1.8615E7	0.596	-1.220
EDU	2.3673E4	221.900	8.790E4	2.3116E4	0.826	0.179
HLT	2.2673E4	126.000	9.720E4	2.3659E4	1.130	1.565
TRP	3.4912E4	353.400	1.386E5	4.2715E4	1.080	-0.191
AGR	4.5892E4	551.200	2.059E5	5.2906E4	1.243	-1.220

Source: Researchers' computation (2023)

Table 3.1 shows the average annual GDP of N36.947 trillion with a maximum value of N69.02 trillion, minimum value of N16.22 trillion, and standard deviation of N18.615 trillion. Capital expenditure on education has an average of N23.673 billion, with a minimum value of N221.9 million, a maximum value of N87.9 billion, and a standard deviation of N23.116 billion. Capital expenditure on health care services, on average, is N22.673 billion, with a maximum value of N97.2 billion, minimum value of N126 million, and standard deviation of N23.659 billion. The capital expenditure on transportation averaged N34.912 billion, with a maximum value of N138.6 billion, minimum value of N551.2 million, and standard deviation of N42.715 billion. The average capital expenditure in agriculture was N45.892 billion, minimum value of N551.2 million, maximum value of N205.9 billion, and standard deviation of N52.906 billion, the variable with the highest variability from mean is agriculture, while the one with the least variability from the mean is GDP, as indicated by their standard deviation values.

Unit Root Test

Probing the time series properties is essential for the avoidance of spurious and meaningless regression. Unit root test was performed on variables to determine if they are stationary or otherwise, to determine the order of integration to achieve stationary. Table 3.2 presents the summary result of the Augmented Dickey-Fuller (ADF) unit root test adopted by the study.

Table 3.2: Augmented Dickey-Fuller Unit Root Test

Variable	Data at level		Data at 1 st Difference		Order of Integration
	ADF stat	Prob.	ADF stat	Prob	
Log GDP	-1.115383	0.6953	-6.231535	0.0000	I(1)
Log EDU	-2.359460	0.1617	-3.868288	0.0067	I(1)
Log HLT	-2.088365	0.2505	-3.765249	0.0086	I(1)
Log TRP	-1.114613	0.6828	-5.082305	0.0003	I(1)
Log AGR	-0.838400	0.7917	-10.05131	0.0000	I(1)

Source: Researcher's computation (2023)

Table 3.2 indicated that all the five variables used in the model were stationary at first difference because the individual probability value was greater than 0.05. However, when difference for the first time, the probability values were less than 0.05, hence they are integrated in the order one, I (1).

Co-integration Test Result

Co-integration is the idea that the linear combination of two non-stationary series can be stationary, implying a long-run relationship, thus they can be modeled. Two known methods of testing for co-integration are Johansen and Engle-Granger. The result of the Johansen and Engle-Granger co-integration test for the study variables is presented in Table 3.3.

Table 3.3 indicates one co-integration equation in the two methods (Johansen and EngleGranger). Consistent with the studies of Ifarajimi and Ola (2017), Osuji *et al.* (2017), and Babatunde (2018). This confirms that there is a co-integration between the dependent variable (GDP) and the four independent variables (Education, Health, Transportation/ Communication, and Agriculture/Natural Resources). This implies that a long-run relationship exists and the variables can be modeled.

Table 3.3: Result of Co-integration Test

Johansen Method				Engle-Granger Method		
Trace value				Maximum Eigenvalue		
Hypothesized No. of CE(s)	Trace Stat	0.05 Critical Value	Prob.	Max-Eigen Stat	0.05 Critical Value	Prob.**
None*	73.57019	69.81889	0.0243	34.18362	33.87687	0.046
At most 1	39.38657	47.85813	0.2452	19.54241	27.58434	0.3737

At most 2	19.84417	29.79707	0.4335	10.3956	21.13162	0.7069
At most 3	9.448567	15.49471	0.3255	7.158616	14.2646	0.4705
At most 4	2.289952	3.841466	0.1302	2.289952	3.841466	0.1302

Source: Researcher's computation (2023)

Regression Result (Vector Error Correction Estimates)

The Vector Error Correction (VEC), otherwise known as unrestricted Vector Auto Regression (VAR) is used as a predictive or forecasting model in the study. It also incorporated Ordinary Least Squares (OLS) regression statistics for the model equation. The result of the VEC of the study is presented in Table 3.4.

Table 3.4 shows that the co-integration equation has a negative coefficient value (0.892114). This is in agreement with the theoretical expectation of the behavior of the Error Correction Mechanism, of which VEC is among. It further indicates that about 89.2% of the discrepancies between the short-run and the long-run dynamics are corrected annually. It implies that the VEC adopted for the study is an effective correcting mechanism.

Table 3.4: VEC Estimation Output Summary

Variable	Coefficient	Stand. Error	t-stat
Coint. Eqn	-0.892114	-0.33688	1.90551
D(AGR(-1))	-0.478510	-0.1904	-2.51375*
D(AGR(-2))	-0.481399	-0.15178	-3.17177*
D(HLT(-1))	0.375360	-0.1673	2.24364*
D(HLT(-2))	0.055128	-0.19342	0.28502
D(EDU(-1))	0.062242	-0.1763	0.35305
D(EDU(-2))	0.108756	-0.17795	0.61115
D(TRP(-1))	-0.005618	-0.18095	-0.03105
D(TRP(-2))	0.213839	-0.16338	1.30884
C	0.031395	-0.03576	0.87801
R ²	0.804370		
Adjusted R ²	0.660909		
Sum square residuals	0.242274		
S.E. equation	0.127089		
F-statistic	5.606866		

* indicates significant at 5%.

Source: Researcher's computation (2023)

Interpretation of Results

The coefficient of determination (R²) is 0.80437, suggesting that about 80.4% of the variation in the dependent variable (GDP) is explained by the independent variables (capital expenditure incurred in Education, Healthcare, Transportation/Communication and Agriculture/Natural resources), while about 19.6% was due to other factors not captured in the model. The F-stat result of 5.606866, which is greater than the critical value, indicates that the model as a whole is fit. As observed from Table 3.4 the equation of the model, when it lagged by one year can be represented as:

Available online at: <https://majaf.com.ng/index.php/majaf/index>

$$\text{GDP}_t = 0.87801 + 0.062242\text{EDU}_{t-1} + 0.37536\text{HLT}_t - 0.005618\text{TRP}_t - 0.47861\text{AGR}_t + e_t$$

The result showed that Education (with one year lag), D(EDU (-1)) has a coefficient value of 0.062242 and a t-stat value of 0.35305 ($t < 2.00$). These values indicate a positive and insignificant relationship between capital expenditure on education and economic growth (GDP) in Nigeria, but When education is lagged by 2 years D(EDU (-2)), the coefficient value is 0.108756 and t-stat value of 0.61115 ($t < 2.00$). These values indicate a positive and insignificant relationship between capital expenditure on education and economic growth (GDP) in Nigeria. Therefore, since the t-values for each of the two cases above were less than 2.00, the study fails to reject the null hypothesis and concludes that government capital expenditure in education has no significant effect on the economic growth of Nigeria.

Furthermore, the result revealed that Health care (with one year lag), D (HLT (-1)) has a coefficient value of 0.37536 and a t-stat value of 2.24364 ($t > 2.00$). These values indicate a positive and significant relationship between capital expenditure on health care and economic growth (GDP) in Nigeria but when Health care is lagged by 2 years D(HLT(-2)), the coefficient value is 0.055128 and the t-stat value of 0.28502 ($t < 2.00$). These values indicate a positive and insignificant relationship between capital expenditure on Health care and economic growth (GDP) in Nigeria. Since the t-values for the first case (lagged of one year) are greater than 2.00, the study therefore rejects the null hypothesis two and concludes that government capital expenditure on Health care has a significant effect on economic growth in Nigeria.

For transportation (with one year lag), D (TRP (-1)) has a coefficient value of -0.005618 and a t-stat value of -0.03105 ($t < 2.00$). These values indicate a negative relationship between capital expenditure on Transportation and communication and economic growth (GDP), but the relationship is not significant. When Transportation is lagged by 2 years D (TRP (-2)), the coefficient value is 0.213839, and the t-stat value of 1.30884 ($t < 2.00$). These values indicate a negative relationship (for a lag of one year) and a positive relationship (for a lag of two years) between capital expenditure on Transportation and economic growth (GDP), the relationship is not significant. Since the t-values for each of the two cases above are less than 2.00, the study therefore fails to reject the null hypothesis. It is concluded that government capital expenditure on Transportation has no significant effect on the economic growth in Nigeria.

Finally, for capital expenditure on agriculture (with one year lag), D (AGR (-1)) has a coefficient value of -0.47861 and a t-stat value of -2.51375 absolute (absolute $t > 2.00$). These values indicate a negative and significant relationship between capital expenditure on Agriculture and economic growth (GDP) in Nigeria. When Agriculture and natural resources lagged by 2 years D (AGR (-2)), the coefficient value is -0.481399, and the t-stat value of 3.17177 (absolute $t > 2.00$). These values indicate a negative and significant relationship between capital expenditure on Agriculture and natural resources and economic growth (GDP) in Nigeria. Therefore, since the t-values for the two cases (lagged of one and two years) are greater than 2.00, the study rejects the null hypothesis and concludes that government capital expenditure on Agriculture has a significant effect on the economic growth in Nigeria.

Discussion of Findings

Overall Model Fit: The high coefficient of determination (R^2) at 0.80437 indicates that approximately 80.4% of the variation in GDP can be explained by the specified independent variables. The F-stat result exceeding the critical value confirms the overall fitness of the model, providing confidence in its reliability.

Education Expenditure: The lagged capital expenditure on education does not exhibit a significant impact on economic growth in Nigeria. The study recommends a critical review of

the allocation and utilization of funds in the education sector to enhance its effectiveness in contributing to economic growth.

Health Care Expenditure: Capital expenditure on health care, particularly with a one-year lag, demonstrates a positive and significant relationship with economic growth. Policymakers are encouraged to prioritize sustained investment in the healthcare sector, recognizing its positive influence on economic development.

Transportation Expenditure: Government capital expenditure on transportation and communication, whether lagged by one or two years, does not exhibit a significant effect on economic growth. It suggests a need for a strategic reassessment of the allocation of funds in the transportation sector to ensure a more impact contribution to economic growth.

Agriculture Expenditure: Capital expenditure on agriculture and natural resources, both with one-year and two-year lags, shows a negative and significant relationship with economic growth. This emphasizes the importance of directing resources towards enhancing agricultural productivity to positively impact overall economic development.

CONCLUSION AND RECOMMENDATIONS

These findings provide valuable insights for policymakers. The study recommends a thorough examination of the education sector's budget allocation and suggests continued prioritization of healthcare investment. Additionally, it calls for a strategic reevaluation of transportation expenditure and underscores the significance of sustained investment in agriculture for fostering economic growth in Nigeria. For meaningful growth and economic development to take place, the Federal Government should direct its capital expenditure toward the four critical sectors (education, health care, transportation, and agriculture) investigated in this study.

Firstly, the Government should increase funding for the educational sector as well as ensure that the resources are properly managed and used for the development of the sector. Concerning the healthcare sector, an increase in government capital spending should be sustained. An affordable healthcare delivery system will improve the well-being and productivity of the people. Furthermore, the government should increase its spending on the transport and communication sector since this will lead to a reduction in the cost of doing business as well as raise the profitability of firms. Finally, for food security and employment opportunities to be achieved, the government should ensure that the funds provided for the agricultural/natural resources sector are effectively monitored. Despite the huge investment in this sector by the government so far, the contribution of the sector to the nation's economy is poor.

REFERENCES

- Abu, N., & Abdullahi, U. (2010). Government expenditure and economic growth in Nigeria, 1970-2008: A disaggregated analysis. *Business and Economics Journal*, 2010, 1-11.
- Acheampong, A. O., Dzator, J., Dzator, M., & Salim, R. (2022). Unveiling the effect of transport infrastructure and technological innovation on economic growth, energy consumption and CO2 emissions. *Technological Forecasting and Social Change*, 182, 121843.
- Aluthge, C., Jibir, A., & Abdu (2021). Impact of government expenditure on economic growth in Nigeria, 1970-2019, *CBN Journal of Applied Statistics*, 12(1), 139-174
- Aluthge, C., Jibir, A., & Abdu, M. (2021). Impact of government expenditure on economic growth in Nigeria, 1970-2019. *CBN Journal of Applied Statistics*, 12(1), 139-174.
- Al-Yousif, Y. (2000). Do government expenditure inhibit or promote economic growth: Some empirical evidence from Saudi Arabia. *India Economic Journal*, 48(2), 876891.

- Oguntuase, A. T., Oyeneeye, 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
- Babatunde, S. A. (2018). Government spending on infrastructure and economic growth in Nigeria. *Economic Research*, 31(1), 997-1014.
- Barilee, B. N., & LeyiraChristain, M. (2021). Government expenditure and economic development: evidence from Nigeria. *GPH-International Journal of Social Science and Humanities Research*, 4(08), 40-58.
- CBN (2017). Statistical Bulletin Central Bank of Nigeria.
- Chude, N. P., & Chude, D. I. (2013). Impact of government expenditure on economic growth in Nigeria. *International Journal of Business and Management Review*, 1(4), 64-71.
- Couray, A. (2009). Government expenditure, governance and economic growth. *Comparative Economic Studies*, 51(3), 401-418.
- Devesa, E., & Doménech, R. (2020). Pensions, Economic Growth and Welfare in Advanced Economies. *Economic Challenges of Pension Systems: A Sustainability and International Management Perspective*, 81-103.
- Fölster, S., & Henrekson, M. (2001). Growth effects of government expenditure and taxation in rich countries. *European economic review*, 45(8), 1501-1520.
- Ifarajimi, G. D., & Ola, K. O. (2017). Government expenditure and economic growth in Nigeria: An analysis with dynamic ordinary least squares. *International Journal of Academic Research in Business and Social Sciences*, 7(5), 8-26.
- Jelilov, G., & Musa, M. (2016). The impact of government expenditure on economic growth in Nigeria. *Sacha Journal of Policy and Strategic Studies*, 5(1), 15-23.
- Khan, S. A. R., Zhang, Y., Kumar, A., Zavadskas, E., & Streimikiene, D. (2020). Measuring the impact of renewable energy, public health expenditure, logistics, and environmental performance on sustainable economic growth. *Sustainable development*, 28(4), 833-843.
- Mitchel, J. D. (2005). The impact of government spending on economic growth. Downloaded on 10th July, 2019: from www.heritage.org/research/budget/bg1831.cfm.
- Ogundipe, A. A., & Oluwatobi, S. (2010). Government spending and economic growth in Nigeria: Evidence from disaggregated analysis. www.covenantuniversity.edu.ng
- Okere, P. A., Uzowuru, L. N., & Amako, J. C. (2019). Government expenditure and economic growth in Nigeria. *Int J Econ Financ Manag*, 4(2), 29-41.
- Okoye, L. U., Omankhanlen, A. E., Okoh, J. I., Urhie, E., & Ahmed, A. (2019). Government expenditure and economic growth: The case of Nigeria. *Proceedings of SOCIOINT*, 1184-1194.
- Omodero, C. O. (2019). Government sectoral expenditure and poverty alleviation in Nigeria. *Research in World Economy*, 10(1), 80-90.
- Onifade, S. T., Çevik, S., Erdoğan, S., Asongu, S., & Bekun, F. V. (2020). An empirical retrospect of the impacts of government expenditures on economic growth: new evidence from the Nigerian economy. *Journal of Economic Structures*, 9(1), 1-13.
- Onuoha, B. S. (2012). The environments of manufacturing sector in Nigeria: Strategies towards vision 20:2020. *International Journal of Business and Management*, 5(1), 67-80. www.cscanada.net
- Osuji, E. E., Ehirim, N. C., Ukoha, I., & Anyanwu, U. G. (2017). Effect of government expenditure on economic growth and development in Nigeria. *Journal of Nutrition. Ecology and Food Research*, 4(1), 1-5. <https://doi.org/10.1166/jnef.2017.1147>.
- Park, J. S., Seo, Y. J., & Ha, M. H. (2019). The role of maritime, land, and air transportation in economic growth: Panel evidence from OECD and non-OECD countries. *Research in Transportation Economics*, 78, 100765.
- Ranjan, K., Sharma, V., & Ghosh, S. (2022). Assessment of urban growth and variation of aerosol optical depth in Faridabad District, Haryana, India. *Pollution*, 8(2), 447-461.

- 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
- Sachs, J. D., & Warner, A.M. (1995) Natural resource abundance and economic growth. National Bureau of Economic Research, Cambridge, MA, NBER Working Paper No. w5398
- Selvanathan, E. A., Selvanathan, S., & Jayasinghe, M. S. (2021). Revisiting Wagner's and Keynesian's propositions and the relationship between sectoral government expenditure and economic growth. *Economic Analysis and Policy*, 71, 355-370.