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Evaluating the Impact of Public Expenditure on Economic Growth in Nigeria (1980-2023): Using A Vector Autoregression (VAR) Approach

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Abstract

This study investigates the dynamic relationship between public expenditure and economic growth in Nigeria from 1980 to 2023, grounded in Keynesian theory. Using data from the Central Bank of Nigeria's Statistical Bulletin and National Bureau of Statistics, a Vector Autoregression (VAR) model is estimated with real GDP as a dependent variable, and total government expenditure, total government revenue, inflation rate, budget deficit financing, and public debt services as independent variables. VAR estimates reveal statistically significant Keywords: coefficients at 5%. Granger causality analysis indicates unidirectional Public expenditure causality from public expenditure to economic growth, supporting Economic growth Keynesian theory which says government expenditure is an external Vector Autoregression factor that can be leveraged to stimulate economic growth. Impulse Causal relationship Response Function results show a negative response of economic growth Nigeria. to public expenditure shocks in the short-run and long-run. Variance Decomposition analysis reveals that public expenditure explains most of JEL Classification: Q56, H510 the variation in economic growth. The study concludes that public expenditure has significant positive and negative impacts on economic Corresponding author growth in different periods. Recommendations include investing in Muhammad A. Muhammad productive sectors, diversifying the economy, curtailing unnecessary optimisticmuhammadam@g expenditure, promoting fiscal discipline, and reducing debt-financed mail.com expenditure. Tel:+2347039763662

1. Introduction

The nexus between public expenditure and economic growth has been a central theme in economic research and policymaking, particularly in developing economies. Public expenditure refers to government spending on goods and services aimed at achieving a range of economic and social objectives, such as infrastructural development, health improvements, education, and poverty reduction. In many developing countries like Nigeria, public expenditure is seen as a critical tool for fostering growth, especially when private investment is insufficient to address infrastructure and social needs. Nigeria, as Africa's largest economy, faces complex challenges that require targeted government interventions. The role of public expenditure in driving Nigeria's economic development has been debated extensively.

experience with public ZNigeria's expenditure has been marked by several phases of economic boom and bust. The 1970s oil boom provided a windfall of revenue, but its management was marred by inefficiencies, which resulted in less-than-optimal outcomes (Odusola, 2017). Despite subsequent efforts to diversify public spending into areas such as education and infrastructure, economic growth has remained volatile, reflecting the challenges of translating fiscal policy into long-term development (Adeola & Oyetunde, 2020). Therefore, it is critical to examine whether increased public spending in Nigeria has had the desired effect on economic growth or whether the outcomes have been limited by governance, inefficiencies, and poor ineffective policy implementation. These concerns raise the questions of whether public expenditure is effectively translating into economic growth or whether inefficiencies, mismanagement, and corruption are limiting the impact of government spending.

Various studies (Adeola & Oyetunde, 2020; Ogun & Olalekan, 2022) have suggested that while public expenditure in Nigeria has the potential to stimulate economic growth, the relationship is far from straightforward. For government instance. spending on infrastructure and social services may have positive effects on economic growth, but only if implemented effectively and with adequate attention to governance. This research, therefore, seeks to fill this gap by evaluating the effectiveness of public expenditure on economic growth in Nigeria and addressing the critical issues raised. This study aims to analyze the relationship between public expenditure and economic growth in Nigeria over the period from 1980 to 2023, using a Vector Autoregression (VAR) model to better

understand both the direct and indirect effects of government spending on the country's economic performance.

2.1 Theoretical framework

This study is grounded in the Keynesian theory which views public expenditure as a strategic tool for boosting economic outputs. The Keynesian perspective, developed by John Maynard Keynes (1936), posits that government spending plays a crucial role in stimulating economic activity, especially during periods of economic downturn. According to this theory, increased government expenditure can boost aggregate demand, reduce unemployment, and encourage investment.

In other words, an increase in government expenditure triggers a multiplier effect, leading to a proportionally larger increase in the overall output of an economy (Jhingan, 2010). Keynesian theory is relevant to developing nations like Nigeria, where private investment may be limited, public spending in sectors such as infrastructure and education can help foster growth by addressing development needs and stabilizing the economy (Akinlo & Adejumo, 2021). Therefore, the Keynesian hypothesis (1936) suggests a unidirectional causality from public expenditure to economic growth.

2.2 Empirical review

Jalil and Ma (2021) examined public expenditure and its impact on economic growth in emerging economies, including Nigeria. The study found that public investment in infrastructure, education, and healthcare played a significant role in fostering growth. The researchers concluded that targeted public expenditure is vital for sustainable development emerging in economies. Chandran, Ramasamy, and Khor (2020) analyzed the effect of public spending on growth in ASEAN countries, utilizing panel data analysis. The results indicated that public expenditure on education, healthcare, and infrastructure positively affected economic growth. The study emphasized that spending on infrastructure and education had the greatest impact on growth, especially in low-income countries like Nigeria. Pereira and Andraz (2022) used cointegration analysis to explore the effects of public investment on economic growth in Europe. It was discovered that public investment in infrastructure had a substantial positive impact on growth, suggesting that efficient infrastructure investment is essential for maintaining long-term economic development in both developed and developing economies. Abutu and Agbede (2015)investigated the nexus between government expenditure and economic growth in Nigeria, employing a co-integration and error correction model for the period 1970-2010. The findings of the study revealed a long-run equilibrium relationship between government expenditure, comprising both capital and recurrent components, and economic growth, characterized by a positive and significant linear association.

However. short-run the dynamics exhibited a dichotomy, wherein economic growth demonstrated a positive and significant relationship with recurrent expenditure, but a negative and significant relationship with capital expenditure. Ogunbiyi (2023) used the ARDL model to investigate the relationship between public expenditure and economic growth in Nigeria from 1981 to 2020. The study revealed that spending on education, infrastructure, and healthcare had a positive effect on GDP growth. However, the study also reveals that poor governance and corruption constrained the potential benefits of public expenditure. Similarly, Olalekan and Olufemi (2022) explored the bidirectional relationship between public expenditure and economic growth in Nigeria using the VAR model. The study found that public spending positively affected growth, and increased economic growth, in turn, led to higher government spending. This result indicated a dynamic and interactive relationship between the two variables in Nigeria. Ike and Nwogugu (2020) used the Granger causality test to explore the of causality between public direction expenditure and economic growth in Nigeria between 1980 and 2017. The study found that

public expenditure had a unidirectional effect on economic growth, suggesting that government spending plays an essential role in stimulating economic activity in the country. On the other hand, Ajayi and Ojeka (2020) utilized the Vector Error Correction Model (VECM) for the period 1981 to 2018 to investigate the dynamic relationship between public expenditure and economic growth in Nigeria. The analysis revealed a significant negative short-run association between the two variables. Likewise, Ogbonna and Ebimobowei (2021)employed the Autoregressive Distributed Lag (ARDL) model to examine the nexus between public expenditure and economic growth in Nigeria from 1990 to 2019. The study's findings suggest that, in the short term, increased public spending is negatively correlated with economic growth. Alternatively, a study conducted by Ogundipe and Ojeaga (2015) using Johansen cointegration and Vector Error Correction Model (VECM) to analyse the relationship between government expenditure and economic growth in Nigeria from 1980 to 2013, its findings yielded inconclusive results, indicating no statistically significant long-run relationship between the variables.

In the same vein, Alimi and Bakare (2018) investigated the nexus between public expenditure and economic growth in Nigeria from 1990 to 2016 using the Autoregressive Distributed Lag (ARDL) model. The study's results revealed ambiguous outcomes, suggesting no substantial short-run or long-run relationship between public expenditure and economic growth.

It can therefore conclude that most of the studies reviewed confirmed that public expenditure has a positive impact on economic growth in Nigeria, particularly when allocated to sectors like education, infrastructure, and healthcare (Ogunbiyi 2023; Olalekan & Olufemi, 2022), while others highlight negative (Ajayi and Ojeka, 2020; Ogbonna & Ebimobowei, 2021) or inconclusive outcomes (Ogundipe & Ojeaga, 2015; Alimi & Bakare, 2018). Thus, this study seeks to fill this gap of conflicting results.

3. Methodology

This study adopts a quantitative research design, with secondary data collected from sources such as the Central Bank of Nigeria (CBN) statistical bulletins, the Nigerian National Bureau of Statistics (NBS), economic and financial review publications and the World Bank. The study uses time-series data spanning from 1980 to 2023. The VAR model was employed to estimate the relationships between public expenditure and economic growth, while Granger causality tests used to assess the direction of causality between the two variables.

3.1 Data Analysis Techniques

The study utilized econometric techniques, specifically the Vector Autoregressive (VAR) model, to investigate the dynamic relationship between public expenditure and economic growth in Nigeria. The VAR model was selected due to its ability to treat all variables as endogenous, allowing for a comprehensive examination of their interrelationships.

3.2 Model Specification

A six-variable Vector Auto-regression (VAR) model is employed to examine their dynamic interactions. Building on Sims' (1980) seminal work, the VAR model acknowledges the inherent simultaneity among these variables, eschewing a priori distinctions between endogenous and exogenous variables (Gujurati, 2004). The VAR model's general form is specified below, enabling a nuanced examination of the dynamic interrelationships within this complex system:

$$Xt = \alpha + \beta 1Xt - 1 + \ldots + \beta pXt - p + \varepsilon t \quad 1$$

where X_t is a 6×1 vector of jointly determined endogenous variables containing ,RGDP, TGE, TGR, INF, BDF and PDS.

 $\beta 1.....\beta p$ is a k x k matrix of coefficient that relate lagged values of all the endogenous variables to current values of those variables, α is the vector of constant, and ε_t is a white noise disturbance.

The nexus between real GDP and the pertinent variables can be articulated within a Keynesian theoretical framework, yielding a functional representation as follows:

$$RGDP = f (TGE, TGR, INF, BDF, PDS) \qquad 2$$

Where RGDP= Real Gross Domestic Product f= Functional notation TGE = Total Government Expenditure. TGR = Total Government Revenue. INF = Inflation Rates. BDF = Budget Deficit Financing PDS = Public Debt Service.

The VAR model's lag structure will be informed by lag selection criteria to identify the optimal lag length, mitigating the risks of overfitting and under-fitting. Individual equations within the VAR framework will be estimated using ordinary least squares (OLS) methodology.

To facilitate analysis, the variables' data were converted to growth rates, aligning with Agbiokoro (2010), except for inflation, which was already expressed as a rate.

Therefore, equation (ii) is modified as:

 $RGDP = \beta 0 + \beta 1RTGE + \beta 2RTGR +$

 β 3RINF + + β 4RBDF + β 5RPDS + ϵ t 3

To simplify notation, variables in growth rate form are denoted by "R". For analytical purposes, the "R" suffix will be explicitly shown only for DGP, with the understanding that all variables have been converted to growth rates.

Table 4.1 reveals that all variables exhibit level stationarity at the 1% significance level, indicating that they are integrated of same order, specifically I(0) processes. This result suggests that no variable requires differencing to achieve stationarity. Consequently, cointegration analysis is unnecessary, and it is appropriate to proceed directly to estimating the Vector Auto-regression (VAR) model. In other words, utilizing E-Views, ADF test confirmed level stationarity for RGDP, TGE, TGR, INF, BDF and PDS, at $\alpha = 0.01$, categorizing them as I(0) processes. This outcome obviates the need for co-integration analysis, enabling direct estimation of the VAR model.

To ensure the reliability of the VAR model, a comprehensive diagnostic assessment was

conducted. A crucial aspect of this evaluation involved verifying the stability conditions. Fortunately, the results confirm that the VAR model satisfies the stability criteria, as evidenced by the fact that all roots lie within the unit circle (Figure 4.1).

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Variables	t-Statistic	Critical Values	Probability	Decision
RGDP	-6.744098	-4.186481	0.0000*	I(0)
TGE	-7.420283	-4.186481	0.0000*	I(0)
TGR	-8.348957	-4.186481	0.0000*	I(0)
INF	-5.969272	-4.192337	0.0001*	I(0)
BDF	-7.470853	-4.186481	0.0000*	I(0)
PDS	-7.956722	-4.186481	0.0000*	I(0)

Table 1. ADF unit root testADF at Level

Source: Extract from estimation output using E-views 10 Note: * indicates stationary at 1% level of significance

Table 4.2	Vector A	Autoregression	Estimates	Results
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Variable	RGDP	TGE	TGR	INF	BDF	PDS
RGDP(-1)	0.0389	-0.0405	-0.2265	-0.2030	-0.3719	0.0339
	(0.1694)	(0.0575)	(0.0783)	(0.1885)	(1.3607)	(0.1978)
	[0.2298]	[-0.7040]	[-2.8917]	[-1.0766]	[-0.2733]	[0.1716]
RGDP(-2)	-0.11483	0.00262	0.04643	0.39665	0.4513	0.2374
	(0.1727)	(0.0586)	(0.0798)	(0.1922)	(1.3874)	(0.2017)
	[-0.664]	[0.0446]	[0.5811]	[2.0630]	[0.3253]	[1.1768]
TGE(-1)	1.78010	-0.30300	-0.31065	0.61147	-2.6698	3.1369
	(0.6383)	(0.2167)	(0.2951)	(0.7103)	(5.1262)	(0.7453)
	[2.7886]	[-1.3977]	[-1.0524]	[0.8608]	[-0.5208]	[4.2086]
TGE(-2)	-0.19916	0.61863	1.23911	1.25533	2.03081	2.2277
	(0.7699)	(0.2614)	(0.3560)	(0.8568)	(6.1832)	(0.8990)
	[-0.2586]	[2.3658]	[3.4803]	[1.4651]	[0.3284]	[2.4778]
TGR(-1)	-0.55649	0.28633	-0.00199	0.17501	4.86641	-0.7350
	(0.3785)	(0.1285)	(0.1750)	(0.4212)	(3.0402)	(0.4420)
	[-1.4699]	[2.2271]	[-0.0114]	[0.4154]	[1.6006]	[-1.6627]
TGR(-2)	-0.09598	-0.16184	-0.28765	-0.39934	-0.21392	-0.5215
	(0.4186)	(0.1421)	(0.1935)	(0.4658)	(3.3617)	(0.4888)
	[-0.2293]	[-1.1384]	[-1.4860]	[-0.8572]	[-0.0636]	[-1.0669]
INF(-1)	-0.13080	0.10481	0.15139	0.01894	0.33836	0.3278

	(0.1485)	(0.0504)	(0.0687)	(0.1653)	(1.1931)	(0.1734)
	[-0.8804]	[2.0773]	[2.2036]	[0.1146]	[0.2836]	[1.8898]
INF(-2)	-0.23190	0.03714	0.05237	-0.45111	-1.58421	0.12302
	(0.1581)	(0.0537)	(0.0731)	(0.1759)	(1.2699)	(0.1846)
	[-1.4665]	[0.6915]	[0.7162]	[-2.5634]	[-1.2474]	[0.6662]
BDF(-1)	-0.02585	0.01012	-0.00243	-0.02136	-0.0725	-0.0341
	(0.0211)	(0.0072)	(0.0098)	(0.0235)	(0.1701)	(0.0247)
	[-1.2201]	[1.4073]	[-0.2484]	[-0.9060]	[-0.4263]	[-1.3809]
BDF(-2)	-0.04454	-0.01011	-0.0207	-0.03348	0.33405	0.0109
	(0.0234)	(0.0079)	(0.0108)	(0.0260)	(0.1883)	(0.0273)
	[-1.8998]	[-1.2707]	[-1.9109]	[-1.2831]	[1.7739]	[0.3999]
PDS(-1)	-0.02933	-0.12733	-0.23097	-0.09720	0.04394	-0.5910
	(0.1431)	(0.0486)	(0.0662)	(0.1593)	(1.1499)	(0.1672)
	[-0.2048]	[-2.6184]	[-3.4883]	[-0.6100]	[0.0382]	[-3.5349]
PDS(-2)	-0.05057	-0.05060	-0.10705	-0.02467	-0.18708	-0.1257
	(0.1071)	(0.0364)	(0.0495)	(0.1192)	(0.8608)	(0.1251)
	[-0.4717]	[-1.3899]	[-2.1596]	[-0.2068]	[-0.2173]	[-1.0042]
С	33.1193	21.0810	36.0486	9.64523	48.5406	-18.292
	(25.125)	(8.5329)	(11.618)	(27.960)	(201.77)	(29.338)
	[1.3181]	[2.4705]	[3.1027]	[0.3449]	[0.2405]	[-0.6234]

Source: Extract from estimation output using E-views10

Figure 4.1 Result of VAR Stability Condition Check



Source: Extract from estimation output using E-views10

To investigate causal relationships, this study utilizes the VAR Granger causality/Block Exogeneity Wald test. The test results, presented in Table 4.3, provide insights into the directional influences between variables.

Table 4.3(a				Table 4.3(b			
Dependent	variable: RGDP			Dependent variable: TGE			
Excluded	Chi-sq	Df	Prob.	Excluded	Chi-sq	Df	Prob.
TGE	9.12763	2	0.010	RGDP	0.49586	2	0.780
TGR	2.24143	2	0.326	TGR	8.99493	2	0.011
INF	2.88665	2	0.236	INF	4.75025	2	0.093
BDF	4.48403	2	0.106	BDF	4.25643	2	0.119
PDS	0.22404	2	0.894	PDS	7.09097	2	0.028
All	14.1422	10	0.166	All	24.1264	10	0.007

Table 4.3 VAR Granger Causality/Block Exogeneity Wald Test Results

Source: Extract from estimation output using E-views10

Tables 4.3(a) and 4.3(b) present the causality tests as performed using the VAR Granger Causality approach/Block Exogeneity Wald test.

The empirical results unequivocally indicate a statistically significant unidirectional Granger causality between Total Government Expenditure (TGE) and Real Gross Domestic Product (RGDP) at the 5% level of significance. Specifically, the findings reveal that TGE Granger-causes RGDP, whereas RGDP does not exert a Granger-causal influence on TGE, throughout the period examined in this study. Thus the findings imply that TGE serves as a predictor of RGDP, underscoring the potential efficacy of public expenditure in driving economic growth.

These findings are in line with the study's findings of Ike and Nwogugu (2020) that used the Granger causality test and found that public expenditure had a unidirectional effect on economic growth in Nigeria, and contradict the study's findings of Olalekan and Olufemi (2022) who found bidirectional relationship between public expenditure and economic growth in Nigeria.

4.5 Impulse Response Function

This study utilizes IRFs to examine the responsiveness of Real Gross Domestic Product (RGDP) and Total Government Expenditure (TGE) to shocks in themselves and other variables, adopting a generalized ordering over a 9-year horizon.

The analysis is structured into three temporal categories:

i. Short-term: 1-3 years

ii. Medium-term: 4-6 years

iii. Long-term: 7-9 years

Focus is placed on the responses at the terminal periods of each category, providing a comprehensive understanding of the dynamic interactions between RGDP and TGE. This analytical framework is similarly applied to the subsequent variance decomposition analysis.

Table 4.4(a) reveals intriguing dynamics in the responses of Real Gross Domestic Product (RGDP) to shocks in itself and Total Government Expenditure (TGE). Notably: RGDP exhibits a nonlinear response to its own shocks, characterized by negative responses in the short and long terms; and a positive response in the medium term. Similarly, TGE shocks elicit identical responses from RGDP: Negative impacts in the short and long terms and a positive impact in the medium term.

These findings are consistent with the studies by Ajayi and Ojeka (2020) and Ogbonna and Ebimobowei (2021), which also reported negative outcomes , whereas they diverge from the positive results obtained by Jalil and Ma (2021), Chandran, Ramasamy, and Khor (2020), Pereira and Andraz (2022), Abutu and Agbede (2015), Ike and Nwogugu (2020), Olalekan and Olufemi (2022), and Ogunbiyi (2023) and contrast with the ambiguous results of Ogundipe and Ojeaga (2015), and Alimi and Bakare (2018)

Period	RGDP	TGE	TGR	INF	BDF	PDS
Short Term	-7.1854	-14.221	11.702	-10.782	-10.489	-11.403
Medium Term	2.6743	0.2589	-1.8828	0.0425	1.4219	1.3277
Long Term	-1.8793	-0.3092	-0.003	0.4843	-1.7553	-0.5302

Table 4.4(a) Response of RGDP

Source: Extract from estimation output using E-views10

According to Table 4.4(b), the impulse response analysis reveals that Total Government Expenditure (TGE) responds positively to its own shocks across all three periods, indicating persistence and autonomy. Conversely, shocks to Real Gross Domestic Product (RGDP) elicit varied responses from TGE:

- i. Negative responses in the short and medium terms, suggesting countercyclical behavior or crowding-out effects.
- ii. A positive response in the long term, indicating potential synergies or complementarities between government spending and economic growth. This nuanced dynamic underscores the complex interplay between government expenditure and economic growth.

Table 4.4(b) Response of TGE

Period	RGDP	TGE	TGR	INF	BDF	PDS
Short Term	-7.3201	4.2748	-2.7747	3.3170	-7.404	-1.0797
Medium Term	-1.1376	0.2114	0.5470	0.8791	0.8359	-0.6328
Long Term	0.2639	0.1263	0.1491	0.2622	-0.0109	0.0679

Source: Extract from estimation output using E-views10

4.6 Variance Decomposition Analysis

The variance decomposition analysis in Table 4.5(a) reveals that Real Gross Domestic Product (RGDP) is primarily driven by its own internal factors, accounting for over 73.77% of its variation in the short term, 70% in the medium term, and 70.06% in the long term. Total Government Expenditure (TGE) contributes a moderate 15.19% in the short

term, 15.78% in the medium term, and 15.94 in the long term. These results are in line with the study's results conducted by Olalekan and Olufemi (2022).

These findings suggest that RGDP's fluctuations are largely self-driven, with TGE exerting a relatively consistent and moderate influence across all time horizons.

Table 4.5(a) Variance Decomposition of RGDP

Period	RGDP	TGE	TGR	INF	BDF	PDS
Short Term	73.775	15.187	4.0899	1.8171	3.7876	1.3425
Medium Term	70.246	15.781	4.9946	2.3130	4.5071	2.1567
Long Term	70.055	15.938	4.9800	2.3160	4.5313	2.1784

Source: Extract from estimation output using E-views10

The variance decomposition analysis in Table 4.5(b) indicates that Total Government Expenditure (TGE) primarily drives its own variation across all time horizons.

Specifically, in the short term, TGE accounts for 59.84% of its own variation, with Real Gross Domestic Product (RGDP) contributing 4.49%. In the medium and long terms, TGE consistently explains over 57.61% of its own variation, while RGDP's influence remains relatively stable at 4.84% and 4.85%, respectively. These findings support the conclusions drawn by study conducted by Olalekan and Olufemi (2022) that public spending positively affected growth, and increased economic growth, in turn, led to higher government spending; indicating a dynamic and interactive relationship between the two variables.

This analysis underscores TGE's inherent dynamics, with its own variations primarily driven by internal factors rather than external influences like RGDP. The relative stability of RGDP's contribution across medium and long terms suggests a persistent, albeit limited, impact on TGE.

 Table 4.5(b) Variance Decomposition of TGE

Period	RGDP	TGE	TGR	INF	BDF	PDS
Short Term	4.4899	59.836	8.1222	6.5263	11.150	9.8740
Medium Term	4.8376	57.665	8.5122	8.2507	11.176	9.5581
Long Term	4.8533	57.614	8.5162	8.2598	11.209	9.5472

Source: Extract from estimation output using E-views10

4.7 Results Discussion/Policy Implications

The empirical evidence from the VAR Granger causality test confirms a unidirectional causality from TGE to RGDP, aligning with Keynesian theoretical postulates (Keynes, 1936). This outcome highlights the critical role of government expenditure in stimulating economic expansion and underscores its potential as a viable policy lever for promoting economic growth in Nigeria. This triggers a multiplier effect in the country. The empirical findings from the impulse response function suggest that the impact of Total Government Expenditure (TGE) on Real Gross Domestic Product (RGDP) varies across time horizons. While TGE shocks yield positive effects in the medium term, they induce negative responses in the short and long terms.

This phenomenon may be ascribed to the crowding-out effect of public expenditure on private sector investment, as well as the inefficient allocation of public resources towards non-productive sectors in Nigeria. The empirical findings unequivocally indicated that government expenditure, as a key explanatory variable, exerted a profound and statistically significant impact on Nigeria's real GDP throughout the study period. This compelling evidence suggests that public expenditure played a vital role in shaping the country's economic trajectory, underscoring the critical importance of effective fiscal policy management in driving economic growth.

5. Summary

The main objective of this research study is to evaluate the impact of public expenditure on economic growth in Nigeria using time series data from 1980 to 2023. Augmented Dickey-Fuller unit root test indicated that all the variables are stationary at level; that is, they are I (0). This paved way to use unrestricted VAR. The coefficient of VAR estimates showed that the variables were individually statistically significant and insignificant at different lags, and were jointly statistically significant at 5% level of significance. The empirical findings of the Granger Causality results based on unrestricted VAR revealed that, there was a significant unidirectional causal relationship running from TGE to RGDP.

The empirical results of impulse response function revealed that, in the short-term period, RGDP responded negatively to a unit shock of government expenditure, while in the medium term period it responded positively to an innovation of government expenditure. Finally, in the long term period, RGPD showed negative response due to an impulse received government expenditure. from Thus. government expenditure has a negative shortrun and long-run relationship with economic growth. Lastly, the empirical evidences from variance decomposition function indicated that, economic growth was significantly explained by total government expenditure. In other words, government expenditure was the major factor that determined economic growth during the studied period in Nigeria.

5. Conclusion

Based on the result findings of various tests and their discussion so far, the study reaches to the conclusion that public expenditure has significant impact on economic growth in Nigeria. Thus, there is a significant dynamic relationship between public expenditure and economic growth in Nigeria during the study period. It can therefore conclude that, public expenditure remains the essential instrument achieving toward successful economic progress in Nigeria. Based on the findings of this research study, some policy recommendations are offered in relation to Nigeria's fiscal operation as follows:

- i. Considering the inverse relationship between public expenditure and economic growth, government should intensify effort to ensure that resources are properly managed and invested in productive sectors so as to foster rapid economic growth.
- ii. Government should diversify the economy and encourage non-oil exports so as to reduce the over reliance of the economy on crude petroleum exports as the main source of foreign exchange earnings and government revenue.
- iii. Government should curtail some unnecessary expenditure on non-

development activities in order to curb inflation and improve the productive capacity of the economy.

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