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GOVERNMENT EXPENDITURE AND NIGERIA'S ECONOMIC PERFORMANCE: AN AUTOREGRESSIVE DISTRIBUTIVE LAG APPROACH

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Abstract

This study investigates the long run and short run effects of total government expenditure on economic growth in Nigeria using annual data covering the period of 1985 to 2022. The study employs Autoregressive Distributed Lag (ARDL) model to examine the long run relationship existing among the variables. The ARDL long-run bounds test established the existence of long run effects of total government expenditure on economic growth in Nigeria. From the ARDL results, the study reveals that total government expenditure has a negative and statistically significant relationship with economic growth in Nigeria both in the short run and in the long run. This finding deviates from the a priori expectations. Specifically, the ARDL long run model test reveals that total government expenditure has a negative and statistically significant relationship with economic growth in Nigeria. Similarly, the ARDL Short-run bounds test results reveal that in the current time period, total government expenditure has a negative influence on economic growth, while in the one-year lag period, total government expenditure exhibits a positive effect on economic growth. Additionally, the ARDL Short-run results reveal that it will take the speed of about one year for a disequilibrium in the short-run to be corrected in the long-run. The study recommends that government should implement effective fiscal policies that strategically directs

public spendings to the real sector as well as other projects and programs that can collectively stimulate productive activities and promote sustainable economic growth in Nigeria. It also recommends the appropriate timing and adjustments of fiscal policies formulation and implementations that take cognizance of the potential time-lags-effect as well as the contingent factors that will enhance public spending growth impacts.

Keywords: Total Government Expenditure, Economic growth, ARDL model, Co-integration, Error Correction

INTRODUCTION

The relationship between government expenditure and economic growth is a linchpin of economic policy and development strategy, commanding the attention of scholars, policymakers, and economists across the globe. This enduring subject has been at the epicentre of extensive research, sparking debates and discussions within the rich tapestry of economic literature. As nations navigate the complex web of globalization, ardently strive for sustainable development, endeavour to improve the well-being of their citizens, the ramifications of government spending on economic growth have assumed unparalleled significance. Nigeria, a nation blessed with abundant natural resources and a burgeoning population, presents a compelling and instructive case study in the realm of economic dynamics. Over the years, the country has navigated a path marked by noteworthy fluctuations in its economic growth trajectory despite substantial financial investments by the government. This phenomenon warrants careful examination, given its implications, particularly against the backdrop of global economic uncertainties and the pressing imperative to cultivate inclusive and resilient economic development (Abimbola and Afolabi, 2020).

The rich tapestry of Nigeria's economic landscape is woven with the threads of oil, minerals, and a diverse array of natural assets. However, the intricate interplay between these resources and the country's expanding population has introduced complexities into its economic matrix. Despite significant government expenditures aimed at fostering growth and development, Nigeria has grappled with inconsistent economic performance (Ibrahim, 2019). Understanding this scenario becomes crucial in the context of global economic uncertainties. Nigeria's economic fluctuations hold relevance not only for its own prosperity but also in the broader context of the international economic dynamics. The ability to discern the factors contributing to the country's economic shifts provides insights

that can be applied to deal with the challenges in an increasingly interconnected global economy.

Furthermore, the imperative of inclusive and resilient economic development adds another layer of significance to Nigeria's experience. As the nation seeks to address economic disparities and build a robust and sustainable economy, lessons drawn from its successes and challenges can offer valuable insights to policymakers and stakeholders globally. In essence, the Nigerian experience stands as a microcosm reflecting the complexities and opportunities inherent in managing a resource- rich economy amidst a growing population, resonating with broader global concerns and aspirations for inclusive and resilient economic development.

Nigeria's economic narrative is, in many ways, emblematic of the challenges faced by resource-rich nations in translating abundant natural wealth into sustained and diversified economic growth. The volatility in global oil prices, a critical determinant of Nigeria's revenue, has introduced a layer of complexity to the nation's economic landscape. The reliance on oil exports, while bringing in substantial revenue during periods of high oil prices, exposes the economy to external shocks and underscores the need for a diversified and resilient economic base (Alesina and Perotti, 1996).

Compounding these issues is the theoretical and empirical divergence on the impact of government expenditure on output growth. While theories such as Keynesian and Musgrave advocate for the positive impact of government spending, classical economists like Adam Smith and David Ricardo emphasize minimal government intervention to promote long-term economic growth through market forces. Empirical research by scholars such as Al-Yusuf and Couray (2009); Abdullah (2000); Ranjan and Sharma (2008) and Cooray (2009) suggests that increased government spending promotes economic growth, in contrast to researchers like Molefe and Choga (2017), who dispute the assertion that government expenditure acts as an incentive for economic growth.

Examining the available data on the Nigerian economy reveals that the growth rate of government expenditure exhibits a notably active and fluctuating pattern from 1985 to 2021, reaching an apex at an all-time high of 51% in 1993. This peak represents a substantial surge in government spending during that particular year. Intriguingly, however, the output level, as measured by the real GDP, appears to be characterized by sluggish growth during the same period. In certain years, such as 1993, the real GDP even contracted, standing at a notable -2%.

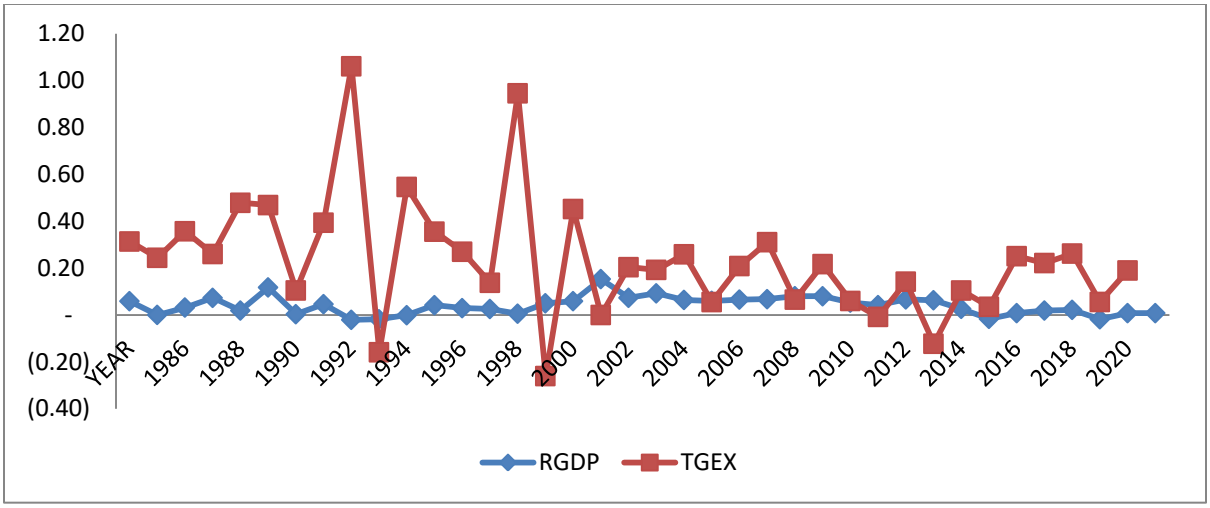

Figure 1: Trends of Government Expenditures and Real GDP Growth Rate in Nigeria (1985-2022)

Source: Author's Computation (Eviews 10) (2022)

Figure 1 reveals the trends of government expenditure and growth rate of real GDP in Nigeria between 1986 and 2020. The graphical trend analysis of government expenditure and GDP revealed a degree of volatility in the growth rate of government spending, while GDP exhibited sluggishness and occasional negative trends in specific years. Notably, the year 1993 stands out with a remarkably high growth rate of government expenditure at 51%, juxtaposed against a negative GDP growth rate of -2% in Nigeria. From Figure 1, it is clearly discernible that despite the volatile nature of government spending over the years, positive correlation with economic growth is not easily noticeable.

The crucial questions therefore arise: Does government spending significantly influence economic performance in Nigeria? Is there really any relationship between government spending and output growth in Nigeria? Are there any long run and short run effects of total government expenditure on economic growth in Nigeria? Therefore, the objective of this study is to investigate the long run and short run effects of total government expenditure on economic growth in Nigeria using annual data covering the period of 1985 to 2022.

This study holds significant relevance for various stakeholders, including policymakers, economists, researchers, and the general public. By aiming to provide valuable insights into the complex relationship between government spending and economic growth in Nigeria, the research addresses a crucial aspect of economic policy making. The findings can guide the formulation of targeted policies, ensuring that public spending is directed effectively to promote sustainable economic growth. Thus, the study becomes crucial in informing relevant authorities

on the appropriate public finance policies to make. Specifically, it will serve as a guide to public officials especially those involved in economic planning and public budgeting processes for optimal resource allocation decisions. Furthermore, the study contributes not only to Nigeria's economic understanding but also adds to the global discourse on the role of government expenditure in emerging economies offering potential lessons and insights applicable to other countries facing similar challenges.

This study is organized into different sections, starting with the introduction, Section two presents the literature review which includes conceptual, theoretical, empirical reviews and the evaluation of literature reviewed. Section three presents the methodology and model specification. While section four deals with data presentation and discussion of findings. Section five presents the summary of the findings, conclusions and recommendations of the study.

LITERATURE REVIEW

Conceptual Framework

Total Government Expenditure

Total government expenditure refers to the sum of all spending by the government on goods, services, and public sector activities. It includes both capital and recurrent expenditures, aimed at promoting economic growth, social welfare, infrastructure development, and national security. Total government expenditure is critical in shaping fiscal policy and stimulating or stabilizing the economy.

Gross Domestic Product (GDP)

According to Nakamura and Steinsson (2014), GDP is one of the most widely used indicators to measure the economic performance of a country. It represents the total monetary value of all goods and services produced within a country's borders within a specific time period, typically annually or quarterly. GDP is a crucial metric for policymakers, economists, investors, and businesses as it provides insights into the overall health and size of an economy. Below are three types of GDP:

a) Nominal GDP: It measures the value of goods and services produced in a country using current prices. It does not account for inflation.

b) Real GDP: It adjusts nominal GDP for changes in price levels (inflation or deflation), providing a more accurate measure of economic output over time.

c) GDP per capita: This metric divides GDP by the total population of a country, providing a measure of average economic output per person. It's useful for comparing living standards between countries.

Economic growth

Economic growth, as defined by Dwivedi (2004), is a sustained, long-term increase in net national product or per capita national output. This implies that the overall output of goods and services must consistently outpace population growth. Another perspective on economic growth emphasizes the importance of producing goods and services that cater to the needs of a larger population. The quantitative aspect of economic growth involves a measurable increase in the monetary value of goods and services produced within an economy over a specified period. This is typically assessed through a percentage change in either the gross domestic product (GDP) or gross national product (GNP), as outlined by Dwivedi (2004). Such growth is indicative of an expanding and thriving economy that is effectively meeting the needs of its populace while surpassing demographic trends.

Theoretical Framework

There are diverse theories in the literature on the government spending-output growth nexus. These include: Keynesian, Neoclassical, Wagner's Theory and the Endogenous Growth Theory.

Keynesian Theory of Government Expenditure and Economic Growth

John Maynard Keynes, the British economist, developed this theory in response to the Great Depression of the 1930s. He sought to address the shortcomings of classical economics, which believed in the self-adjusting nature of markets. Keynes believed that in times of crisis, relying solely on the private sector to correct economic imbalances would lead to prolonged periods of high unemployment and low economic activity (Akpan, 2005). Keynesian theory holds that during times of economic downturns government expenditure should be increased to stimulate economic growth. Keynesian theory recognizes the use of government spendings and taxation as effective tools for managing and stabilizing the economy in times of crisis.

Neoclassical theory of Government Expenditure and Economic Growth

The neoclassical theory has roots dating back to the late 19th century, but it gained prominence in the mid-20th century. Prominent economists associated with neoclassical thought include Milton Friedman and Friedrich Hayek. Neoclassical economics emerged as a response to perceived limitations in classical economics, focusing on value, distribution, and utility. Scholars like Jevons, Menger, and Walras aimed to develop a more rigorous economic analysis. The neoclassical theory holds that government expenditure should be limited given that markets are efficient and self-regulating. They argue that the role of government in the

economy should be minimal and limited to preserving property rights, enforcing contracts, and maintaining a stable monetary system. They believe that excessive government spending can crowd out private investment and hinder economic growth.

Wagner's Theory of Government Expenditure and Economic Growth

Wagner's theory also known as Wagner's law is named after Adolph Wagner, a German economist who proposed his ideas in the mid-19th century, with further development in the late 19th and early 20th centuries. Wagner's theory was formulated to explain the historical trend of increasing government involvement in economies undergoing industrialization and economic development. Wagner sought to understand why governments tend to grow in size and scope as societies become more prosperous (Niskanen, 1971). Wagner's theory holds that government expenditure tends to increase as a country's economy grows. This theory suggests that as incomes rise, people demand more government services and social welfare programs, leading to an increase in government spending. In other words, economic growth drives an expansion of the government sector (Wagner, 1883).

Endogenous Growth Theory of Government Expenditure and Economic Growth

Endogenous growth theory, developed in the late 20th century, primarily by Paul Romer in 1986, represents a significant departure from traditional neoclassical growth theory. According to Muguro (2017), endogenous growth theory was formulated as a response to the limitations of traditional neoclassical growth theory. Neoclassical theory struggled to explain sustained economic growth and technological progress. It assumed that growth depended on exogenous factors and diminishing returns to capital, which implied that economies would eventually converge to a steady state with no further growth. Endogenous growth theory sought to address these limitations by highlighting the importance of internal factors and the potential for perpetual economic growth through investments in knowledge, innovations and human capital. Unlike the older neoclassical theory, which suggested that economic growth would naturally slow down over time as economies reached a steady state, endogenous growth theory argues that economies can sustain long-term growth by investing in education, research and development, and innovation (Olugbenga and Owoye, 2007).

Review of Empirical Literature

Barro (1990) analysed the relationship between government spending and economic growth in a cross-country context. Data was collected from various countries between 1970 and 1987. The methodology employed was a panel data analysis using fixed-effects models. The

study found a positive relationship between total government expenditure and economic growth across countries. Barro recommended that governments prioritize productive spending and avoid excessive borrowing to sustain economic growth. Also, Karras (1993) ascertained the relationship between government spending and economic growth in OECD countries. Data was collected between 1970 and 1990. The methodology employed was a time-series analysis using cointegration and error correction models. The study found a positive relationship between total government expenditure and economic growth in OECD countries. Karras recommended that governments focus on reducing wasteful spending and adopt policies that promote private sector development to stimulate economic growth.

Tanzi and Zee (2000) study examined the relationship between government spending and economic growth in a sample of OECD countries. Data was collected between 1970 and 1995. The methodology employed was a panel data analysis using fixed-effects models. The study found a positive relationship between total government expenditure and economic growth in OECD countries. Tanzi and Zee recommended that governments prioritize spending on infrastructure, education, and healthcare to enhance long-term economic growth. Also, Khan and Senhadji (2001) investigated the impact of government spending on economic growth in developing countries. Data was collected from a sample of developing countries between 1970 and 1997. The methodology employed was a panel data analysis using dynamic heterogeneous panel techniques. The study found a positive relationship between total government expenditure and economic growth in developing countries. Khan and Senhadji recommended that governments focus on efficient allocation of resources and invest in infrastructure and human capital to promote sustainable economic growth.

Fatai, Oxley and Scrimgeour (2004) investigated the causal relationship between government expenditures and economic growth in Nigeria. Data was collected between 1970 and 2002 in Nigeria. The methodology employed was the Granger causality test and the Vector Error Correction Model (VECM). The study found bidirectional causality between government expenditures and economic growth in Nigeria, suggesting a feedback mechanism between the two variables. Fatai, Oxley, and Scrimgeour recommended that policymakers consider the dynamic relationship between government expenditures and economic growth when formulating fiscal policies. Alternatively, Afonso and Furceri (2010) analysed the impact of government spending on economic growth in European Union countries. Data was collected from European Union countries between 1970 and 2005. The methodology employed was a panel data analysis using dynamic panel techniques. The study found a positive relationship between total government expenditure and economic growth in European Union countries. The study

recommended that governments improve the efficiency of public spending and implement structural reforms to boost economic growth.

Fatai *et al.* (2010) examined the impact of government expenditure on economic growth in Nigeria. Data was collected between 1970 and 2008 in Nigeria. The methodology employed was the Autoregressive Distributed Lag (ARDL) approach. The study found a negative relationship between total government expenditure and economic growth in Nigeria. They recommended that the government should focus on reducing recurrent expenditure, streamline bureaucracy, and enhance the effectiveness of public spending to foster economic growth. Moreso, Owoye (2015) ascertained the relationship between total government expenditure and economic growth in Nigeria between 1970 and 2012. The methodology employed was a time series analysis using Vector Error Correction Model (VECM). The study found a negative relationship between total government expenditure and economic growth in Nigeria. Owoye recommended that the government should prioritize fiscal discipline, reduce wasteful spending, and improve the efficiency of public expenditure to stimulate economic growth.

Alimi and Muse (2016) assessed the relationship between government expenditure and economic growth in Nigeria between 1970 and 2014. The methodology employed was the Granger causality test and the Autoregressive Distributed Lag (ARDL) bounds testing approach. The study found a negative and significant relationship between total government expenditure and economic growth in Nigeria. They recommended that the government should pursue policies aimed at reducing the size of government, promoting fiscal discipline, and enhancing the efficiency of public expenditure to stimulate economic growth. Further, Aluko (2016) examined the impact of government expenditure on economic growth in Nigeria between 1970 and 2014. The methodology employed was the Ordinary Least Squares (OLS) regression analysis. The study found a positive relationship between total government expenditure and economic growth in Nigeria. Aluko recommended that the government should prioritize investment in productive sectors and adopt prudent fiscal management practices to ensure sustainable economic growth.

Asongu and Nwachukwu (2016) assessed the causal relationship between government expenditures and economic growth in Nigeria. Data was collected between 1970 and 2014 in Nigeria. The methodology employed was the Granger causality test and the Autoregressive Distributed Lag (ARDL) approach. The study found bidirectional causality between government expenditures and economic growth in Nigeria, indicating a feedback relationship between the two variables. Asongu and Nwachukwu recommended that policymakers prioritize investment in sectors that have a significant impact on economic growth and implement policies to improve the efficiency of public spending. Also, Adebiyi (2017) examined the relationship between total

government expenditure and economic growth in Nigeria. Data was collected between 1970 and 2015 in Nigeria. The methodology employed was a time series analysis using Vector Error Correction Model (VECM). The major finding of the study was a positive relationship between total government expenditure and economic growth in Nigeria. Adebiyi recommended that the government should increase investment in sectors that directly contribute to economic growth, such as infrastructure and education.

Falusi (2017) ascertained the relationship between government expenditure and economic growth in Nigeria between 1970 and 2015. The methodology employed was the Johansen cointegration technique and the Error Correction Model (ECM). The study revealed a negative relationship between total government expenditure and economic growth in Nigeria. The study suggested that the government should adopt fiscal policies that prioritize investment in productive sectors and promote private sector-led growth to improve economic performance. Furthermore, Yusuf (2017) analysed the short-term effects of government expenditure on economic growth in Nigeria using OLS regression, covering the period from 1995 to 2015. The study employed Ordinary least squares (OLS) as the methodology. The study found a statistically significant positive relationship between government expenditure and short-term economic growth in Nigeria, indicating that increases in government spending have an immediate impact on stimulating economic activity. The study recommended that policymakers should consider implementing counter cyclical fiscal policies during periods of economic downturns to stimulate aggregate demand and mitigate the effects of recessions.

Adebayo and Olofin (2018) analysed the impact of government expenditure on economic growthin Nigeria. Data was collected between 1970 and 2016 in Nigeria. The methodology employed was the Ordinary Least Squares (OLS) regression analysis. The study found a negative relationship between total government expenditure and economic growth in Nigeria. The study recommended that the government should focus on reducing recurrent expenditure, improving budget implementation, and enhancing transparency and accountability in public spending to spur economic growth. In addition, Adesoye and Maku (2018) analysed the causal relationship between government expenditures and economic growth in Nigeria. Data was collected between 1970 and 2016 in Nigeria. The methodology employed was the Granger causality test and the Vector Error Correction Model (VECM). The study found evidence of bidirectional causality between government expenditures and economic growth in Nigeria, suggesting a feedback relationship between the two variables. The study recommended that policymakers focus on improving the efficiency and effectiveness of government spending to enhance its contribution to economic growth.

Doe (2018) investigated the relationship between government expenditure and economic growth in Nigeria, focusing on the period from 1990 to 2016. The methodology employed was the Two- stage least squares. The study found a positive relationship between government expenditure and economic growth in Nigeria, indicating that increases in government spending tend to stimulate economic growth. The findings suggest that policymakers should consider increasing government expenditure strategically to foster economic growth, while also ensuring fiscal discipline and efficiency in spending. Moreso, Ogundipe and Olayiwola (2018) analysed the relationship between government expenditure and economic growth in Nigeria. Data was collected between 1970 and 2016 in Nigeria. The methodology employed was the Johansen cointegration technique and the Error Correction Model (ECM). The study revealed a positive and significant relationship between total government expenditure and economic growth in Nigeria. Ogundipe and Olayiwola suggested that the government should focus on efficient allocation and utilization of resources to maximize the impact of government expenditure on economic growth.

Ajie and Nwude (2019) determined the impact of government expenditure on economic growth in Nigeria. Data was collected between 1970 and 2017 in Nigeria. The methodology employed was the Autoregressive Distributed Lag (ARDL) approach. The study found a positive relationship between total government expenditure and economic growth in Nigeria. Ajie and Nwude recommended that the government should prioritize expenditure on sectors that promote long-term economic development, such as education, healthcare, and infrastructure. Moving on, Ibrahim (2019) investigated the dynamic interactions between government expenditure and economic growth in Nigeria using VAR analysis, covering the period from 2005 to 2017. The study employed Vector autoregressive model (VAR) s the methodology. The study identified bi-directional causality between government expenditure and economic growth in Nigeria, suggesting that changes in government spending influence economic growth and vice versa. The study recommended that policymakers should adopt a balanced approach to fiscal policy, considering both short-term stimulus measures and long-term fiscal sustainability objectives to promote inclusive and sustainable economic growth.

Smith (2020) examined the dynamic relationship between government expenditure and economic growth in Nigeria using VECM, covering the period from 2000 to 2018. The methodology employed was Vector error correction model (VECM). The study revealed a long-run equilibrium relationship between government expenditure and economic growth in Nigeria, indicating a stable and sustainable impact of government spending on economic activity. The study further recommendations that policymakers should focus on formulating robust fiscal policies that prioritize productive government expenditure, such as investments in infrastructure

and human capital, to enhance long- term economic growth prospects. Furthermore, Olalere and Akinbobola (2021) investigated the relationship between government expenditure and economic growth in Nigeria between 1970 and 2020. The methodology employed was the Granger causality test and the Autoregressive Distributed Lag (ARDL) bounds testing approach. The study found a positive and significant relationship between total government expenditure and economic growth in Nigeria. Olalere and Akinbobola recommended that the government should enhance the efficiency of public spending, strengthen institutional capacity for fiscal management, and promote transparency and accountability in the allocation of resources to foster sustainable economic growth.

RESEARCH METHODOLOGY

Research Design

The research design adopted for this study is the ex-post facto design. This design is suitable for investigations or evaluations conducted retrospectively, utilizing existing information from past events. It is particularly apt for after-the-fact research scenarios where data analysis is based on historical information.

Nature and Sources of Data

Data used for this study are annual time series data covering the period 1985 to 2022. However, access to and collection of relevant data was a major limitation of the study. All data were obtained from sources such as the Central Bank of Nigeria (CBN) Statistical Bulletin (various issues), World Bank and World Development Indicators (WDI) and World Bank national accounts data.

Model specification

The underlying theories of this study are both the Keynesian theory, Wagner's theory and the endogenous growth theory given their theoretical relevance to this study. The basic mathematical equation for the endogenous growth model can be represented as:

$Y = AK\alpha * L^{1-\alpha}$ ……(1)

Where, Y = Output; A = Total factor productivity, representing technological progress and efficiency in resources used. K = Physical capital L = Labour input; α = Output elasticity of capital, indicating the share of output attributed to physical capital.

Based on the objective of this study, we modify equation 1 to capture other variables other than capital and labour. Thus, we specify a model wherein economic growth is expressed as a function of total government expenditure, nominal exchange rate, interest rate, lending

rate, labour participation rate and gross fixed capital formation. Thus, the model for this study is formulated and stated in equation 2 as follows:

RGDP = f (TGEX, EXR, INF, LRTINT, LABFR, GFCF) ……..…..(2)

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Equation 2 can be restated in the econometric form as in equation 3:

$RGDP_t = \alpha + \beta 1TGEXt + \beta 2EXRt + \beta 3INFt + \beta 4LRTINTt + \beta 5LABFRt + \beta 6GFCFt + \mu t_t$

……..……...(3)

Where:

RGDP = Real Gross Domestic Product

TGEX = Total Government Expenditure

EXR = Nominal Exchange rate

INF = Inflation rate

LRTINT = Lending rate of interest

LABFR = Labour force participation rate

GFCF = Gross fixed capital formation (% of GDP)

α = Constant Parameter

μt_t = Error term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ and β_7, = Represent the coefficients of the explanatory variables.

A priori expectations: The figures in parenthesis in equation 2 represents a priori expectation about the signs of the coefficients.

Analytical Techniques

The techniques of data analysis adopted for the study are based on the objective of the study. To examine the long and the short run linkage effects of government recurrent and capital expenditures on economic growth in Nigeria, the study adopted the ARDL model and Bounds test. To perform the bounds test for cointegration, the conditional ARDL model for Equation 3 with their respective variables is specified in equation 5.

The ARDL Model

This test for co-integration was developed by Pesaran *et al.* (2001). ARDL co-integration Technique is preferable when dealing with variables that are integrated of mixed order between I(0) and I(1) and, robust when there is a single long run relationship between the underlying variables in a small sample. The ARDL method does not require the unit root test of stationarity, but to avoid ARDL model crash in the presence of variables that are stationary at second

difference, the unit root test will be carried out to determine the number of unit root in series of co-integration. The long run relationship of the underlying variables is detected through the F-statistic (Wald test). In this approach, long run relationship of the series is said to be established when the F-statistic exceeds the critical value bond (Nkoro and Uko, 2016). To ascertain the cointegration between the variables, equation 3 will therefore be expressed in the general ARDL model developed by Peasran et al, (2001). The generalized ARDL (p,q) model is specified as in equation 4.

$$Y_t = \alpha_{0j} + \sum_{i=1}^{p} \delta Y_{t-1} + \sum_{j=1}^{q} \beta X_{t-1} + \varepsilon_j \quad \text{.....(4)}$$

Where; Y_t is a vector and the variable in X_t are allowed to be purely I(0) or I(1) or cointegrated; β and δ are coefficients; α_0 is the constant; j=1,...,k;p,q are optimal lag order; ε_j is the vector of the error terms.

The Autoregressive distributed lag (ARDL) model for this study is written as in the equation 5:

$$\begin{aligned}\Delta RGDP_t = {} & \propto_0 + \alpha_1 RGDP_{t-1} + \alpha_2 TGEX_{t-1} + \alpha_3 EXR_{t-1} + \alpha_4 LRTINT_{t-1} + \alpha_5 \boldsymbol{LABFR}_{t-1} \\ & + \alpha_6 \boldsymbol{GFCF}_{t-1} + \alpha_7 INF_{t-1} + \sum_{i=1}^{n} \beta_1 \Delta RGDP_{t-i} + \sum_{i=1}^{n} \beta_2 \Delta TGEX_{t-1} + \sum_{i=1}^{n} \beta_3 \Delta EXR_{t-1} \\ & + \sum_{i=1}^{n} \beta_4 \Delta LRTINT_{t-1} + \sum_{i=1}^{n} \beta_5 \Delta \boldsymbol{LABFR}_{t-1} + \sum_{i=1}^{n} \beta_6 \Delta \boldsymbol{GFCF}_{t-1} + \sum_{i=1}^{n} \beta_7 \Delta INF_{t-1} \\ & + \mu_t\end{aligned}$$

Where; $\beta_0 - \beta_9$ are short-run elasticities, $\alpha_0 - \alpha_9$ are long-run elasticities, ECM_{t-1} is one lag of error correction term, λ is the speed of adjustment parameter with a negative sign, Δ is first difference, μ_t is white noise, β_0 is constant term.

If the computed F-test exceeds the upper critical bounds value, then H0 is rejected signaling co-integration amongst the different variables. If the computed F-value is below the critical bound, we fail to reject H0. But if the computed F-value falls within the critical value bound, the result is inconclusive. If these series are found to be co-integrated, an unrestricted error correction version of the corresponding ARDL model can be estimated to trace the short-term dynamics of the model. The reparametrized result gives the short-run dynamics and long run relationship of the underlying variables.

Error Correction Model

The error correction model (ECM) is used to detect the short-term and long-term dynamics of a variable around its stationary equilibrium value. For an adjustment in the short-run distortions, error correction requires that the sign of the coefficient of the residual is negative and statistically significant. The greater the absolute value of the ECM coefficient, the more quickly the model fine-tunes to achieve long-run equilibrium. Based on Equation 5, the short-run connections may be stated as an ARDL ECM. Thus, if there is cointegration, the error correction model (ECM) for equation 5 is specified in equation 6.

$$\Delta RGDP_t = \propto_o + \sum_{i=1}^{n} \beta_1 \Delta RGDP_{t-i} + \sum_{i=1}^{n} \beta_2 \Delta TGEX_{t-1} + \sum_{i=1}^{n} \beta_3 \Delta EXR_{t-1} + \sum_{i=1}^{n} \beta_4 \Delta LRTINT_{t-1} + \sum_{i=1}^{n} \beta_5 \Delta \boldsymbol{LABFR}_{t-1} + \sum_{i=1}^{n} \beta_6 \Delta \boldsymbol{GFCF}_{t-1} + \sum_{i=1}^{n} \beta_7 \Delta INF_{t-1} + \lambda ECMt - 1 + \mu_t$$

……(6)

Where; $\beta_0 - \beta_8$ are short-run elasticities, $\alpha_0 - \alpha_5$ are long-run elasticities, ECM_{t-1} is one lag of error correction term, λ is the speed of adjustment parameter with a negative sign, Δ is first difference, μ_t is white noise, β_0 is constant term.

Diagnostic Tests

Pre-estimation tests

Unit Root Test

The unit root test is involved with the testing for the order of integration of each variable. A series is said to be integrated of order I(1) if it needs to be differenced once to become stationary. The same holds for an I(2) series which will need to be differenced twice to become stationary. Thus a stationary series is integrated of order zero I(0) (i.e, no differencing is necessary). The study will employ the Augmented Dickey-Fuller (ADF) and the Philips-Perron (PP) unit root tests to determine the order of integration of each series.

Post-estimation tests

a) Breusch-Godfrey test is a statistical test that checks for the presence of serial correlation or autocorrelation in the residuals of a regression model. In other words, it determines if there is a pattern in the residuals that can be explained by previous residuals or errors.

b) The Breusch-Pagan-Godfrey test is a statistical test used to determine whether there is heteroscedasticity in a regression model. The test involves regressing the squared residuals from a linear regression model on the independent variables in the original model. The resulting regression model is then used to calculate a test statistic, which is compared to a chi-square

distribution to determine the p-value. In summary, if the p-value is less than 0.05, it indicates that there is evidence of heteroscedasticity in the data, and the regression results should be interpreted with caution. If the p-value is greater than 0.05, there is no evidence of heteroscedasticity, and the regression results are considered reliable.

c) The Jarque-Bera test is a statistical test used to determine whether a given dataset has a normal distribution. The test calculates a test statistic, which is compared to a critical value from a chi-squared distribution with two degrees of freedom. If the test statistic is larger than the critical value, then the null hypothesis of normality is rejected. If the null hypothesis is rejected, it means that the data does not have a normal distribution. However, if the null hypothesis is not rejected, it does not necessarily mean that the data is normally distributed, as the test is not very sensitive to departures from normality when the sample size is small.

ANALYSIS AND DISCUSSION OF FINDINGS

Descriptive Statistics

The study conducted descriptive statistics as presented in Table 1 to provide a summary of the data used and it helps in understanding its characteristics. Descriptive statistics is important because it provides a concise summary of the main features of a dataset; allows for a preliminary exploration of the data; helps identify data errors, inconsistencies, or missing values and creates a visual representation of data making it easier to understand patterns, and distributions.

Table 1: Descriptive Statistics of all Variables

	RGDP	TGEX	EXR	INF	LRTINT	LABFR	GFCF
Mean	4.2324	0.2344	119.6966	19.1135	18.2819	6.2622	0.1510
Median	4.2000	0.2171	120.5780	12.5000	17.6000	1.1801	0.1300
Maximum	15.300	1.0607	401.1520	72.8000	31.6000	167.6667	0.3700
Minimum	2.0000	0.2602	0.8940	5.4000	9.43000	0.0472	0.1400
Skewness	0.4638	1.1774	0.8820	1.7737	0.5904	5.7793	-0.2954
Kurtosis	3.3947	5.5833	3.0451	4.8390	4.5174	34.6119	3.0480
Jarque-Bera	1.5666	18.837	2.8011	24.616	3.6995	1746.581	0.5419
Probability	0.4568	0.0001	0.2906	0.0005	0.2578	0.0000	0.7626
Observations	37	37	37	37	37	37	37

Source: Author's Computation (Eviews 10)

The descriptive statistics for each of the variables used in this study is presented in Table 1, have a total of 36 observations for each of our variables. From the summary statistics

presented, it is evident that each of the variables has a positive mean value with exchange rate the highest mean, median and maximum while gross fixed capital formation has the lowest mean, median and minimum values respectively in absolute terms. The Jarque-Bera test is used to assess if a given data set has a normal distribution. From the result in Table 1, it can be seen that real GDP, nominal exchange rate, lending rate and gross fixed capital formation are normally distributed because their probability values are greater than 0.05, while total government expenditure, inflation rate and labour force are not normally distributed because their probability values of 0.00 is less than 0.05.

Correlation Matrix

The study conducted a correlation matrix which is a useful statistical analysis technique that provides insights into the relationships between multiple variables in a dataset. Some of the reasons for running a correlation matrix are that it helps to identify the strength and direction of relationships between variables; assists in variable selection by identifying highly correlated variables and provides valuable insights for decision-making and policy formulation (Table 2).

Table 2: Correlation Matrix of All Variables

	RGDP	TGEX	EXR	INF	LRTINT	LABFR	GFCF
RGDP	1	-0.2052	-0.1007	-0.3223	0.1284	-0.0837	-0.1973
TGEX	-0.2052	1	-0.2960	0.3504	0.3785	-0.0861	0.1578
EXR	-0.1007	-0.2960	1	-0.3486	-0.3326	0.1260	0.0415
INF	-0.3223	0.3504	-0.3486	1	0.4266	-0.1111	0.5150
LRTINT	0.1284	0.3785	-0.3326	0.4266	1	-0.0737	0.3067
LABFR	-0.0837	-0.0861	0.1260	-0.1111	-0.0737	1	-0.1451
GFCF	-0.1973	0.1578	0.0415	0.5150	0.3067	-0.1451	1

Source: Author's Computation (Eviews 10)

Table 2 depicts the correlation matrix for our variables in the model. However, there is no correlation coefficient that exceeds or is even close to 0.70 in absolute terms. For this reason, in our model, there is no problem of multicollinearity which enhances the reliability for regression analysis.

Unit Root Test Results

The variables in the models were subjected to unit root tests to determine the stationarity of the variables. The test was carried out at levels and first differences of the chosen variables

and was performed assuming intercept and trend in ADF and PP specifications. The null hypothesis states that each of the variables has unit root, that is, each is non-stationary whereas the alternative hypothesis states that each variable does not have unit root, that is, each variable is stationary. The unit root test result is contained in Table 3.

Table 3: ADF and PP Unit Root Test Result for all variables

Variable	ADF t- Statistic	Order of Integration	Variable	PP t- Statistics	Order of Integration
RGDP	-4.0761	I(1)	GDPR	-4.0761	I(1)
TGEX	-6.6727	I(1)	TGEX	-6.6727	I(1)
EXR	-5.8988	I(1)	EXR	-5.8988	I(1)
INF	-5.2045	I(1)	INF	-5.2045	I(1)
LRINT	-4.9156	I(0)	LRINT	-4.9156	I(0)
LABFR	-5.5810	I(0)	LABFR	-5.5810	I(0)
GFCF	-5.5193	I(0)	GFCF	-5.5193	I(0)

Source: Author's Computation (Eviews 10)

The decision rule states that for variable to be stationary at any level, the absolute value of the t- statistic must be higher than the absolute critical value at 5% level of significance. From the result in Table 3, unit root for both (ADF) and (PP) test shows that all the variables used for this study were stationary at level and first difference. Real GDP, total government expenditure, nominal exchange rate and inflation rate are all stationary at first difference, while lending rate, labour force participation rate and gross fixed capital formation are stationary at level. Based on the mixed order of integration between I(0) and I(1) among our variables, this justifies adoption of ARDL techniques to investigate the effect of inflation on economic growth in Nigeria.

Cointegration Test Results

Cointegration among time series variables suggests that series may behave in different ways in the short run but that they will converge towards common equilibrium behaviour in the long run. The ARDL Bounds Test will be used to test for cointegration in the model. The cointegration test result is contained in Table 4. To examine the long and short run linkages between total government expenditure and economic growth in Nigeria, the long run cointegration estimate was conducted and the cointegration test result is contained in Table 4.

Table 4: ARDL Bounds Test Result for Cointegration

Test Statistic	value	Significant Level	Bound Lower I(0)	Bound Upper I(1)
F-Statistic	6.5080			
k	6	10%	2.12	3.23
		5%	2.45	3.61
		1%	3.15	4.43

Source: Author's Computation (Eviews 10)

The co-integration test was conducted to ascertain the long run relationship among the variables after the data have been ascertained to be free from unit root. Table 4 shows the results of the cointegration analysis. It can be seen that the calculated F-statistics value of 6.5080 exceeds the lower bound critical value of 2.45 and upper bound critical value of 3.61 at the 5% level of significance. This means the null hypothesis of no co- integration among the variables is rejected at the 5% level, Affirming the presence of a cointegrating (a long run relationship) relationship between the variables, meaning that total government expenditure (as well as other independent variables in the model) are bound by a long run relationship. Thus, the result is a sufficient condition for fitting ECM. The presence of a long run relationship between total government expenditure and economic growth in Nigeria implies that if fiscal discipline is ensured, total government expenditure can serve as policy tool for boosting economic growth in the long run.

ARDL Test Results

ARDL Long Run Estimates

Given the objective of the study, which is to investigate the long run and short run effects of total government expenditure on economic growth in Nigeria using the ARDL model, the result is presented in Table 5. The ARDL long run model reveals that total government expenditure, nominal exchange rate, interest rates and labour participation rate have statistically significant relationship with economic growth in Nigeria, given their p-values. On the other hand, the signs indicate that total government expenditure has negative relationship with economic growth in Nigeria. This outcome reveals the contemporary realities in the Nigerian economy, as an increase in total governmental expenditure does not translate to output growth in the Nigeria. However, this finding does not conform to the a priori expectation.

A plausible reason is that there is a significant issue of misallocation and inefficiency in spending, with a large portion of funds being directed towards recurrent expenditures

such as salaries and administrative costs rather than productive investments. Additionally, lack of accountability and transparency within the government hinder the effective utilization of funds, leading to wastage and diversion of resources. Moreover, inadequate infrastructure, weak institutions, and policy inconsistencies further impede the transformative impact of government spending on economic growth. Finally, external factors such as global economic downturns and fluctuations in oil prices, a key revenue source for the Nigerian government, also contribute to the challenge of translating increased expenditure into sustainable growth.

Table 5: ARDL Long-Run Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TGEX	-23.18684	5.675877	-4.085155	0.0005
EXR	-0.012496	0.007022	-1.779537	0.0884
INF	-0.061770	0.040129	-1.539281	0.1374
LRTINT	-0.378351	0.169954	-2.226192	0.0361
LABFR	-0.118398	0.037180	-3.184415	0.0041
GFCF	0.702091	5.853921	0.119935	0.9056
EC = GDPR - (-23.1868*TGEX -0.0125*EXR -0.0618*INF -0.3784*LRTINT -0.1184*LABFR + 0.7021*GFCF)				

Source: Author's Computation (Eviews 10)

ARDL Short Run Estimates

Having established the existence of long run effects of total government expenditure on economic growth in Nigeria, we sought to determine the short run influence of total government expenditure on economic growth in Nigeria using the ARDL model. The result is presented in Table 6.

Table 6: ARDL Short-Run Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.535295	0.957382	6.826213	0.0000
D(TGEX)	-7.773753	1.825656	-4.258061	0.0003
D(TGEX(-1))	7.307138	1.708751	4.276303	0.0003
D(LABFR)	-0.038855	0.013680	-2.840186	0.0093
D(LABFR(-1))	0.027748	0.014752	1.880972	0.0727
CointEq(-1)*	-1.067654	0.140872	-7.578899	0.0000

R-squared	0.693208	Akaike info criterion	4.931395
Adjusted R-squared	0.640312	Schwarz criterion	5.198026
S.E. of regression	2.636247	Durbin-Watson stat	1.816020
F-statistic	13.10530	Prob(F-statistic)	0.000001

Source: Author's Computation (Eviews 10)

The ARDL result shows that coefficient of multiple determination R^2 is 0.69, meaning that 69% of the changes in economic growth is accounted for by the independent variables (total government expenditure). The Prob (F-stat) value of (0.000000) shows that the overall relationship in the model is significant, also the Durbin-Watson value of 1.82, implies that our model is free from the problems of serial correlation. The error correction term CointEq (-1) in the model has the expected sign (i.e. negative) and significant at 5% probability level. The slope coefficient of the error correction term -1.07 represents the speed of adjustment and is consistent with the hypothesis of convergence towards the long-run equilibrium. The value indicates that it will take the speed of about one year in the case of disequilibrium in the short-run to be corrected in the long-run, if there exists fiscal discipline championed by adequate implementation and evaluation of fiscal policy.

The ARDL short run model shows that total government expenditure and labour participation rate have statistically significant relationships with economic growth in Nigeria, based on their p- values. On the other hand, the signs indicate that total government expenditure in the current time period has a negative influence on economic growth while in the one-year lag period, total government expenditure is positively related to output growth in Nigeria. This scenario suggests a potential time lag effect in the relationship between total government expenditure and output growth, indicating complex dynamics in the impact of government spending on the economy.

Diagnostic Test Results

Test for autocorrelation

The hypothesis to be tested includes:

H0: there is no autocorrelation

H1: there is autocorrelation

Decision Rule:

Do not reject H0 if the p-value is greater than 0.05, otherwise reject H0 and conclude that there is autocorrelation. Table 7 contains the correlation test result.

Table 7: Breusch-Godfrey Serial Correlation Test Result

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.046862	Prob. F(2,21)	0.1541
Obs*R-squared	5.709807	Prob. Chi-Square(2)	0.2576

Source: Author's Computation (Eviews 10)

From Table 7, the F-Statistic value of 2.0468 > 0.05, therefore we accept the null hypothesis of no autocorrelation and conclude that there is no serial correlation amongst the variables. Also, the Durbin-Watson statistics value of 1.82 also confirms the presence of no serial correlation.

Test for Normality

The classical normal linear regression model assumes that each error term is distributed normally. This study will make use of the Jarque-Bera normality test to find out if the estimated errors are normally distributed. The following hypothesis will be tested:

H_0: The data follows a normal distribution

H_1: The data does not follow a normal distribution

Decision rule:

Reject H0 if the histogram is not bell shaped and the p-value of the Jarque-Bera statistics is significant at 5% level of significance; otherwise, we fail to reject H0. Figure 2 represents the normality test result.

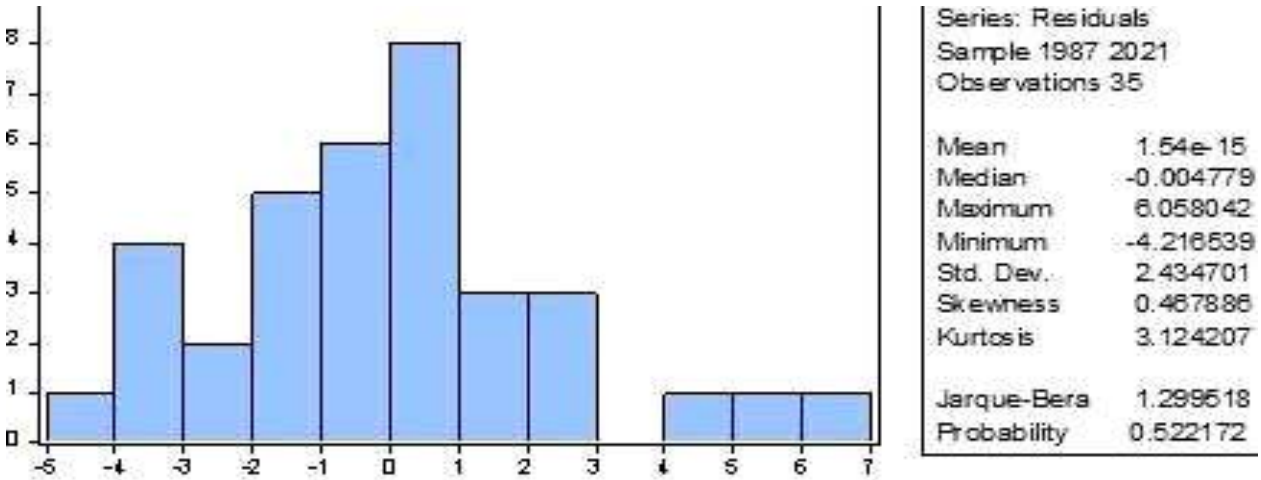

Figure 2: Jarque-Bera Normality Test Result

Source: Author's Computation (EViews10) (2021).

From Figure 2, the histogram is bell shaped with a Jarque-Bera value of 1.29 and p-value of 0.52 which is greater than 0.05. Therefore, we accept the null hypothesis and conclude that the model follows a normal distribution.

Test for Heteroskedasticity

This test is basically focused on the variance of the error term. The test helps to ascertain whether the variance of the error is constant. The hypothesis to be tested include:

H_0: There is no heteroskedasticity

H_1: There is heteroskedasticity

Decision Rule:

Reject H_0 if the p-value of the F-statistic is insignificant (meaning that the p-value is greater than 0.05), otherwise we fail to reject H_0 and conclude that there is no heteroskedasticity in the model. Table 8 shows the heteroskedasticity test result.

Table 8: Breusch-Pagan-Godfrey heteroskedasticity test result

Heteroskedasticity Test: ARCH			
F-statistic	0.591430	Prob. F(1,32)	0.4475
Obs*R-squared	0.616991	Prob. Chi-Square(1)	0.4322

Source: Author's Computation (Eviews 10)

From Table 8, the prob. Chi-square (0.4322) is greater than 0.05, therefore we accept the null hypothesis and conclude that our model is homoscedastic, meaning that the variance of the errors is constant across different values of the independent variables.

Findings

The objective of this study is to investigate the long run and short run effects of total government expenditure on economic growth in Nigeria using annual data covering the period of 1985 to 2022. Firstly, the ARDL bounds test results established the existence of a long run relationship between total government expenditure and economic growth as well as other independent variables in the model. Secondly, the ARDL long and short run model results both reveal a negative and statistically significant relationship between total government expenditure and economic growth in Nigeria. However, given a one-year lag period, the ARDL short-run results reveal a positive relationship between total government expenditure and economic growth in Nigeria.

Specifically, the ARDL long run model reveals that total government expenditure has a negative and statistically significant relationship with economic growth in Nigeria given its coefficient as -23.1868. These findings do not conform to our stated a priori expectations (of positive relationship between total government expenditure and economic growth), but conforms to the findings of the studies conducted by Owoye (2015), Falusi (2017) and (Alimi and Muse(2016). The coefficient values of EXR, INF, LRTINT and LABFR are all negative implying inverse and significant effects on economic growth in Nigeria. These align with a priori expectations except for the case of LABFR that deviates from the expectations. A negative relationship between LABFR and RGDP is indicative of a growth that is not inclusive in Nigeria. On the other hand, the coefficient of GFCF reveals a positive effect on economic growth in line with a priori expectations.

The ARDL short run result reveals that total government expenditure in the current time period has a negative influence and statistically significant relationship with economic growth in Nigeria given its coefficient as -7.77. Conversely, total government expenditure in the one-year lag period has a positive and significant relationship with economic growth in Nigeria given its coefficient as +7.31. This scenario suggests a potential time lag effect in the relationship between total government expenditure and output growth, indicating complex dynamics in the impact of government spending on the economy. Additionally, the short run result shows that the coefficient of multiple determination R^2 is 0.69, meaning that 69% of the changes in economic growth is accounted for by the independent variables. Furthermore, the slope coefficient of the error correction term -1.07 has the expected sign (i.e. negative) and is significant at 5% probability level. The slope coefficient of the error correction term -1.07 represents the speed of adjustment and is consistent with the hypothesis of convergence towards the long-run equilibrium. The value indicates that it will take the speed of about one year and six months for a disequilibrium in the short-run to be corrected in the long-run.

Discussion

From the ARDL results, the study shows that total government expenditure has a negative and significant relationship with economic growth in Nigeria both in the short and in the long run. The negative and statistically significant relationship between current total government expenditure and output growth implies that, in the short term, higher levels of government spending might not necessarily lead to increased output growth. This could indicate a misallocation of resources, spending inefficiencies, wastages, diversion of resources, structural bottlenecks, institutional factors and other external factors (such as global economic downturns

and fluctuations in oil prices) impeding the effectiveness of current spending in stimulating economic activity.

More importantly, this finding of a negative relationship between government expenditure and output growth in Nigeria suggests that public spendings are not really directed to the real sector as well as other projects and programs that can collectively stimulate productive activities and promote sustainable economic growth in Nigeria. This places a demand for targeted investments in key sectors such as infrastructure, education, healthcare, and technology to enhance productivity, competitiveness, and overall economic performance in Nigeria.

Additionally, the study also reveals that total government expenditure in the one-year lag period has a positive and significant relationship with economic growth in Nigeria. This is suggestive of delayed impacts, implementation lags and the existence of gaps between actual public spendings and tangible economic gains. It suggests that there might be delayed effects of government expenditure on output growth. It also indicates the existence of inefficiencies in how government funds are allocated, spent and utilized, highlighting the need for more effective fiscal policies and targeted investments to stimulate sustainable economic growth in the country.

It could also imply that the benefits of increased spending take time to materialize and may be contingent upon some factors (such as the completion of infrastructure projects, implementation of policy measures, or the realization of investments). This situation underscores the importance of understanding the timing and dynamics of government expenditure in influencing output growth. Policymakers may need to consider the potential time-lags-effect and adjust their fiscal policies accordingly. Additionally, further analysis could be necessary to identify the specific factors driving these contrasting relationships and inform more effective policy decisions aimed at promoting sustained economic growth.

Policy Implication of Findings

The findings from the ARDL results suggest several policy implications regarding total government expenditure and economic growth in Nigeria. Firstly, given the negative and significant relationship between government expenditure and economic growth in both the short and long run, it is evident that the impact of government spending on output growth is negative, substantial and enduring. However, the negative relationship indicates that the increase in government expenditure has not translated significantly into tangible economic gains. This underscores the need for policymakers to address inefficiencies in how government funds are allocated and utilized, so as to stimulate productivity in the real

sector which will bring about increases in the overall output productivity level in Nigeria. It is imperative to implement more effective fiscal policies and ensure that government spending is directed towards infrastructural projects and programs that will act as a stimulant to output productivity in the real sector, there by leading to sustainable output growth in Nigeria.

In view of the finding that, total government expenditure in the one-year lag period has a positive and significant relationship with economic growth in Nigeria, the appropriate timing and adjustments of fiscal policies formulation and implementations that consider the potential time-lags-effect as well as the contingent factors that will enhance public spending growth impacts, is an imperative. Additionally, there is a need for fiscal discipline, greater transparency and accountability in the management of public finances to check spending inefficiencies, minimize misappropriation and improve the effectiveness of government expenditure. Moreover, policymakers should prioritize targeted investments in key sectors such as infrastructure, education, healthcare, and technology to enhance productivity, competitiveness and overall economic performance in Nigeria. By addressing these issues and implementing appropriate policy measures, Nigeria can stimulate long-term economic growth and development.

SUMMARY

This study investigated the long run and the short run effects of total government expenditure on economic growth in Nigeria using annual data covering the period of 1985 to 2022. The study employs Autoregressive Distributed Lag (ARDL) model to investigate the long run relationship existing among the variables. The ARDL long-run bounds test established the existence of long run effects of total government expenditure on economic growth in Nigeria. From the ARDL results, the study reveals that total government expenditure has a negative and statistically significant relationship with economic growth in Nigeria both in the short run and in the long run. This finding deviates from the a priori expectations.

Specifically, the ARDL long run model test reveals that total government expenditure has a negative and statistically significant relationship with economic growth in Nigeria. Similarly, the ARDL Short-run bounds test results reveal that in the current time period, total government expenditure has a negative influence on economic growth, while in the one-year lag period, total government expenditure exhibits a positive effect on economic growth. Additionally, the ARDL Short-run results reveal that it will take the speed of about one year for a disequilibrium in the short-run to be corrected in the long-run.

CONCLUSION AND RECOMMENDATIONS

This study has revealed the existence of negative and statistically significant long and short run effects of total government expenditures on economic growth in Nigeria. It has also revealed the existence of a positive relationship between total government expenditure and economic growth in Nigeria during a one-year lag period. It also revealed the speed of adjustment of about one year for a disequilibrium in the short-run values of the variables to be corrected in the long-run. This study provides empirical validation of long-run associations between government expenditure and output growth, contributing to a deeper understanding of the sustained effects of fiscal policy on economic performance in Nigeria. This empirical evidence can inform policy making and strategic planning aimed at promoting sustainable economic growth and development. Besides, the study has contributed significantly to the existing body of knowledge through its findings as it helps to advance the frontiers of knowledge. However, there is still room for further studies. Therefore, we suggest that researchers in related fields embark on research activities to determine the threshold or optimal levels of total government expenditure and economic growth.

Based on the findings of this study, which shows that total government spendings have negative effects on economic growth Nigeria, the policy recommendations are discernible. Therefore, it is an imperative for government to implement more effective fiscal policies that strategically directs public spendings to the real sector as well as other projects and programs that can collectively stimulate productive activities and promote sustainable economic growth in Nigeria. Moreover, policymakers should prioritize targeted investments in key sectors such as infrastructure, education, healthcare, and technology to enhance productivity, competitiveness, and overall economic performance in Nigeria.

Furthermore, the findings of the study also reveal that total government expenditure in the one-year lag period has a positive and significant relationship with economic growth in Nigeria. This is suggestive of delayed impacts, implementation lags and the existence of gaps between actual public spendings and tangible economic gains. It also indicates the existence of allocative, spending and utilization inefficiencies of government resources and funds. These and more place a demand for the understanding of the timing and dynamics of government expenditure in influencing output growth.

Therefore, we recommend the appropriate timing and adjustments of fiscal policies formulation and implementations that take cognizance of the potential time-lags-effect as well as the contingent factors that will enhance public spending growth impacts. Additionally, there is dire need for fiscal discipline, greater transparency and accountability in the management of public finances to check spending inefficiencies, minimize misappropriations and improve the

effectiveness of government expenditure. By addressing these issues and implementing appropriate policy measures, Nigeria can stimulate long-term economic growth and development.

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