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Government Size and Economic Growth in Nigeria

A. J. Raheem[1*], A. G. Ogunleye[2]

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ABSTRACT

The escalation of public sector spending has emerged as a pressing concern in Nigeria's policy discourse, raising alarm among economists and fiscal analysts. The persistent growth in government outlays continues to strain macroeconomic stability significantly, prompting calls for empirical evaluation. This research builds upon prior scholarship by conducting a functional disaggregation of Nigeria's public expenditure profile to evaluate its economic implications. Grounded in the Neoclassical economic tradition, the study adopted the Autoregressive Distributed Lag (ARDL) technique, contingent upon the confirmation of integration properties and long-run equilibrium through unit root and cointegration diagnostics. Annual time-series data from 1981 to 2023 served as the empirical foundation. The model's outcomes revealed that administrative expenditure exerts positive, though statistically insignificant, influence on long-run economic performance (δ = 0.902286, p = 0.7655). In contrast, disbursements directed toward social and community services were associated with a negative but statistically insignificant effect (δ = -2.35707, p = 0.4352). Expenditures targeting economic services demonstrated a robust and statistically significant inverse relationship with long-term growth (δ = -1.62307, p = 0.0000). Similarly, transfer payments were found to have a significantly detrimental impact on economic expansion (δ = -0.45866, p = 0.0000). In light of these findings, the study advocates for a strategic reorientation of fiscal policy. Key recommendations include prioritising investments in productivity-enhancing sectors, enhancing the transparency of fiscal operations, and advancing trade liberalisation to foster sustainable growth trajectories.

INTRODUCTION

The issue of government size is an important matter in an economy, as agreed by many scholars. However, the state of debate and research results in this area appear to be contradictory. A range of contradictory theoretical interpretations has been proposed, which can only be clarified through empirical research. Currently, the correlation between government size and economic performance remains a contentious issue among experts in economic literature (Inuwa, 2012). Economists have been acutely cognisant of the impacts on fostering economic growth. Nonetheless, the prevailing perspective is that the scale of government, particularly regarding socioeconomic infrastructure, can facilitate growth; however, the financing of such expenditures to deliver essential infrastructural services—such as transportation, electricity, water, sanitation, energy, education, and healthcare—may also hinder growth (Olukayode, 2009).

The observed correlation between Nigeria's economic trajectory and the persistent expansion of governmental scale has provoked critical examination into the implications of state size for macroeconomic performance. This association between the scope of government activity and national economic performance has attracted both empirical scrutiny and policy-level engagement, particularly within the field of public finance (Karlsson, 2020; Gurdal *et al.,* 2021). Interest in this nexus is largely driven by the imperative to refine budgetary governance, manage fiscal imbalances, and navigate the systemic vulnerabilities confronting low-income and developing economies—vulnerabilities that were sharply exposed during exogenous shocks such as the COVID-19 pandemic. Such global disruptions have intensified scholarly interrogation of fiscal frameworks. Consequently, the interplay between government size and economic performance has become a focal point in debates over the design of resilient and adaptable fiscal regimes (Brady & Magazzino, 2019), given its profound implications for sustainable public expenditure management and long-term development strategies.

Contemporary scholarship on the relationship between government size and economic outcomes remains limited in its engagement with states transitioning from authoritarian or centrally planned systems to liberalised market economies—Nigeria being a prime example. The urgency of this inquiry is underscored by the persistent inconsistencies and contradictions in empirical findings, which expose the need for more coherent theoretical frameworks to guide policy dialogue. Tashevska *et al.* (2020) highlight the epistemological challenges in this area, noting that even studies conducted within the same national context frequently produce divergent conclusions. These discrepancies are often attributed to variations in temporal scope, econometric techniques, data frequency, and the selection of covariates. As such, any empirical investigation—such as the present one—

[1] Department of Entrepreneurial Studies, Osun State University, Osogbo, Osun State, Nigeria
[2] Department of Economics, Osun State University, Osogbo, Osun State, Nigeria
[*] Corresponding author's e-mail: ayinla.raheem@uniosun.edu.ng

will necessarily be shaped by its methodological design.

In essence, we aim to ascertain the degree to which traditional determinants of economic growth—namely; capital accumulation, labour force expansion, export growth, political regime, and inflation rate are influenced by the overall magnitude of government within the economy. These factors are pivotal in the discourse of political economy, yet they pose significant challenges in terms of quantification with precision and reliability. Consequently, our methodology is likely to be more effective than others that seek to quantify these variables directly.

This study aims to provide compelling theoretical and empirical evidence on the association between economic growth and government size in Nigeria, a topic that has been inadequately explored by prior research. Mitchell (2005) examined the influence of government expenditure on economic growth in USA. The study excludes developing economies, such as Nigeria, where there is a scarcity of research on this topic. Mandl *et al.* (2008) advocate for more efficiency and effectiveness in public expenditure. However, their analysis omits emerging nations such as Nigeria, where research is scarce, and fails to specify the necessary adjustments and methods to address these issues, as well as neglects the theoretical framework upon which their work is based. This paper addresses the gap by examining Nigeria, a developing nation, and employing a theoretical framework.

Despite the plethora of studies, there are still several grounds to be covered, as such studies, particularly the empirical ones, are bedevilled by one pitfall or another, as highlighted fully in this study. These shortfalls in understanding the effect of government size on economic growth have led to this research work. The aforementioned issues are significant concerns and it is the endeavour to bridge these gaps that drives the present study. This study aims to empirically investigate the nexus between government size and economic growth in Nigeria.

Arising from the foregoing research problem, this study is guided by the following central questions:

i. In what ways do the various functional classifications of government size influence economic performance in Nigeria?

ii. Does a long-term equilibrium relationship exist between disaggregated government spending and the trajectory of economic growth in Nigeria?

The primary objective of this study is to empirically investigate the effect of government size on economic growth in Nigeria.

The study specific objectives are to:

i. analyse the impact of disaggregated components of government expenditure on the growth performance of the Nigerian economy.

ii. assess the existence and nature of a long-run equilibrium relationship between the functional dimensions of government size and economic growth in Nigeria.

LITERATURE REVIEW

Conceptual Review

Economic Growth

Economic growth is commonly conceptualised as the yearly percentage increase in the real gross domestic product (GDP), reflecting the inflation-adjusted market value of all final goods and services generated within an economy over a specified period. This metric serves as a core indicator of a nation's productive capacity and overall economic performance. Economic growth, in its most fundamental definition, pertains to an augmentation in total production within an economy. The elimination of poverty, mitigation of social polarisation, and achievement of social justice are intrinsically linked to issues of economic growth; nonetheless, these factors are often overlooked in discussions regarding the means of achieving economic growth. In the examination of economic growth, it is customary to differentiate between two distinct dimensions: the long-term and the short-term. Long-term growth is defined as the progression of the economy along a path of "equilibrium." The long-term structural aspect of growth refers to the quantity of products and services that the economy can produce (Rodrik, 2003).

Government Size

Government size denotes the breadth and magnitude of fiscal operations undertaken by the state, including both direct public expenditures and indirect disbursements executed via governmental institutions and affiliated agencies. It encapsulates the extent of resource allocation, redistribution, and intervention by the public sector within the economy. The sum of total government expenditure and government revenue quantifies it. Total government expenditure is sometimes utilised to indicate the magnitude of the public sector. All employed indicators may be suitable, contingent upon the study's aims. The size of government encompasses not only the financial resources provided by the government but also the funds created and distributed by government-owned organisations for public services that are not processed via, and thus not reflected in, the centralised government budget.

The magnitude of government can be quantified using expenditure, revenue, or employment metrics. Nonetheless, the expenditure metric is the most frequently utilised indication. This expense originates from the national accounts. Total government expenditure is commonly utilised to indicate the magnitude of the government. The government's size diminishes with reduced expenditure and expands with increased spending in aggregate terms. This metric is frequently utilised, although it can be contended that it serves as a suitable indicator of government size in certain contexts but not in others, owing to the varying impacts of the components of government expenditure (Cusack & Fuchs, 2002; Sedrakyan & Varela-Candamio, 2019).

Functional Categories of Government Expenditure

This conceptualisation is consistent with international fiscal accounting standards, as reflected in the Government Financial Statistics Yearbook published by the International Monetary Fund (IMF, 2022), and aligns with the categorisation system employed in the Central Bank of Nigeria's Statistical Bulletin. Public expenditure is typically disaggregated into four core functional groups: Administrative Services, Economic Services, Social and Community Services, and Transfer Payments. According to his analysis, functional classifications serve as proxies for the specific public sector responsibilities or services financed by the expenditure and the nature of governmental activities they support. Moreover, each functional category may be further delineated by economic classification, distinguishing between capital investment and recurrent spending patterns.

Theoretical Review

Neoclassical Growth Theory

The neoclassical theory of economic growth provides an analytical structure for understanding how stable growth patterns emerge through the interaction of key variables—namely, labour input, capital accumulation, and technological progress. While the availability of labour and financial resources is inherently limited, technological innovation is considered an open-ended driver of expansion. Foundational models developed by Solow (1956) and Swan (1956) emphasize the principle of diminishing marginal returns to capital, positing that long-term economic growth is determined externally to the model itself. Because these models do not incorporate endogenous factors influencing sustained growth, they have been criticized as offering limited explanatory power. Nevertheless, even in the absence of dynamic growth mechanisms, such frameworks underscore the significance of static policy levers—such as savings behaviour and labour market participation—which can meaningfully affect economic outcomes.

Under simplified assumptions, neoclassical models serve as an effective framework for organising thoughts about growth and its determinants. Conversely, it may generate more questions than it resolves. It neglects the interplay of political, social, and economic institutions, which political scientists and development economists typically highlight. Neoclassical models offer scant justification for the existence of a public sector, as government regulations and tax distortions continually diminish economic efficiency (King & Sergio, 1990). The models, consequently, offer minimal insights into the advantages of the public sector; they primarily facilitate the examination of its costs. Nonetheless, neoclassical theory is regarded as the most effective framework for elucidating and analysing the public sector economy in this context; hence, it will be utilised as the primary theoretical foundation for this study.

Empirical Literature

Empirical Literature from Developed Countries

Lupu and Asandului (2017) conducted an Autoregressive Distributed Lag (ARDL) analysis covering the years 1995 to 2014, focusing on a panel of eight nations located in Eastern Europe. A permanent integrated connection between the variables became evident across all study areas. Schmidt and Wigerstedt (2019) analyzed the government size-economic growth relationship by conducting empirical investigations inside EU boundaries. Government spending between 2000 and 2017 became the focus of this research investigation regarding economic growth and development. European countries experienced development because they achieved equal distribution and effective use of public funds.

Empirical Literature from Developing Countries

Barlas (2020) employed the Autoregressive Distributed Lag (ARDL) methodology to examine the nexus between public expenditure and economic growth in Afghanistan, using data spanning from 2004 to 2019. The study's findings revealed a negative relationship, indicating that government spending adversely impacted the country's economic performance. Delani *et al.* (2021) utilized the recently introduced Bayer-Hanck combined cointegration technique in a related investigation to validate ARDL outcomes. Their empirical results demonstrated that public expenditure was positively associated with economic growth in both the short run and the long run.

Empirical Literature from Nigeria

Ajayi and Aluko (2016) conducted an empirical investigation covering the period from 1985 to 2014 to explore the linkage between public expenditure and economic growth in Nigeria. Applying the Toda-Yamamoto causality testing framework, their analysis revealed no statistically significant relationship between the two variables. Complementing this line of inquiry, Olayungbo and Olayemi (2018) analyzed data from 1981 to 2015 and found that government spending exerted a negative influence on economic growth in both the short-run and long-run horizons.

MATERIALS AND METHODS

Theoretical Framework

The research applies the Neoclassical growth framework through the utilisation of a Cobb-Douglas production function. Economic investigations use the Cobb-Douglas functional form to demonstrate how output relates to inputs throughout production functions. Knut Wicksell initially developed this model in 1851-1926 and subsequently Charles Cobb and Paul Douglas studied it using statistical evidence in 1928. Economists analyzed production output from a simplified economic standpoint which equated the amount of labour with capital investment. The mathematical expression used for modeling production contained the following key components:

$Y(L, K) = AF(K, L)$ ....(1)

where: Y = RGDP ("the monetary value of all goods produced in a year"), K = capital input (CAP), L = labour input (LAB), A = "total factor productivity and are the output elasticities of labour and capital, respectively." These values are constantly determined by available technology.

The following phases are followed in the derivation of the economic growth function from the aforementioned production function in equation (1). By rewriting equation (1), we obtain:

$RGDP = F(K, L, A)$ ....(2)

Where: A = total factor productivity captured in this study by government expenditure (GEX), trade openness (TOP), political regime (POL), and inflation (INF) because according to the literature they all have influence and play important roles on economic growth. Hence, equation (2) becomes:

$RGDP = F(CAP, LAB, GEX, TOP, POL, INF)$ ....(3)

Equation (3) represents the conventional neoclassical growth theory-based growth accounting framework adopted.

Model Specification

Model for Testing the Effects of Functional Categories of Government Size on Economic Growth

The research disaggregated government spending into distinct functional categories. The determinants of productivity growth (A) include functional categories. Following from the above, we now specify a productivity growth model, by substituting government expenditure (GEX) in equation (3) with Administration Expenditure (ADM), Social and Community Service Expenditure (SCS), Economic Service Expenditure (ECO) and Transfer Payment Expenditure (TRP) to have Equation (4):

$GEX = ADM + SCS + ECO + TRP$ ....(4)

Substituting equation (4) into equation (3), we have equation (5) thus:

$RGDP = F(CAP, LAB, ADM, SCS, ECO, TRP, TOP, POL, INF)$ ....(5)

The empirical baseline growth model is specified by transforming equation (5) econometrically, yielding:

$RGDP = \delta_1 CAP + \delta_2 LAB + \delta_3 ADM, + \delta_4 SCS, + \delta_5 ECO, + \delta_6 TRP, + \delta_7 TOP + \delta_8 POL + \delta_9 INF$ ....(6)

Since there are no statistics on capital stock (CAP), we are constrained to proxy it with the share of gross capital formation or gross investment in GDP, which is denoted as INV. Incorporating the error term (Ɛ), the intercept term (δ0) and time subscript (t) to Equation (6), it becomes the baseline econometric Equation (7):

$RGDP_t = \delta_0 + \delta_1 INV_t + \delta_2 LAB_t + \delta_3 ADM_t + \delta_4 SCS_t + \delta_5 ECO_t + \delta_6 TRP_t + \delta_7 TOP_t + \delta_8 POL_t + \delta_9 INF_t$ ....(7)

Where,

RGDP = Real Gross Domestic Product as the indicator for economic growth, INV = Share of gross investment in the GDP as a proxy for capital stock, TOP = Trade Openness as a ratio of GDP, POL = Political regime dummy variable that takes a value of 1 for a civilian administration and 0 for a military regime, INF = Inflation, $\delta 1,...,\delta 9$ = Coefficients on the explanatory variables, $\delta 0$ = the intercept, ε = the residuals, t = time period. In mathematical terms, the a priori expectations are as follows: $\delta 1 > 0$, $\delta 2 > 0$, $\delta 3 > 0$, $\delta 4 < 0$, $\delta 5 > 0$, $\delta 6 < 0$, $\delta 7 > 0$, $\delta 8 >< 0$, $\delta 9 < 0$. Equation (7), therefore, represents the empirical growth model to be estimated in order to determine the effects of each functional category of government size on economic growth.

Methods of Estimation

In order to accomplish its objectives, the investigation implemented both descriptive and inferential methodologies. The study utilises yearly data on public expenditure and gross domestic product from 1981 to 2023, resulting in 43 observations. The Central Bank of Nigeria Statistical bulletin is the source of the selected data. The availability of the data determines the chosen data span. The natural logarithm of public expenditure (EXP) and gross domestic product (GDP) is employed to facilitate effective comparisons in all estimations. To determine the order of integration for each time series, the study utilized the Augmented Dickey-Fuller (ADF) unit root test. Accordingly, this study adopted the ARDL bounds testing approach to examine the long-term association between the size of government and economic growth because ARDL model offers greater flexibility by accommodating regressors that are stationary at level [I(0)], first difference [I(1)], or a mix of both.

RESULTS AND DISCUSSION

Table 1: Unit Root Result Using Augmented Dickey-Fuller (ADF) Stationarity Test

Variables	ADF Test Statistics at Levels	5% Critical Value	Order off Integration	ADF Test Statistics at First (1st) Difference	Order of Integration
ADM	-0.207	-2.933	NS	-5.885	I (1)
ECO	-1.631	-2.933	NS	-8.310	I (1)
INF	-3.082	-2.933	I (0)	-	-
INV	-1.407	-2.933	NS	-7.186	I (1)
D_LAB	-1.631	-2.935	NS	-4.058	I (1)
POL	-1.505	-2.933	NS	-6.245	I (1)
SCS	0.062	-2.933	NS	-4.632	I (1)

TOP	-1.612	-2.935	NS	-7.888	I (1)
TRP	3.398	-2.938	I (0)	-	-
RGDP	-1.715	-2.935	NS	-7.766	I (1)

Source: Author's Computation using Eviews-12, 2025; NS = Not Stationary

These tests were performed on the lagged series' level and starting differences. As indicated in the table above, the ADF unit root test yielded results indicating that two variables exhibited zero-order integration (I(0)). In comparison, the remaining eight (8) variables displayed first-order integration (I(1)). According to the decision rule of the Augmented Dickey-Fuller (ADF) test, the null hypothesis—stating that a variable contains a unit root and is thus non-stationary—is rejected when the p-value falls below the 5% significance threshold or when the calculated t-statistic surpasses the critical value at the 5% level. Conversely, if these conditions are not met, the null hypothesis is not rejected.

Given the non-stationary nature of the variables included in the model, it is necessary to conduct a cointegration test to determine whether a long-run equilibrium relationship exists among them. Based on the identified integration orders of the variables—whether level [I(0)], first difference [I(1)], or a mix—the appropriate technique for assessing cointegration is the ARDL bounds testing approach. Sherstha and Bhatta (2018) recommend employing the ARDL analysis method when a time series model comprises variables that demonstrate stationarity at different levels. The outcome of this test is as presented and discussed below.

Table 2: Lag Order Selection Result for Testing the Effects of Functional Categories of Government Size on Economic Growth.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2852.6	NA	7.08e+53	146.6973	147.0386	146.8198
1	-2609.8	373.5436	7.89e+49	137.5279	140.5991*	138.6298
2	-2530.39	89.58929	5.52e+49	136.7377	142.5389	138.8191
3	-2400.26	93.42735*	7.55e+48*	133.3464*	141.8775	136.4073*

Source: Author's Computation using Eviews-12, 2025

Table 2 focuses on the optimal number of lags in a model analysing the relationship between functional categories of government size and economic growth in Nigeria from 1981 to 2023. The log-likelihood value (LogL) shows that lag 3 is preferable for accurately capturing the relationship between functional categories of government size and economic growth. The likelihood ratio test (LR) shows that adding more lags significantly enhances the model's explanatory power. The final prediction error (FPE) also shows that lag 3 minimises the prediction error, enhancing the model's ability to make accurate predictions. The Akaike Information Criterion (AIC) indicates that lag 3 offers greater explanatory power despite the increase in complexity. However, the Schwarz Criterion (SC) suggests lag 1 for the model. The Hannan-Quinn Criterion (HQ) also confirms that lag three optimal balances between fit and complexity. Hence, the study proposes lag three as the optimal lag for the model.

Table 3: ARDL Bound Test Result for Testing the Effects of Functional Categories of Government Size on Economic Growth.

Null Hypothesis: No long-run relationship exists		
Test Statistic	**Value**	**K**
F-statistic	4.706685	7
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	2.03	3.13
5%	2.32	3.50
2.5%	2.26	3.84
1%	2.96	4.26

Source: Author's Computation using Eviews-12, 2025

Table 3 assesses the existence of a long-term equilibrium relationship between the functional classifications of government size and economic growth in Nigeria over the period 1981 to 2023. The estimated F-statistic of 4.706685 surpasses the critical upper bound value of 4.26 at the 1% significance level. This outcome warrants the rejection of the null hypothesis, which posits the absence of a long-run relationship. Consequently, the findings provide robust statistical evidence supporting the existence of a significant long-run association between the functional dimensions of government expenditure and economic growth in the Nigerian context.

At the 5% significance level, the critical value bounds are 2.32 for the lower limit and 3.50 for the upper limit. Given that the computed F-statistic exceeds the upper bound, this provides compelling evidence in support of a long-run equilibrium relationship among the variables in the model. Furthermore, the F-statistic also surpasses the upper bound thresholds at the 2.5% (3.84) and 10% (3.13) significance levels, thereby reinforcing the conclusion that a strong and statistically significant long-term association exists within the model framework. This implies that strategic adjustments to Nigeria's government finance structure could have enduring effects on the country's economic prosperity.

Table 4 highlights critical insights into the short-run dynamics and the speed of adjustment toward long-run equilibrium. The results demonstrate the short-term effects of various components of functional government spending on economic growth, while also evaluating how swiftly the economy returns to its long-run path following a shock. The error correction term, represented by CointEq(-1), has a coefficient of -0.172721 and is statistically significant at the 1% level (p-value = 0.0000), indicating a meaningful and stable adjustment mechanism in the model. This indicates that approximately 17.27% of the prior period's imbalance is rectified within a single period. The negative coefficient indicates that the economy converges to the long-run equilibrium at a measured rate. The statistical significance confirms the existence of a steady, long-term relationship between the Functional Categories of Government Size and economic growth.

Table 4: ARDL Error Correction Regression Results for Testing the Effects of Functional Categories of Government Size on Economic Growth

Dependent Variable (RGDP)				
ECM Regression				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-50518.9	51556.81	-0.97987	0.3438
D(INV)	3.432331	14.98958	0.228981	0.8222
D(INV(-1))	-25.4026	14.58924	-1.74119	0.1036
D(INV(-2))	67.54617	17.92143	3.769017	0.0021
D(D_LAB)	1614549	181908.4	8.87562	0.0000
D(D_LAB(-1))	451732.8	388347.9	1.163217	0.2462
D(D_LAB(-2))	-753100	374132.9	-2.01292	0.0638
D(ADM)	-2.42616	0.815263	-2.97592	0.01
D(ADM(-1))	-7.61736	1.241848	-6.13389	0.0000
D(ADM(-2))	-2.56056	0.737942	-3.46959	0.0015
D(SCS)	5.476196	1.694415	3.228114	0.0061
D(SCS(-1))	4.573188	1.52327	4.486909	0.0000
D(SCS(-2))	-4.85191	1.230043	-3.9445	0.0037
D(TOP)	1.008619	0.003387	297.7882	0.0000
D(POL)	71313.9	285856.6	0.249252	0.7579
D(POL(-1))	-572462	234462.7	-2.44159	0.0285
D(POL(-2))	-385496	156788.7	-2.4587	0.0276
CointEq(-1)*	-0.172721	0.022982	7.515332	0.0000
R-Square			0.999877	
Adjusted R-Square			0.999777	
F-Statistics			10022.31	
Prob.(F-Statistics)			0.000000	

Source: Author's Computation using Eviews-12, 2025

In terms of short-run dynamics, the impact of investment (INV) on economic growth shows mixed results. The coefficient of the current period investment (D(INV)) is 3.432331 but not statistically significant (p = 0.8222), suggesting that short-term changes in investment have a limited direct effect on economic growth. The lagged first-period investment (D(INV(-1))) is negative (-25.4026) but not statistically significant (p = 0.1036), indicating that past investment may have a negative but statistically weak effect on growth. However, the second lag of investment (D(INV(-2))) is positive (67.54617) and highly significant at the 1% level (p = 0.0021), suggesting that the positive impact of investment on economic growth materialises with a two-period lag. Labour force (D_LAB) shows a strong positive impact on economic growth in the short run. Current period labour force (D(D_LAB)) has a large positive effect (1614549) and is highly significant at the 1% level (p = 0.0000), indicating that increased labour-force participation instantly stimulates economic growth. However, the second lag of labour (D(D_LAB(-2))) is negative (-753100) and marginally significant (p = 0.0638), suggesting that excessive labour force participation may have diminishing returns or crowding-out effects over time. Administrative expenditure (ADM) has a negative and significant effect on economic growth. The coefficient of current period administrative expenditure (D(ADM)) is -2.42616 and significant at the 5% level (p = 0.01), showing that excessive administrative costs could impede growth. The first lag of administrative expenditure (D(ADM(-1))) is also negative and highly significant (-7.61736, p = 0.0000), reinforcing the idea that administrative spending may create long-term inefficiencies. The second lag (D(ADM(-2))) remains negative (-2.56056) and significant at the 1% level (p = 0.0015), suggesting a persistent negative effect of administrative expenditure on economic growth over time. Social and community services expenditure (SCS) has a positive and significant short-term effect on economic growth. Current period social expenditure (D(SCS)) is positive (5.476196) and significant at the 1% level (p = 0.0061), showing that investment in social services has an instant positive effect on economic growth. The first lag (D(SCS(-1))) is also positive and highly significant (4.573188, p = 0.0000), indicating that social spending continues to boost growth even in the following period. However, the second lag (D(SCS(-2))) becomes negative (-4.85191) and statistically significant (p = 0.0037), proposing that the positive impact of social spending may taper off or become counterproductive over time.

Trade openness (TOP) has a consistently positive effect on economic growth in the short run. The coefficient of trade openness (D(TOP)) is positive (1.008619) and highly significant (p = 0.0000), confirming that trade liberalisation strongly supports economic growth in the short term. The political regime (POL) variable reveals mixed effects. The coefficient of the current period political regime (D(POL)) is positive (71313.9) but not significant (p = 0.7579), suggesting that political changes might not have immediate economic effects. However, the first and second lags of political regime (D(POL(-1)) and D(POL(-2))) are negative and statistically significant (-572462 and -385496), with p-values of 0.0285 and 0.0276, respectively. This means that political instability or regime changes negatively affect economic growth over time.

The model demonstrates exceptionally strong explanatory capacity, as evidenced by an R-squared and an adjusted R-squared value of 0.999877 and 0.999777 respectively. This indicates that the model accounts for nearly all the variation in economic growth based on the Functional Categories of Government Size. The F-statistic value of 10022.31 is highly significant (p = 0.000000), affirming that the general model is statistically significant and well-specified.

Table 5 shows important findings into the long-term relationship. The constant term (C) is -50518.9, but it is not statistically significant. This suggests that, after accounting for the effects of the independent variables, the baseline level of economic growth is not significantly different from zero in the long run.

Table 5: ARDL Long Run Result for Testing the Effects of Functional Categories of Government Size on Economic Growth

Dependent Variable (RGDP)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-50518.9	1007478	0	0.0000
RGDP(-1)*	0.172721	0.132007	1.308423	0.2118
INV(-1)	-8.65297	38.80241	-0.223	0.8268
D_LAB(-1)	746101.9	1083110	0	0.0000
ADM(-1)	0.902286	2.967275	-0.30408	0.7655
SCS(-1)	-2.35707	2.985012	-0.78964	0.4352
TOP(-1)	-0.1592	0.146928	-1.08352	0.2969
POL(-1)	414557.4	333815	1.241878	0.2347
INF**	843.998	405.0635	2.08236	0.838

Source: Author's Computation using Eviews-12, 2025

The estimated coefficient for the lagged dependent variable, RGDP (-1), is 0.172721; however, it is not statistically significant (p = 0.2118). This suggests that previous levels of economic growth do not exert a substantial or direct influence on current economic performance over the long term. It suggests that economic growth in Nigeria is more influenced by external factors and government expenditure patterns rather than previous growth trends. The results show an insignificant investment measure (-8.65297), while the p-value stands at 0.8268. A lack of compelling evidence exists which suggests that investment plays an insignificant role in promoting long-term economic growth in Nigeria. The observed statistical significance of negative -8.65297 between investment and economic growth in the long run could be attributed to capital allocation flaws alongside weak institutions and poor infrastructure that restrict productive returns from investments. Analysis reveals that additional members in the workforce create positive substantial growth effects in the long-term period. The statistical model shows that D_LAB(-1) equals 746101.9 with extreme significance at 1% level (p = 0.0000). Government spending on labour activities such as wages and employment benefits and training produce substantial long-term benefits for economic expansion.

The relationship between administrative expenditure as a contributor to economic growth stays positive yet statistically unimportant throughout the long-term period. Lupu and Asandului (2017) reached similar conclusions about this research matter. The statistical significance value (p = 0.7655) demonstrates that the coefficient of ADM(-1) = 0.902286 lacks statistical significance. The results indicate that administrative spending which covers government overhead costs fails to produce significant long-term economic expansion. The study result corresponds with Barlas (2020). Social and community services spending produce varied influences on economic expansion over the long term. The research found that social spending lagged by one period (SCS(-1) = -2.35707) demonstrates a negative relationship with economic growth although the statistical significance (p = 0.4352) is not strong. This suggests that while social spending may have positive short-term effects (as shown in the error correction model), its long-term contribution to growth is limited or inconsistent. This finding contradicts the finding of Delani *et al.* (2021).

Trade openness has a negative but insignificant effect on long-term growth. The coefficient of lagged trade openness (TOP(-1) = -0.1592) is not significant (p = 0.2969). This implies that trade liberalization alone is not sufficient to drive long-term growth unless supported by complementary policies such as improved infrastructure and industrial development. The long-run effect of political regime on economic growth is positive but insignificant. The coefficient of lagged political regime (POL(-1) = 414557.4) is not statistically significant (p = 0.2347). This suggests that political factors may not have a consistent long-term impact on growth. The coefficient of inflation (INF) is positive (843.998) but not statistically significant (p = 0.838). This suggests that inflation does not have a direct long-term influence on economic growth.

Table 6 provides findings into the appropriate number of lags to include in the model. The goal is to identify the optimal lag length that minimises these criteria, indicating the best balance between model complexity and predictive accuracy. Among the criteria, the Likelihood Ratio (LR) and Final Prediction Error (FPE) are minimised at lag 3, suggesting that including three lags provides the best fit for the model. The AIC and HQ also point to lag three as the most suitable, confirming that this lag structure effectively captures the dynamic behaviour of the data. However, the SC criterion favours lag 1, indicating that it penalises the complexity of higher lags more strictly.

Table 6: Lag Order Selection Result for Testing the Effects of Functional Categories of Government Size on Economic Growth (Data II)

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2853.22	NA	7.31e+53	146.7291	147.0703	146.8515
1	-2624.63	351.6774	1.69e+50	138.2886	141.3598*	139.3905
2	-2539.44	96.10578	8.78e+49	137.2022	143.0033	139.2836
3	-2401.61	98.95686*	8.09e+48*	133.4159*	141.947	136.4768*

Source: Author's Computation using Eviews-12, 2025

Generally, the combination of AIC, HQ, LR, and FPE favouring lag 3 suggests that a three-lag model would offer a better balance between explanatory power and model parsimony. While the SC criterion prefers a more parsimonious one-lag model, the consistency of other criteria in selecting lag 3 supports the conclusion that including three lags will enhance the model's ability to capture long-run and short-run dynamics. Therefore, a lag length of 3 is recommended and used for the model to achieve robust and reliable results.

Table 7 evaluates the presence of a long-run equilibrium relationship between the dependent variable and the set of explanatory variables. The reported F-statistic, with a value of 18.63154, far exceeds the upper bound critical value of 4.26 at the 1% significance level, as well as at all other conventional significance thresholds. This substantial margin provides strong justification for rejecting the null hypothesis of no cointegration. The result confirms the existence of a statistically significant long-term association between the variables. Moreover, the magnitude of the F-statistic underscores the collective explanatory power of the independent variables in accounting for long-run variations in the dependent variable, thereby affirming the robustness of the model's specification.

The rejection of the null hypothesis at a confidence level exceeding even the stringent 1% threshold affirms the presence of a stable long-term equilibrium relationship among the model variables. This finding implies that variations in the independent variables exert a persistent and enduring influence on the dependent variable over time. The significance of the long-run relationship

Table 7: ARDL Bound Test Result for Testing the Effects of Functional Categories of Government Size on Economic Growth (Data II)

Null Hypothesis: No long-run relationship exists		
Test Statistic	**Value**	**K**
F-statistic	18.63154	7
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	2.03	3.13
5%	2.32	3.50
2.5%	2.6	3.84
1%	2.96	4.26

Source: Author's Computation using Eviews-12, 2025

emphasises the importance of incorporating long-term dynamics in the analysis, reinforcing the validity of the ARDL model for explaining the study's research problem. This result strengthens the conclusion that the explanatory variables significantly influence the dependent variable in the long run.

Table 8 provides finding into the short-run dynamics and the speed of adjustment towards long-run equilibrium

Table 8: ARDL Error Correction Regression Result for Testing the Effects of Functional Categories of Government Size on Economic Growth (Data II)

Dependent Variable (RGDP)				
ECM Regression				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	78195.87	7691.624	10.16637	0.0000
D(INV)	-1.65062	1.195695	-1.38047	0.182
D(INV(-1))	2.853948	1.069226	2.669171	0.0144
D(INV(-2))	5.358247	1.273194	4.208507	0.0004
D(D_LAB)	14747.36	20586.94	0.716345	0.4817
D(ECO)	-1.24284	0.047101	-26.3867	0.0000
D(ECO(-1))	0.467615	0.072351	6.463106	0.0000
D(ECO(-2))	0.403766	0.058574	6.872183	0.0000
D(TRP)	-1.00232	0.011694	-85.7129	0.0000
D(TRP(-1))	0.149391	0.018084	8.260769	0.0000
D(TOP)	0.999627	0.000229	4369.348	0.0000
CointEq(-1)*	-0.41726	0.029598	-14.0974	0.0000
R-Square			0.999877	
Adjusted R-Square			0.999777	
F-Statistics			10022.31	
Prob.(F-Statistics)			0.000000	

Source: Author's Computation using Eviews-12, 2025

for the dependent variable (D(Y)). The error correction term (CointEq(-1)) is negative and statistically significant at the 1% level, with a coefficient of -0.41726 and a t-statistic of -14.0974 (p-value = 0.0000). This implies that approximately 41.73% of any short-run deviation from the long-run equilibrium is corrected in each period, indicating a moderate speed of adjustment toward the long-run equilibrium. The significance of the error correction term confirms the existence of a stable long-run relationship between the dependent and explanatory variables, consistent with the findings from the ARDL Bound Test. The constant term (C) has a coefficient of 78195.87 with a p-value of 0.0000, indicating that it is highly significant. This suggests that other underlying factors not explicitly captured by the explanatory variables influence the economic growth.

In terms of investment (D(INV)), the contemporaneous coefficient is -1.65062 with a p-value of 0.182, indicating that it is not significant in the short run. However, the first lag of investment (D(INV(-1))) is positive and statistically significant, with a coefficient of 2.853948 and a p-value of 0.0144. This suggests that the effect of investment on the economic growth materializes after a lag. The second lag (D(INV(-2))) also shows a positive and highly significant effect, with a coefficient of 5.358247 and a p-value of 0.0004, indicating that investment impacts the economic growth more strongly in the second period. This pattern reflects the delayed nature of investment returns on economic performance. The coefficient for labour (D(D_LAB)) is 14747.36 with a p-value of 0.4817, indicating that labour has an insignificant short-run effect on economic growth. However, economic services expenditure (D(ECO)) has a significant and negative immediate effect, with a coefficient of -1.24284 and a p-value of 0.0000. This suggests that increased spending on economic services in the short run might crowd out productive investments or increase inefficiencies. The first lag of economic services expenditure (D(ECO(-1))) is positive and highly significant, with a coefficient of 0.467615 and a p-value of 0.0000. Similarly, the second lag (D(ECO(-2))) is also positive and significant, with a coefficient of 0.403766 and a p-value of 0.0000. This implies that the benefits of increased economic services expenditure manifest with a lag, suggesting that short-term disruption from increased expenditure eventually leads to positive outcomes.

Transfer payment expenditure (D(TRP)) has a highly significant negative immediate effect, with a coefficient of -1.00232 and a p-value of 0.0000. This suggests that increased transfer payments initially reduce the economic growth, possibly due to inefficiencies in the distribution or adverse fiscal effects. However, the first lag of transfer payments (D(TRP(-1))) has a positive and highly significant effect, with a coefficient of 0.149391 and a p-value of 0.0000. This indicates that while the immediate effect of transfer payments may be disruptive, their longer-term impact is beneficial, possibly due to increased consumption or welfare benefits.

Trade openness (D(TOP)) has a positive and highly significant effect, with a coefficient of 0.999627 and a p-value of 0.0000. This emphasis the critical role of trade in driving economic performance, as increased trade openness tends to enhance market efficiency and promote economic growth. The high R-squared value of 0.999877 and adjusted R-squared of 0.999777 reflect the model's strong explanatory power, indicating that nearly all variations in the economic growth are explained by the model. The highly significant F-statistic of 10022.31 (p-value = 0.0000) confirms the overall model's robustness and statistical significance, reinforcing the reliability of the estimated relationships.

Table 9 reveals that the coefficient of the lagged economic growth, RGDP(-1), is -0.41726 with a p-value of 0.0000, indicating a significant negative relationship. Indicating that past economic growth negatively influences current growth. The constant term (C) has a coefficient of 78195.87 and a p-value of 0.2412, indicating that the intercept is statistically insignificant, which implies that other structural factors beyond the included variables may influence economic growth in the long run.

Table 9: ARDL Long Run Result for Testing the Effects of Functional Categories of Government Size on Economic Growth (Data II)

Dependent Variable (RGDP)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	78195.87	64836.68	1.206044	0.2412
RGDP(-1)*	-0.41726	0.064416	-6.47757	0.0000
INV(-1)	-3.6175	2.242099	-1.61344	0.1216
D_LAB(-1)	-61462.4	40312.01	-1.52467	0.1423
ECO(-1)	-1.62307	0.176327	-9.20491	0.0000
TRP(-1)	-0.45866	0.078723	-5.82628	0.0000
TOP(-1)	0.417482	0.064542	6.468383	0.0000
POL**	-37264.4	22767.06	-1.63677	0.1166
INF**	-183.474	319.784	-0.57374	0.5722

Source: Author's Computation using Eviews-12, 2025

Investment (INV) in the long run has a negative but statistically insignificant effect, with a coefficient of -3.6175 and a p-value of 0.1216. This suggests that increased investment alone may not directly promote long-term economic growth, possibly due to inefficiencies in resource allocation or poor investment quality. Labour (D_LAB) also shows a negative and statistically insignificant long-run effect on economic growth, with a coefficient of -61462.4 and a p-value of 0.1423. This implies that labour market inefficiencies, such as underemployment, skill mismatches, or low productivity, may limit the contribution of labour to long-term growth. Economic services expenditure (ECO) has a significant negative long-run effect on economic growth, with a coefficient of -1.62307 and a p-value of 0.0000. This suggests that excessive spending on economic services may lead to inefficiencies or crowding out of private sector investments, thereby limiting economic performance, this finding is in line with the finding of Ajayi and Aluko (2016). Conversely, trade openness (TOP) has a significant positive long-run effect, with a coefficient of 0.417482 and a p-value of 0.0000. This indicates that increased trade openness promotes long-term economic growth by improving market efficiency, increasing competitiveness, and attracting foreign direct investment.

Transfer payment expenditure (TRP) shows a significant negative long-run relationship with economic growth, with a coefficient of -0.45866 and a p-value of 0.0000. This implies that while transfer payments may provide short-term support to households, they could create long-term fiscal burdens or reduce incentives for productive economic activity, thereby hindering long-term growth, this finding is in tandem with the finding of Olayungbo and Olayeni (2018). The political regime (POL) has a negative but statistically insignificant effect on economic growth, with a coefficient of -37264.4 and a p-value of 0.1166. This suggests that political instability or poor governance may negatively affect long-term growth, but the relationship is not strong enough to be statistically significant. Inflation (INF) also exhibits an insignificant negative long-run effect, with a coefficient of -183.474 and a p-value of 0.5722. This implies that inflation does not exert a strong influence on long-term economic growth, possibly due to effective monetary policy measures or inflationary pressures being absorbed by other economic factors.

CONCLUSION

The study discovers that administrative spending produces a non-significant negative influence on economic growth throughout the long run contrary to Lupu and Asandului (2017). Statistical analysis suggests ADM(-1) at 0.902286 without a statistically valid relationship ($p = 0.7655$). Public expenditures that make up government overhead expenses fail to enhance long-term national economic growth in Nigeria according to study findings. The results support those reported by Barlas (2020). Social and community services expenditure creates conflicting long-term impacts on economic growth. The SCS(-1) coefficient equaling -2.35707 displays a negative relationship but reaches an insufficient level of significance ($p = 0.4352$). The results from error correction modeling demonstrate positive short-term effects of social spending but its long-term impact on growth emerges as limited or inconsistently positive which differs from Delani *et al.* (2021). The results show that economic services expenditure (ECO) produces a statistically significant negative effect on economic growth during the long term with a coefficient value of -1.62307 at a p-value level of 0.0000 yet differs from the finding of Schmidt and Wigerstedt (2019). Economic service costs above a threshold appear to produce operational problems along with reduced private investment leading to inferior economic results. The study outcome matches previous research presented in Ajayi and Aluko (2016). The analysis indicates that economic growth relates negatively to transfer payment expenditure (TRP) in the long run with a coefficient value of -0.45866 and 0.0000 significance level. The findings indicate that although transfer payments briefly support households, they might become a long-term fiscal problem and discourage productive economic activities which blocks long-term economic expansion. Olayungbo and Olayeni (2018) published similar research results.

The error correction term (-1.7315, $p < 0.0000$) confirms strong long-run equilibrium. Trade openness (TOP) has a significant positive long-run effect, with a coefficient of 0.417482 and a p-value of 0.0000. This suggests that increased trade openness fosters long-term economic growth by enhancing market efficiency, boosting competitiveness, and attracting foreign direct investment. Labour force expansion boosts growth (746101.9, $p < 0.0000$), but lagged effects reveal inefficiencies. In the long run, both capital formation and labour force participation negatively affect GDP due to skill mismatches. Findings align with Keynesian and Solow models, emphasizing fiscal reallocation and labour market reforms for sustained growth. Political stability enhances long-term growth, reinforcing its importance. Long-run negative effects on RGDP stem from inefficiencies, corruption, and poor investment targeting. Strengthening fiscal discipline, reducing corruption, and enhancing governance are crucial to maximizing the benefits of public spending.

This study provides empirical evidence on the effect of functional government size on economic growth in Nigeria. Policy recommendations emphasise efficient resource allocation, labour market reforms, fiscal transparency, and trade liberalization to sustain long-term economic growth. To enhance economic growth in Nigeria, government expenditure, especially the functional categories, should be optimised by reallocating spending toward capital investment in infrastructure and productive sectors while minimising recurrent expenditure inefficiencies. Public funds will yield their maximum results by improving budget implementation alongside fiscal discipline and reduced corruption practices. To attract enduring investments and maintain consistent policies, a nation requires a stable system of politics along with institutional integrity. Trade liberalization policies can improve worldwide business competitiveness by assisting businesses to expand their exports through new markets and obtaining new technology. Peaceful macroeconomic conditions that come from decent fiscal and monetary policy frameworks enable efficient inflation management along with long-term economic growth potential.

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