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THE COMPOSITION OF GOVERNMENT EXPENDITURE ON GROWTH OUTPUT (GDP) IN NIGERIA'S CURRENT REPUBLIC (1999-2021)

Diken Oseki *, Rioborue B. Agbogidi, Ogechukwu E. Okondu, Charles Aronu

ABSTRACT

This study looked at the composition of government expenditure on growth output (GDP) in Nigeria with the current republic (1999-2021). The government expenditures considered in the study include: government expenditure on education (GEE), government expenditure on health (GEH), government expenditure on Agriculture (GEA), government expenditure on Road & Construction (GER&C), government expenditure on Transportation & communication (GET&C). The objectives of the study include determining the order of integration of the variables considered in the study and examining the short-run and long-run effect of the selected macroeconomic variables on the growth output with the current republic in Nigeria. The study used various tests such as ADF, Jarque-Bera, and co-integration test to determine the order of integration of variables and examine the short-run and long-run effect of the variables on growth output. The study found that government spending on education increased more than all other expenditures from 2000 to 2021, and GEH was greater than GER&C, GEA, and GET&C from 2010 to 2021. The study concluded that government expenditure has an insignificant short-run and long-run impact on growth output with the current republic in Nigeria, and recommended reversing budgetary allocations to the sectors to have an impact on the economy's overall production.

KEY WORDS:

Government expenditure, Growth Output, Education, Health, Agriculture

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1. INTRODUCTION

Economic growth may be significantly impacted by government spending. The demand for products and services may be stimulated by government spending, which can raise output and create jobs. In addition, government expenditure may encourage investments in Research and development, infrastructure, and education, all of which can boost long-term economic growth and productivity. Fiscal stimulus is one method of government spending that might increase demand. This may entail actions like tax reductions or higher public spending on goods and services. Increasing consumer spending and company investment, these activities may boost the economy. Such as when the government spends more money on infrastructure projects, this is expected to result in more employment being created in the construction industry and more supplies and equipment is needed.

Government expenditure is a critical component of economic growth in any country. It is believed that increased government spending can lead to increased economic growth by providing an enabling environment for investment and promoting the development of infrastructure. In Nigeria, government expenditure has been a topic of great interest over the years, as policymakers seek to balance the need for development with the need for fiscal prudence.

Government expenditure is expected to also promote economic expansion by making investments in human capital. This can include money spent on healthcare, education, and training. These investments have the potential to raise employee productivity and skill levels, which might boost economic development. One of such instance is when the government spends more money on education, this may result in a workforce that is more educated, which could enhance productivity and creativity. Another important element of government expenditure that might stimulate economic development is infrastructure investment. Transportation systems, such as buses and trains, are examples of infrastructure. These expenditures may enhance communication and transportation, which may simplify company operations and increase public access to goods and services. Increased economic activity and the development of jobs may result from this. Thus, it is necessary for the present study to look at the composition of government expenditure and growth output in the current republic of Nigeria. It is on record that Nigeria has experienced so far four

Republics; the first republic is the republican government of Nigeria between 1963 and 1966 which was governed by the constitution of the first republic, the second republic (1979–1983), the third republic (1993) and the fourth/current republic (1999–present). The aim of this study is to investigate the impact of government expenditure on economic growth in Nigeria within the current republic, using data from 1999 to 2021. The study seeks to address the following research questions: i. Does government expenditure have a significant impact on economic growth in Nigeria in the short run?, ii. Are the variables stationary?, iii. Is there a cointegrating relationship between government expenditure and economic growth in Nigeria?, and iv. What is the significance of the error correction coefficient in the relationship between government expenditure and economic growth in Nigeria? The specific objectives of the study are as follows: i. To investigate the short-run and long-run impact of government expenditure on economic growth in Nigeria within the current republic, ii. To examine the trend and stationarity of the variables using unit root tests and Jarque-Bera tests, iii. To determine if there exists a long-run relationship between government expenditure and economic growth in Nigeria, and iv. To evaluate the significance of the error correction coefficient and the ECT coefficient for oscillatory convergence.

Several studies have been conducted on the impact of government expenditure on economic growth in Nigeria. For instance, Okoro and Udeh (2020) found a positive and significant relationship between government expenditure and economic growth in Nigeria using Vector Error Correction Model (VECM). Ogunleye and Ogunrinola (2021) also found that government expenditure has a positive and significant impact on economic growth in Nigeria using the Autoregressive Distributed Lag (ARDL) approach. Uremadu et al. (2019) conducted a study to examine the impact of government spending on economic development in Nigeria from 1999 to 2016. The authors categorized the government's current spending into five groups and found that spending on the national assembly, pensions, and gratuities had no bearing on economic expansion. On the other hand, the administration and service of public debt had a significant and positive impact on economic growth. The study recommended that annual government recurrent spending on administration and public debt servicing be maintained, while all leakages resulting from such spending should be stopped to achieve increased growth. Ogar et al. (2019) investigated how government spending affects the expansion of the Nigerian economy from 1980 to 2017. The study focused on the effects of government capital, recurrent spending, and fiscal imbalance on economic growth. Results indicated that

government capital spending contributed to the expansion of the Nigerian economy in a favourable but small way. Additionally, it was shown that the government's budgetary deficit had little adverse impact on the expansion of the Nigerian economy. The analysis found that while government recurrent spending has a negligible short-term positive effect on the growth of the Nigerian economy, it has a negligible long-term beneficial impact on economic growth. Based on the findings, the study suggested that the government overhaul ineffective capital projects to reduce inefficiency in capital expenditure and closely monitor its contract awarding process to prevent overestimation of execution cost and promote economic growth. The government was also urged to increase its recurrent expenditure to sustain the economic growth potential by increasing its expenditure in running governmental activities and planning and coordination. Jibir and Aluthge (2019) used time series data from 1970 to 2017 to estimate the factors influencing government spending in Nigeria. The authors found that a number of factors, including oil income, GDP, population, trade openness, oil price, taxation, and inflation, have a significant impact on how much money Nigeria's government spends. The study suggested that the country's income sources be expanded outside the oil industry, that fiscal and monetary policy be tightened to maintain price level and exchange rate stability, that the use of financial regulation through the surplus crude oil account be enhanced to act as a buffer against oil price fluctuations, and that suitable population control measures be used to slow down the country's fast population increase.

Arawomo and Adeoye (2020) investigated the impact of institutional quality on the link between public spending and economic development in Nigeria from 1986 to 2016. Using the autoregressive distributed lag (ARDL) Bound testing technique, the authors found that corruption has a negative but considerable influence on the link between recurrent spending and economic development, while it has no effect on the association between capital expenditure and economic growth. Democratic accountability affects capital spending and economic growth link negatively and significantly, but positively and significantly affects the relationship between recurrent expenditure and economic growth. The association between recurrent spending and economic growth is similarly impacted negatively by law and order, but the relationship between capital spending and growth is positively impacted. In their study, Ugochukwu and Oruta (2021) examined the impact of various government expenditure components on economic growth in Nigeria from 1981 to 2020. The authors employed secondary data for analysis and utilized the Granger Causality Test

and Error Correction model. The results of the short-run model showed that recurrent expenditures on health, education, and agriculture had a negligible adverse effect on economic development. In contrast, recurrent spending on debt service, road building, and other expenses had a favorable and insignificant influence on economic development. Capital spending on social services had a negative and considerable effect on economic growth, whereas government spending on economic services had a positive and negligible influence. The study did not provide conclusive evidence for the applicability of either Keynesian theory or Adolf Wagner's law in Nigeria. The authors recommended that the government allocate more funds to key sectors, including agriculture, infrastructure, health, and education, and implement monetary and fiscal policies to encourage output and investment to boost domestic revenue and reduce government borrowing.

The link between public spending and economic development is a subject of debate among researchers, as noted by Ekpo et al. (2022). The pro-market perspective suggests that significant government spending contributes to economic instability and impedes economic expansion, whereas the anti-market perspective emphasizes the beneficial impact of government expenditure on economic growth. The authors utilized the bound test (ARDL) technique to investigate the effects of government spending at the aggregate level on economic growth in Nigeria from 1981 to 2018, using a modified and extended aggregate production model. The co-integration findings indicated a long-term connection between total government spending (LTGE) and economic growth in Nigeria. The ARDL findings further revealed that Nigeria's total government spending (LTGE) had a favorable influence on economic growth. The study supported Wagner's theory, indicating a one-way causal link from LGDP to LTGE during the observed time. The authors recommended that public funds be used effectively to provide security and essential infrastructure, particularly for energy and road infrastructure, and emphasized the need for accountability, transparency, and fiscal responsibility in public assignments.

Yerima et al. (2022) utilized time series data from 1986 to 2020 to examine the effect of government spending on economic growth in Nigeria, using the pairwise causality test and structural vector auto-regression (SVAR) model. The study found that public spending on health and education had little effect on economic expansion, and government debt had no bearing on economic growth. The authors recommended a significant increase in government spending on health and education to meet regional and global benchmarks, as well as a

reduction in borrowing, given that non-productive borrowing accounted for a significant portion of revenue.

In the study by Aluthge et al. (2021), time series data from 1970 to 2019 were utilized to examine the effects of Nigerian government spending (divided into capital and recurrent) on economic development, using the Autoregressive Distributed Lag (ARDL) model. The authors conducted unit root tests and co-integration analysis, taking structural breakdowns into consideration to ensure robust conclusions. The study found that while recurrent spending did not significantly affect economic growth in either the short or long term, capital investment positively and significantly affected economic growth in both the short and long term. The authors recommended that the government increase its share of capital spending, particularly on initiatives that directly impact the welfare of its citizens. Furthermore, the government should reallocate resources toward constructive activities that enhance the nation's human development to improve the spending patterns of recurrent expenditure.

2. METHODS

2.1. Source of Data Collection

This research utilizes secondary data obtained from the 2021 Central Bank Statistical Bulletin. The dataset includes six variables: government expenditure on education (GEE), health (GEH), agriculture (GEA), road and construction (GER&C), transportation and communication (GET&C), as well as economic output (GDP) from 1999 to 2021.

2.2. Method of Data Analysis

Most macroeconomic time series data are often non-stationary in real-world scenarios. A time series dataset is considered to be stationary if the mean and variance are independent of time over the observed period, and the covariance between two time periods depends only on the time interval between the periods and not the actual time at which this covariance is computed. If any or both of these requirements are not met, the process is considered to be non-stationary.

Several tests can be used to evaluate the stationarity of a time series of data. These include the Augmented Dickey-Fuller (ADF) test, the Phillips-Perron test, the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test, and the Phillips-Perron tests. According to Kwiatkowski et al. (1992), the KPSS test is more effective

when detecting trend stationarity, while the ADF test is more effective when detecting difference stationarity. The present study will use the ADF test to assess the stationarity status of the data obtained for the study.

2.2.1 The Augmented Dickey-Fuller (ADF) test

The Augmented Dickey-Fuller (ADF) test is a popular method for checking the presence of a unit root in a time series dataset. The ADF test statistic is typically negative, and as it becomes more negative, the hypothesis that there is a unit root is rejected with greater confidence (Johansen and Juselius, 1992). One common way to perform the ADF test is to test for the presence of a unit root with an intercept. If the test statistic has critical values that are less than the negative value, the null hypothesis of no unit root is rejected. Otherwise, the first difference is taken, and the test is repeated until the null hypothesis is rejected. The number of differences required to reject the null hypothesis is equal to the order of integration or the number of unit roots.

2.2.2. Cointegration Test

Cointegration is the study of stationary linear combinations of integrated variables, which implies a shared stochastic trend and long-run equilibrium. It is useful in distinguishing between short-term and long-term relationships between variables and improving the accuracy of long-term forecasts. To examine the long-term relationship between variables, either the Engle-Granger technique or the Johansen-Juselius approach can be used for cointegration analysis, provided that the variables of interest are integrated into the same order. However, the autoregressive distributed lag (ARDL) approach is preferred when the variables have different orders of integration (Engle and Granger, 1987). In this study, the ARDL approach was used to examine the long-run relationship between the variables since the variables had different orders of integration ($I(1)$ and $I(0)$).

2.2.3. The Autoregressive Distributed Lag (ARDL) Cointegration Approach

After determining the appropriate lag length (p) using a criterion such as the Final Prediction Error (FPE) criterion, Akaike Information Criterion (AIC), or Schwarz Bayesian Criterion (SBC), the ARDL model is estimated to ensure that the errors are white noise. White noise is a time series sequence of independently distributed random variables with a constant mean and variance. Once the appropriate lag length has been established, the ARDL model is formulated and estimated.

The hypothesis set to achieve the objectives of this study were stated as:

Hypothesis 1:

Null hypothesis (H₀): Government expenditure has no significant short-run and long-run impact on economic growth in Nigeria within the current republic.

Alternative hypothesis (H_a): Government expenditure has a significant short-run and/or long-run impact on economic growth in Nigeria within the current republic.

Hypothesis 2:

Null hypothesis (H₀): The variables are non-stationary and do not have a normal distribution.

Alternative hypothesis (H_a): The variables are stationary and have a normal distribution.

Hypothesis 3:

Null hypothesis (H₀): There is no long-run relationship between government expenditure and economic growth in Nigeria.

Alternative hypothesis (H_a): There exists a long-run relationship between government expenditure and economic growth in Nigeria.

Hypothesis 4:

Null hypothesis (H₀): The error correction coefficient and the ECT coefficient are not significant for oscillatory convergence.

Alternative hypothesis (H_a): The error correction coefficient and the ECT coefficient are significant for oscillatory convergence.

3. RESULTS.

3.1. Result of the Descriptive Analysis of the Variables considered in the study

The result of the descriptive statistics presented in Table 1 found that the mean growth output (GDP) over the period of the study was N10.6731 billion, government expenditure on education (GEE) was N5.2309 billion, government expenditure on health (GEH) was N4.6494 billion, government expenditure on agriculture (GEA) was N3.3483 billion, government expenditure on road & construction (GER&C) was N3.9589billion, while government expenditure on transportation & communication (GET&C) was N3.1189 billion. The standard deviation for the variables showed that the values in the data set were approximately close to their various means.

Table 1. Descriptive Statistics of GDP, government expenditure on education (GEE), government expenditure on health (GEH), government

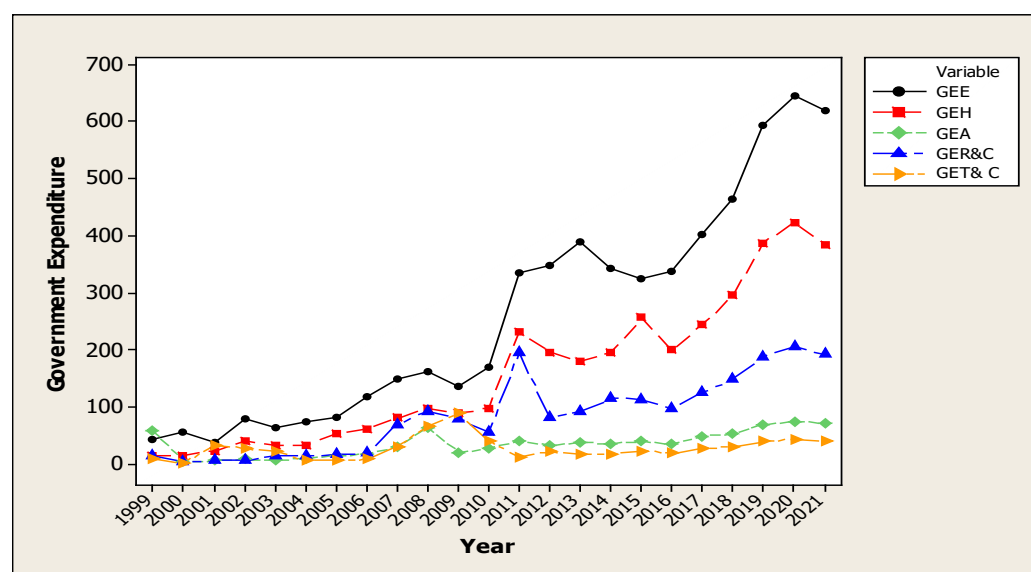
expenditure on Agriculture (GEA), government expenditure on Road & Construction (GER&C), and government expenditure on Transportation & communication (GET&C).

Measures	LOG(GDP)	LOG(GEE)	LOG(GEH)	LOG(GEA)	LOG(GER&C)	LOG(GET_&C)
Mean	10.6731	5.2309	4.6494	3.3483	3.9589	3.1189
Median	10.9235	5.1405	4.5961	3.5919	4.4224	3.1940
Std. Dev.	1.0601	0.8941	1.0351	0.7883	1.1902	0.7679
Skewness	-0.5152	-0.2415	-0.3932	-0.6206	-0.6185	-0.6509
Kurtosis	2.0545	1.7215	1.9455	2.1571	1.9840	3.4371
Jarque-Bera	1.8743	1.7901	1.6583	2.1573	2.4556	1.8066
Probability	0.3917	0.4086	0.4364	0.3400	0.2929	0.4052
Observations	23	23	23	23	23	23

Source: Eview 9.0

All the variables were found to be negatively skewed as indicated the negative Skewness coefficients with a coefficient of -0.5152, -0.2415, -0.3932, -0.6206, -0.6185, and -0.6509 respectively. The result of the Jarque-Bera test showed that the variables were approximately normally distributed after taking logarithm of the variables with p-values greater than 5% critical value.

Figure 1. Graph of GEE, GEH, GEA, GER&C and GET&C from 1999-2021



According to the result presented in Figure 1, government spending on education (GEE) increased more than all other expenditures between 2000 and 2021, despite the fact that GEA was larger than GEE in 1999. From 2010 to 2021, GEH was found to be greater than GER&C, GEA, and GET&C.

3.2. Testing the variables for Stationarity

A stationary process is a process or series whose properties do not depend on the time at which the series is observed. For this purpose, the Augmented Dickey-Fuller (ADF) test was used to test the stationarity of the data.

Table 2. Result of Augmented Dickey-Fuller unit root test for the variables

Variables	Level		1 st Difference		Order of integration
	No Trend	With Trend	No Trend	With Trend	
LOG(GDP)	-4.7708	-1.3706	-	-	I(0)
LOG(GEE)	-1.0152	-2.2818	-	-	I(0)
LOG(GEH)	-1.8454	-2.7615	-	-	I(0)
LOG(GEA)	-1.8312	-2.7534	-	-	I(0)
LOG(GER&C)	-1.0012	-2.9368	-	-	I(0)
LOG(GET&C)	-3.8437	-3.9844	-2.5888	-2.5223	I(1)
Critical values					
5%	-3.0049	-3.6329	-3.0124	-3.6450	

Source: Eview 9.0

The result of the unit root test on the variables using the Augmented Dickey-Fuller test statistic obtained in Table 2 found that the GDP, GEE, GEH, GEA, and GER&C has no unit root and stationary overtime at the zero difference with trend since the test statistic value has more negative values (-1.3706, -2.2818, -2.7615, -2.7534, and -2.9368 respectively) at 5% significant level while the GET&C was found to have no unit root and stationary overtime at the first difference with trend since the test statistic value has more negative value (-2.5223) at 5% significant level.

This result implies that GDP, GEE, GEH, GEA, and GER&C are integrated of order 0 (I(0)) while GET&C was integrated of order 1 (I(1)). Hence, all the series

were stationary over the study period with the presence of trend.

3.3. Result of the Co-integration Analysis

The result presented in Table 2 showed that some of the variables were found to be stationary at zero difference $I(0)$ but after first differencing $I(1)$, they all became stationary. The differencing was applied to avoid having a spurious regression. Since the differenced variables were stationary, there could be co-integration between the variables. This test enables one to know if some of the variables in the model are cointegrated and as well shows if there is long term relationship existing between the set of the variables. When the variables are integrated of different order as the situation in the present study, the appropriate method to employ is the autoregressive distributed lag (ARDL) approach. Hence, the present study shall employ the ARDL approach to examine the long-run relationship of the variables since the variables were integrated of order ($I(1)$ and $I(0)$). The number of the lag used in the co-integration test is based on the information criterion used in the underlying model. The co-integration trace test of GDP, GEE, GEH, GEA, GER&C and GET&C were presented in Table 3.

The ARDL Model for the model was presented by performing the ARDL bound test to determine whether the level relationship is present amongst the variables considered in the ARDL model. The result presented in Table 3 shows the estimates of the ADRL model describing the relationship that exists between the GDP, GEE, GEH, GEA, GER&C and GET&C. The result of the ARDL bound test for co-integration presented in Table 3 found a calculated F -statistic value of 10.3196 which was above the upper bounds critical value of 3.79 assuming a 5% significance level. This result indicates the rejection of the null hypothesis of no cointegrating relationship amongst the variables of the ARDL model. Hence, the findings imply that GDP is cointegrated with GEE, GEH, GEA, GER&C and GET&C. Also, the result further implies that there exists a long-run relationship amongst the variables.

Table 3. Result of test for the existence of level relationship amongst the variables in the ARDL

Number of regressors	Value of statistic $K=5$
Computed F-statistic	10.3196
5% critical value	
Lower bound value	2.62
Upper bound value	3.79

The critical bound values were extracted from (Pesaran et al., 2001).

The result obtained in Table 3 revealed that there exist a long-run relationship amongst the variables of the ARDL model since the computed F-statistic value of 10.31955 was greater than the lower and Upper bound values at significant level of 0.05 ($10.3196 > (3.79, 2.62)$). Hence it is appropriate to obtain the estimates of the ARDL long-run coefficient for the model and also obtain the estimates of the error correction model (ECM). The result of the long-run estimates is presented in Table 4 while the result obtained in Table 5 presents the estimates of the corresponding ECM. After evaluating 21 models, the ARDL (1, 1, 1, 1, 1, 1) model was selected as the better model using the Hannan-Quinn criterion (HQ). The result indicates that GDP has 1 lag, GEE has 1 lag, GEH has 1 lag, GEA has 1 lag, GER&C has 1 lag and GET&C has 1 lag in the model; this can be seen in the result presented in Table 5.

Table 4. Estimated long-run coefficients: ARDL(1, 1, 1, 1, 1, 1) selected by Hannan-Quinn criterion (HQ).

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(GEE)	0.3420	1.9385	0.1764	0.8635
LOG(GEH)	0.8238	1.6475	0.5000	0.6279
LOG(GEA)	-0.4672	1.3232	-0.3531	0.7314
LOG(GER&C)	1.3784	1.9598	0.7033	0.4979
LOG(GET&C)	-0.2442	0.4028	-0.6062	0.5579
Constant	-1.1271	11.0408	-0.1021	0.9207

Source: Eviews 9

The result of the long-run relationship between the GDP and variables such as GEE, GEH, GEA, GER&C and GET&C presented in Table 4 found that the coefficients for all the variables were insignificant since their p-values less than significant level of 0.05. It was found that GEE, GEH and GET&C have positive

coefficients while GEA and GET&C has a negative coefficient.

From the result presented in Table 4, the Co-integration equation can be expressed as equation (1):

$$\text{Cointeq} = \text{LOG}(\text{GDP}) - (0.3420 \cdot \text{LOG}(\text{GEE}) + 0.8238 \cdot \text{LOG}(\text{GEH}) - 0.4672 \cdot \text{LOG}(\text{GEA}) + 1.3784 \cdot \text{LOG}(\text{GER\&C}) - 0.2442 \cdot \text{LOG}(\text{GET\&C}) - 1.1271) \quad (1)$$

The result presented in Table 5 showed that the error correction coefficient of -1.1271 (p -value = 0.4900) was significant and indicates that the system corrects its previous period disequilibrium at a speed of 12.7% annually. The result of the ECT (Error Correction Term) implies an oscillatory convergence since the ECT coefficient falls between 0 and -2; this ensures that the system will be convergent. A further result showed that the lag of all the variables has an insignificant short-term effect on GDP within the observed period.

Table 5. Error correction representation of the selected ARDL model: ARDL ARDL(1, 1, 1, 1, 1, 1) selected by Hannan-Quinn criterion (HQ).

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(GEE)	0.0853	0.0868	0.9827	0.3489
DLOG(GEH)	-0.0320	0.0747	-0.4285	0.6774
DLOG(GEA)	0.0669	0.0442	1.5130	0.1612
DLOG(GER_C)	-0.0945	0.0310	-3.0447	0.0124
DLOG(GET__C)	-0.0179	0.0192	-0.9317	0.3734
CointEq(-1)	0.0524	0.0749	0.6998	0.4900

Source: EvIEWS 9

4. CONCLUSION

This study looked at the composition of government expenditure on growth output in Nigeria with the current republic (1999-2021). The findings of the study showed that the mean growth output (GDP) over the period of the study was N10.6731 billion, government expenditure on education (GEE) was N5.2309 billion, government expenditure on health (GEH) was N4.6494 billion, government expenditure on agriculture (GEA) was N3.3483 billion, government expenditure on road & construction (GER&C) was N3.9589billion, while government expenditure on transportation & communication (GET&C) was

N3.1189 billion. All the variables were found to be negatively skewed as indicated the negative Skewness coefficients. The result of the Jarque-Bera test showed that the variables were approximately normally distributed after taking logarithm of the variables with p-values greater than 5% critical value.

It was found that government spending on education (GEE) increased more than all other expenditures between 2000 and 2021, despite the fact that GEA was larger than GEE in 1999. From 2010 to 2021, GEH was found to be greater than GER&C, GEA, and GET&C.

The result of the unit root test on the variables using the Augmented Dickey-Fuller test statistic found that variables such as GDP, GEE, GEH, GEA and GER&C are integrated of order 0 ($I(0)$) while GET&C was integrated of order 1 ($I(1)$). Hence, all the series were stationary over the study period with the presence of trend.

The result of the ARDL bound test for co-integration showed that GDP is cointegrated with GDP, GEE, GEH, GEA, GER&C and GET&C. Also, the result further implies that there exists a long-run relationship amongst the variables. Hence it is appropriate to obtain the estimates of the ARDL long-run coefficient for the model and also obtain the estimates of the error correction model (ECM). After evaluating 21 models, the ARDL (1, 1, 1, 1, 1, 1) model was selected as the better model using the Hannan-Quinn criterion (HQ). The result indicates that GDP has 1 lag, GEE has 1 lag, GEH has 1 lag, GEA has 1 lag, GER&C has 1 lag and GET&C has 1 lag in the model.

The error correction coefficient was found to be -1.1271 (p -value = 0.4900) which indicates that the system corrects its previous period disequilibrium at a speed of 12.7% annually. The result of the ECT (Error Correction Term) implies an oscillatory convergence since the ECT coefficient falls between 0 and -2; this ensures that the system will be convergent. A further result showed that the lag of all the variables has an insignificant short-term effect on growth output within the observed period.

Based on the findings made in the present study, the following recommendations are hereby made:

- i. In order to give the education, health, agriculture, road & construction and transportation & communication sectors the funding they require to have an impact on the economy's overall production, the study recommends that budgetary allocations to the sectors should be reversed from their current downward trend.
- ii. The study strongly recommends that the government and key stakeholders should ensure that monies intended for the aforementioned sectors' growth are managed effectively.

DISCLOSURE OF CONFLICT

The authors declare that they have no conflicts of interest.

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