INVESTIGATING THE RELATIVE IMPACT OF GOVERNMENT EXPENDITURE ON ECONOMIC GROWTH IN NIGERIA

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Abstract

This research work empirically examined the relationship between government expenditure and economic growth in Nigeria for the period 1981-2020. Ex-post facto research design was adopted in the investigation. Multiple regression analysis was employed, in which Auto-Regressive Distributed Lag (ARDL) model was the method of analysis utilized in the research. The ARDL model evaluates long-run and short-run interactions among the specified variables. The unit root tests conducted using Augmented Dickey-Fuller (ADF) revealed that the time series variables used were stationary at level and the first difference, but none of the variables was stationary at the second difference. The ARDL – Bound test analysis revealed the existence of long-run equilibrium relationship between government expenditure and economic growth in Nigeria within the period of the study. The coefficient of error correction mechanism was statistically significant and also negatively signed. The results equally showed that in the short run, government recurrent expenditure was statistically insignificant but positively related to economic growth; while government capital expenditure which was statistically significant, related negatively to economic growth in Nigeria. However, at the long run, both government recurrent and capital expenditures were statistically significant; but while recurrent expenditure indicate positive relationship with economic growth, capital expenditure maintained negative relationship with economic growth in Nigeria. Based on the findings, the study therefore recommended in strong terms that more resources should be channelled to recurrent expenditure as it will stimulate economic growth. Secondly it recommended that capital expenditure should be effectively and efficiently deployed through constant monitoring and audit.

Keywords: Government Expenditure, Economic Growth, Auto-Regressive Distributed Lag (ARDL)*, Nigeria*

Introduction

Government expenditure is a significant driver of economic growth and development. This is simply because of its important role in the functioning of an economy whether developed or under developed. That is why there is a common consensus among the researchers that public sector expenditure is as an important instrument which the government uses to influence the performance of the economy (Iheanacho, 2016; Ijuo & Andohol, 2020).

This government expenditure, otherwise known as public expenditure was born out of revenue allocation which refers to the value of goods and services produced through the public sectors of the economy. The expenses are incurred in the production and provision of goods and services. Infact, there are two sides of public finance; how government gets finance (sources), and how it spends the money (uses). Therefore, public expenditure is the aspect of public finance which deals with how government utilizes the fund it generates from the various sources of revenue. Hence, it is the redistribution of fiscal capacity between the

various levels of government or the disposition of responsibilities between the tiers of government (Aniakam & Akinsanya 2014).

Generally, government expenditure affects the aggregate resource use and together with monetary and exchange rate policies. However, the direction and magnitude of relationship between this government expenditure and economic growth has continued to generate series of debate among scholars. It is obviously presumed that government of every nation in the whole world performs two basic functions. These two primary functions or obligations include protection (security) and provisions of certain public goods. The Protective function entails creation of rule of law and enforcement of property rights which helps to minimize risks of criminality, protect life and property, and the nation from external attacks; while defense, roads, education, health, and power, etc are goods provided by government (Abu & Abullahi 2010). Many scholars have supported the fact that increases in government expenditure on socio-economic and physical infrastructures encourage economic growth.

Government expenditure is usually classified into two categories. These are recurrent and capital expenditure. The recurrent expenditure refers to the money spent on maintenance and running costs; while capital expenditures are the expenses on projects which last for many years. Government spending as argued by various scholars has significant effects on economic growth. Whenever the rate of government spending on health and education for instance increases, the outcome is higher rate of economic growth. Again, government spending on infrastructures such as road projects, transportation, agriculture, etc. attracts more investments and increases the profits of firms and incomes of individuals thereby accelerating economic growth. The government's investment in physical and social infrastructures, health care facilities, and educational institutions has significant effects on economic growth as it provides a suitable climate for investments in a country (Jelilov & Musa, 2016).

Like every other developing economies, Nigeria over the years, has had steady increases in government spending without appreciable and comparable increases in economic growth and development. That is, despite the huge amount of expenditures, there is still insignificant level of development witnessed. Public expenditures on all sectors of the Nigerian economy is expected to lead to economic growth in the sense that capital and recurrent expenditure will boost the productive base of the economy which in turn, leads to growth. Despite the rising government expenditure in Nigeria, the problem of translating this to a meaningful growth and development of the country has been daunting over the years. This is evident by high rates of unemployment, illiteracy rate, and the number of its citizens who continue to wallow in abject poverty, while more than 65% of its people live on less than US$1 per day. As high as 70% of Nigerians also still lack medical care, do not have access to clean and portable water and basic needs of live (WHO, 2010). Therefore, having observed the above problem, the need to empirically investigate the relationship existing between government expenditure and economic growth in Nigeria is felt

Literature Review

Government expenditure: Government expenditure is the expenses which government incurs for the maintenance of the government and the society in general. It can also be referred to as expenses which government incurs in carrying out its programmes (Okoh 2008. While Anyanwu (1997) posited that government expenditure involves all the expenses which the public sector incurs for its maintenance for the benefit of the economy. Bhatia (2008) defines Public expenditure as the expenses which a government

incurs for (i) its own maintenance, (ii) the society and the economy, and (iii) helping other countries. Public expenditure refers broadly to expenditure made by local, state and national government agencies as distinct from those of private individuals. Public Expenditure also comprises of government payments for the goods and services acquired and for the works done pursuant to their respective laws, social security contributions, interest payments of domestic and foreign debts, general borrowing expenditures, payments resulting from the discounted sale of borrowing instruments, economic, financial and social transfers, donations and grants, and others.

Economic Growth

Economic growth is described as the increase in per capital income. It is always evaluated as the rate of change in real GDP. Economic growth can exist either as positive economic growth or negative growth. It becomes positive when there are healthy macroeconomic variables of the economy (inflation, unemployment, etc.) and tends to be negative when these macroeconomic variables are shrinking (Atuma, David, Nwibo, Nkwagu, Udenta, Njim & Uwaeke, 2024)

Role of Government Expenditure

According to Musgrave and Musgrave (1989), Public expenditure is used for allocation, stabilization and distribution of resources. The allocation function becomes necessary so as to provide both private and in particular, social goods in appropriate mix with available resources. According to Omoruyi (1998), stabilization function of public expenditure is that of maintaining high employment, a reasonable degree of price stability an appropriate rate of economic growth, with allowance for effect on trade and on the balance of payment. That is the stabilization function is concerned with the attainment by the national economy of full employment and capital utilization at stable price, a good balance of intervention performance and a satisfactory rate of growth in per capita income over a period of time.

From the above, it is obvious that the purpose of government expenditure is as follow:

i). To supply goods and services that are not supplied by the private sector, such as defense, roads and bridges; merit goods such as hospitals and schools, and welfare payments and benefits including unemployment and disability benefits.

ii). To achieve improvements in the supply-side of the macro-economy, such as spending on education and training to improve labor productivity.

iii). To provide subsidies to industries that may need financial support for either their operation or expansion. The private sector is not able to meet such financial requirements and, hence, the public sector plays a crucial part in lending necessary support. For example, transport infrastructure projects do not attract private finance unless the government provides expenditures for the industry.

Theoretical Frame Work

The Keynesian Theory

In the Keynesian macroeconomics, increase in government expenditure has an expansionary effect on income and employment through the multiplier effects on aggregate demand. On the other side,

government expenditure crowds out private investment as a result of increase in the rate of interest and this slows down economic growth and reduces the rate of capital accumulation in the long run. Hence, Keynes in 1936 regarded government expenditure as an exogenous variable that contributes positively to economic growth. Hence, an increase in government expenditure would likely lead to increase in employment, profitability and output through the multiplier effects on aggregate demand. With the introduction of government expenditure by Keynes, the national income determination model is expanded as it becomes; AD=C+I+G; where AD represents aggregate demand which equals the sum of consumption (C),

Investment (I), and government expenditure. The government expenditure has direct and positive impact on the GDP. An increase in government expenditure will boost aggregate demand, resulting in higher level of national income. All things being equal, an increase in government spending has an expansionary effect on output and income while a decrease has contractionary effect on output and income (Okoh 2008).

Adolph Wagner's Theory

The earliest of all theories of government growth is Wagner's Law of increasing state activity. This theory posits a relationship linking industrialization, urbanization and education to the expansion of the public sector (Bird, 1971). The activities of the different tiers of government (federal, state and local) increase both intensively and extensively arising from increasing demand for public utilities. Wagner advanced the theory of rising public expenditure by analyzing trend in the growth of government expenditure and in the size of government expenditure. Wagner's law postulates that: (i) the extension of the functions of the states leads to an increase in public expenditure on administration and regulation of the economy; (ii) the development of modern industrial society would give rise to increasing Political pressure for social progress and call for increased allowance for social consideration in the conduct of industry (iii) the rise in public expenditure will be more than proportional increase in the national income (income elastic wants) and will thus result in a relative expansion of the public sector. So it is the economic growth that determines government size. The theory explains that increases in public goods are a product of increased demands by organized industrial workers, coming at the costs of growth in the private sector (Wagner, 1958). The government sector tends to grow faster than the economy (Oriakhi 2004).

2.3 Empirical Literature

Onuoha and Okoye, (2020) examined the effects of aggregate public expenditure, recurrent government expenditure, and capital government expenditure on economic growth, and the effect of economic growth on aggregate public expenditure. Using a time-series data set from the Nigerian context for the period between 1981 and 2018 and analyzing the same with the OLS regression model after a pre-estimation unit root test, impressive results emerged. First, the study found that whereas aggregate public expenditure positively affects economic growth, recurrent government expenditure and capital g

Felix and Amakor (2017), investigated the impact of government expenditure on general administration, defense, education and health on GDP of Nigeria. The Ordinary Least Square (OLS) method of estimation was used in the multiple regression analysis. The result showed that expenditure on general administration has a positive impact and significant relationship with economic growth; expenditure on defense has a negative impact but significant relationship with GDP; expenditure on education has a

positive and highly significant relationship with economic growth; and Expenditure on Health has a positive but insignificant impact on GDP.

Udoffia and Godson (2016) investigated the impact of federal government expenditure on the Nigerian economy using the OLS estimation technique and found that federal government capital and recurrent expenditure have a positive effect on real GDP.

Oyinlola and Akinnibosun (2013) examined the relationship between public expenditure and economic growth in Nigeria during the period 1970-2009. Using cointegration method, the result showed the presence of a cointegrating relationship between the variab les in the system thus, suggesting that a long term relationship exists between them.

Research Design and Methodology

Research design constitutes the blueprint for the collection, measurement, and analysis of data. This study adopts ex post facto research design since it explores cause and effect relationships where causes already exist and cannot be manipulated. Hence, Unit root test and Autoregressive Distributed Lag (ARDL) model were employed as the method of analysis. The test of unit root was used in the research to determine the order of integration of the variables of the study; while the ARDL technique was adopted for the examination of the magnitude or elasticity of the coefficients of the independent variables in relation to the dependent variable. In capturing the study, these variables were used as proxy:

RGDP = F(GCE, GRE) 1

Explicitly, equation (1) above is transformed into an econometric linear form as structurally expressed as:

$$LRGDP_t = b_0 + b_1 LGRE_t + b_2 LGCE_t + \varepsilon_t \quad 2$$

Where; RGDP = Real Gross Domestic Product; GRE = Government Recurrent Expenditure;

GCE = Government Capital Expenditure; LRGDP = Log of Real Gross Domestic Product

LGRE = Log of Government Recurrent Expenditure; LGCE = Log of Government Capital Expenditure; ε_t = Error term; b_{is} = Parameters estimates

Sources of Data

The data for this research work are obtained from the following sources:

- Central Bank of Nigeria Statistical Bulletin

- National Bureau of Statistics.

RESULTS

Table 1: ADF Unit Root Test Results @ Level

Series	ADF Statistic	5 % Critical Value	P-Values	Order of Integration	Remarks
LRGDP	-4.347803	-3.574244	0.0092	I(0)	Stationary
LGRE	-0.642746	-3.536601	0.9701	I(0)	Not Stationary
LGCE	-1.434627	-3.533083	0.8341	I(0)	Not Stationary

Sources: Researcher's computation from E-view 9

Table 2: ADF Unit Root Test Results @ 1st Difference

Series	ADF Statistic	5 % Critical Value	P-Values	Order of Integration	Remarks
LRGDP	-4.347803	-3.574244	0.0092	I(0)	Stationary
LGRE	-5.238210	-3.552973	0.0009	I(1)	Stationary
LGCE	-6.278704	-3.536601	0.0000	I(1)	Stationary

Sources: Researcher's computation from E-view 9

The Augmented Dickey Fuller (ADF) unit root test presented in table 1and 2 above disclosed that the real gross domestic products (RGDP) was stationary at level whereas government recurrent expenditure (GRE) and government capital expenditure (GCF) were stationary at first difference. This unit root test result therefore revealed that there exists a mixed order of integration among the variables of the study. The mixed order of integration from the unit root test results implies the possibility of long-run relationship among the variables of the study, though further investigations using ARDL – Bound test result will reveal if actually long run relationship exist among the variables of the study.

Table 3: ARDL Bounds Test Resu lt

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	K
F-statistic	5.978894	2
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	3.17	4.14
5%	3.79	4.85
2.50%	4.41	5.52
1%	5.15	6.36

Sources: Researcher's computation from E-view 9

The results of the ARDL bounds test result presented in Table 3 shows that a long-run relationship exists between government expenditure and economic growth in Nigeria within the periods of the study. The result also disclosed that the computed *F*-statistic exceeds the upper critical value at 5% level of significance, which implies that government expenditure and economic growth in Nigeria are cointegrated in the long run at 5% level of significance.

Table 4: Short Run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LRGDP(-1))	0.314372	0.132893	2.365604	0.0252
D(LGRE)	0.007160	0.022998	0.311331	0.7579
D(LGRE(-1))	-0.004773	0.025723	-0.185542	0.8541
D(LGRE(-2))	-0.046773	0.022967	-2.036537	0.0513
D(LGCE)	-0.032916	0.013621	-2.416545	0.0224
CointEq(-1)	-0.153320	0.043651	-3.512428	0.0015

R^2 = 0.997807; F-stat = 1819.917, and Prob(F-stat) = 0.000000 , DW stat = 1.897016
Sources: Researcher's computation from E-view 9

The short-run coefficients and the Error Correction Mechanism (ECM) results presented in Table 4 shows that real gross domestic product at lag one was statistically significant and impacted positively on the current values in the real gross domestic product in Nigeria. Again, the result indicated that government recurrent expenditure at lag zero is statistically insignificant but impacted positively on economic growth in Nigeria. The result further disclosed that government capital expenditure at lag zero was statistically significant and impacted negatively on economic growth in Nigeria. However, the result also shows that the sign of the co-integration coefficient also recognized as Error Correction Mechanism (ECM) was negative and statistically significant. On the other hand, the value of ECM being negative and statistically significant means that government expenditure and economic growth are cointegrated in the long run. The result of the error correction mechanism indicates that 15% of the discrepancy between the short-run and long-run values will be corrected annually.

The above result shows that the R^2 is 0.997807, which implies that the model explains about 99.7807% of the total variations in real gross domestic product (RGDP) are explained by the independent variables (government recurrent expenditure and government capital expenditure) during the period of the study. While the remaining 0.2193% variations are as a result of other explanatory variables that are not captured in the model. The Prob(F-statistic) being 0.000000, implies that the joint influence of the explanatory variables is statistically significant as it is less that 0.05 at 5% level of significance. Again, Durbin Watson statistic being 1.897016 which is approximately 2, shows the absence of serial auto correlation in the model

Table 5: Long Run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGRE	0.405009	0.058844	6.882708	0.0000
LGCE	-0.214688	0.068548	-3.131954	0.0040
C	9.426077	0.141838	66.456776	0.0000

Sources: Researcher's computation from E-view 9

The long-run coefficients of the variables used in this study presented in table 5 above, revealed that the coefficients of government recurrent expenditure was statistically significant and impacted positively on the economic growth in the long run whereas that of the coefficient of government capital expenditure was statistically significant, but has a negative impact on economic growth in Nigeria. The negative impact of government capital expenditure concerning the increase in economic growth in Nigeria shows that capital expenditure has not been fully utilized, and to this end, it cannot produce the desired positive effect on economic growth. However, some of the reasons that may be responsible for the negative impact of government capital expenditure on economic growth are unaccountability of government on capital expenditures, inappropriate funding of capital expenditure, misappropriation of funds budgeted for capital expenditures by the public office holders, etc. Therefore, the long-run effects of government expenditure on economic growth in Nigeria are stated as follows:

(i) A percentage increase in government recurrent expenditure will bring about a 0.41% increase in economic growth in Nigeria. The increase in economic growth with the increase in government recurrent expenditure in Nigeria is in line with the the priori expectation of the expected relationship existing between government recurrent expenditure and economic growth in the country. It simply implies that an increase in government recurrent expenditure in the country will result in to increase in economic growth in Nigeria.

(ii) One percentage increase in government capital expenditure will bring about a 0.21% decrease in economic growth in Nigeria. This result implies that government capital expenditure has a negative effect on economic growth in Nigeria. It simply implies that an increase in government capital expenditure produces a negative effect on economic growth instead of a positive effect. However, the negative effect of government capital expenditure on economic growth may be attributed to some factors such as misappropriation of funds budgeted for capital expenditures by the public office holders, inappropriate funding of capital expenditure, unaccountability of government on capital expenditures, etc.

Conclusion

This study examined the impact of government expenditure on economic growth in Nigerian. To this end, the role of government expenditure as a contributing factor to the increase in economic growth in the country cannot be overemphasized. However, it is on this ground that this study is motivated to find out the extent to which government expenditure impacted economic growth in Nigeria ranging from 1981 – 2020. The study employed the ARDL model to estimate the impact of government expenditure on economic growth in Nigeria.

The empirical evidence from the ARDL – Bound test analysis disclosed that there is a long-run equilibrium relationship existing between government expenditure and economic growth in Nigeria within the period of the study. On the other hand, the coefficient of ECM was statistically significant and negatively signed indicating the sign of a return to long-run equilibrium. However, the long-run effects of the variables used in the study are stated as follows:

(i) A percentage increase in government recurrent expenditure will bring about a 0.41% increase in economic growth in Nigeria. The increase in economic growth with the increase in government recurrent expenditure in Nigeria is in line with the a priori expectation of the expected relationship existing between government recurrent expenditure and economic growth in the country. It simply implies that an increase in government recurrent expenditure in the country will result in to increase in economic growth in Nigeria.

(ii) One percentage increase in government capital expenditure will bring about a 0.21% decrease in economic growth in Nigeria. This result implies that government capital expenditure has a negative effect on economic growth in Nigeria. It simply implies that an increase in government capital expenditure produces a negative effect on economic growth instead of a positive effect. However, the negative effect of government capital expenditure on economic growth may be attributed to some factors such as misappropriation of funds budgeted for capital expenditures by the public office holders, inappropriate funding of capital expenditure, unaccountability of government on capital expenditures, etc.

Recommendations

The following recommendations are made based on the findings of this study:

(i) Since an increase in government recurrent expenditure brings about a positive effect on economic growth in Nigeria at the time of this study. Therefore, the researcher recommends that the government should maximize her recurrent expenditure and as well, close all loopholes that can undermine the efficiency of government recurrent expenditure on economic growth which may manifest in the form of embezzlement and corruption in government..

(ii) Since an increase in government capital expenditure brings about a negative impact on the economic growth in Nigeria at the time of this study, the government is recommended to always carry out a periodic audit and review of capital expenditures made by the government to ensure public accountability of government as regards capital expenditure in the country.

Secondly the government should appraise returns on investment on capital projects before embarking on such projects as there are many white elephant projects that have not added any value to the economy.

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