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Effect of Government Expenditure on Economic Growth in Nigeria (1986-2018)

Muhammad Dahir Ahmad[1], Yunana Yakubu Aku[2], Wada Mato Rantan[1], Yunana Titus Wuyah[1,*]

[1]Department of Economics and Management Science, Nigeria Police Academy, Wudil-Kano, Nigeria
[2]Department of Political Science, Faculty of Social Sciences, Nasarawa State University, Keffi, Nigeria

Abstract

Despite the rise in government expenditure in Nigeria over the years, there are still public outcries over decaying infrastructural facilities, low gross domestic product, and general economy stagnation. This study investigates the effect of government expenditure on economic growth in Nigeria using time series data spanning 1986-2018. The data were sourced from Central Bank of Nigeria Statistical bulletin for various years. The data were subjected to unit root test and co-integration. Ordinary Least Squared Regression technique was carried out to see the effect of government expenditure on economic growth during the period under review. The explanatory variables in the model are government capital expenditure (GCE), government recurrent expenditure (GRE), money supply (MS), gross fixed capital formation (GFCF) and labour force participation rate (LAF) while the dependent variable is economic growth proxy by gross domestic product (GDP). The unit root result reveal that GDP, GRE, MS and LABF were stationary after first difference while GCE and GFCF were stationary at levels. Co-integration result also indicates that trace and maximum eigen-value statistics show the null-hypothesis of co-integrating is rejected at both 5% and 1% levels of significance. The trace test suggests two co-integrating equations at 5% and one co-integrating equation at 1% while the maximum eigen-value statistics suggests one co-integrating equations at both 5% and 1% levels of significance. Since there is an indication of at least two to three co-integration equations out of five, we conclude that there exists a long run equilibrium relationship between government expenditure and economic growth in Nigeria. Finally, the regression results reveal that government capital expenditure and government recurrent expenditure has a positive and significant impact on economic growth. Government expenditure drives economic growth in Nigeria and the study recommends that more of government's resources should be directed to especially capital expenditure and recurrent expenditure in terms of income to increase aggregate demand.

Keywords

Government, Expenditure, Economic Growth, Capita, Recurrent

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1. Introduction

Nigeria still presents a clear reflection of the third world economy in which the growing economy has some working machinery, monetary and fiscal policies that are aimed at maintaining a balance in the entire economy so that growth and development, which is the ultimate goal of every economy, is realized. The direction and magnitude of relationship between government expenditure has continued to generate series of debate among scholars. It is obviously presumed that Government performs two basic functions-protection (security) and provisions of certain public goods. The Protective function entails creation of rule of law and

* Corresponding author
E-mail address: intity03@gmail.com (Y. T. Wuyah)

enforcement of property rights which helps to minimize risks of criminality, protect life and property, and the nation from external attacks; while defence, roads, education, health, and power, etc are goods provided by government [1].

Unfortunately, rising government spending has not translated to meaningful growth and development, as Nigeria ranks among the poorest countries in the world [2]. In addition, many Nigerians have continued to wallow in abject poverty, while more than 50 percent live on less than 2 (two) dollar per day. Couple with this, is dilapidated infrastructure (especially roads and power sector) that has led to the collapse of many industries, including high level of unemployment rate [3]. Moreover, macroeconomic indicators like balance of payments, import obligations, inflation rate, exchange rate and national savings reveal that Nigeria has not fared well in the last couple of years.

Many scholars [4. 5. 6. 7. 8] and [4, 8] have supported the fact that increases in government expenditure on socio-economic and physical infrastructures encourage economic growth and development.

Government expenditure, mainly based on non-productive spending is accompanied by a reduction in income growth has given rise to the hypothesis that the greater the size of government intervention the more negative is its implication on the economy [8, 1].

Despite the rise in government expenditure in Nigeria over these years, there are still public outcries over decaying infrastructural facilities. Also, merely few empirical studies have taken holistic examination of the implication of government expenditure on Nigeria economy regardless of its importance for policy decisions. More so, for Nigeria to be ready in its quest to become one of the largest economies in the world by the year 2020, determining the implication of public expenditure on Nigeria economy is a strategy to fast-track growth in the nation's economy. A crucial question that requires an urgent answer is whether the government expenditures impact positively on Nigerian economy. This study attempts to provide an answer to this question by empirically examining the implications of government expenditure on Nigeria economy.

In the last decade, Nigeria government expenditure has increased from the level of million to billion naira and postulating to trillion naira on the expenditure side of the budget. This will not be surprising if the economy is experiencing surplus or equilibrium on the records of balance of payment or, if there are infrastructures to improve commerce with the system or social amenities to raise the welfare of average citizen of the economy. All these are not there, yet we always have a very high estimated expenditure. This indicates that something is definitely wrong either with the way government expands the budget or with the way and manners it has always been computed.

This study tends to empirically investigate the effect of government expenditure on Nigeria economy. The paper is structured in five sections: the introduction, literature review, methodology, data presentation and discussion of results and finally, conclusion and recommendations.

2. Literature Review

2.1. Conceptual Framework

2.1.1. Government Expenditure

Government expenditure is an expenses incurred by the governments for its own maintenance, preservation and welfare of the economy as a whole is referred to as government expenditure [9]. According to Olugbenga and Owoye [10] government expenditure is usually categorized into recurrent and capital expenditure. These are further broken down into their compositions.

2.1.2. Economic Growth

Economic growth is defined as "the process whereby the real per capital income of a country increases over a long period of time." Economic growth is measured by the increase in the amount of goods and services produced in a country. A growing economy produces more goods and services in each successive time period [11].

2.2. Theoretical Framework

2.2.1. Theory of Government Expenditure

The theory of government expenditure is the theory of the costs of providing goods and services through the public sector budget and/or the theory regulations and laws introduced that will result in private sector expenditure. There are two approaches to the question of growth of public sector, namely, the growth in absolute size of government expenditure, and the growth in public sector in relation to economic magnitudes.

According to Brown and Jackson [12] government expenditures are represented in two broad categories, namely, exhaustive public expenditures and transfer public expenditures. Exhaustive government expenditures are government's purchases of labour, consumables, etc. (current goods and services) and capital goods and services (i.e. public sector investment in roads, schools, hospitals, etc).

2.2.2. Classical Theories of Economic Growth

The proponents of the classical theory are Adam Smith (1723 - 1790), David Ricardo (1772 – 1823), and others. To the

classical economists; what actually determines the growth rate – and thus, ultimately, the wealth – of nations? The expansion process in the Smith's growth model depends, as is still the case in most modern growth theorizing, on the level of inputs of three factors of production – land, labour, and capital – and on technical progress. Increases in the size of the labour force (L), in the amount of capital (K), and in the available land (H), all lead to increases in total output (Y), suggesting a basic production function of the form:

$$Y = f(L, K, H) \quad (1)$$

Growth in total output (Yg) will be caused by growth in the labour force (Lg), in the capital stock (Kg) and in the supply of land (Hg). In addition, improvements in technology (Tg) lead to expanded output by increasing the productivity of the factors inputs:

$$Yg = f(Lg, Kg, Hg, Tg) \quad (2)$$

To the classical; in a „stationary" economy in which the labour force (and the population), and the stock of capital are constant, then the output will also be constant – there will be no economic growth. The real wage earned by labour will be just enough to provide a subsistence living, with no surplus to make possible an increase in population. Similarly, on the capital side, new investment (I), financed by the new saving (S) of capitalists, will be just enough to replace depreciation of existing capital goods, so there is no growth in the stock of productive capital goods. And land, in the absence of new discoveries or improvements in fertility, is also effectively fixed in quantity.

This situation can persist indefinitely, or it may be disturbed by an external stock such as a new invention which improved efficiency of production, or improved opportunities for international trade (perhaps by opening up of new markets overseas). Increased output makes possible increased saving and investment, which in turn creates conditions favourable for increasing the extent of specialization and further improving productivity. This scenario also permits a rise in wages above subsistence level, which encourages population growth and the expansion of the labour force – a requirement for continued economic growth.

2.3. Empirical Literature

Okoro [13] empirically examined the impact of government expenditure on economic growth for the period (1980-2011) using co-integration and error correction test and found out that there exist long run equilibrium between government spending and economic growth.

Ogundipe [14] investigated the impact of both government recurrent and capital expenditure on growth performance using an econometric analysis based on Johansen technique for the period of 1970-2009. The results from the study indicated that the components of total expenditure have been impacting negatively (except education and health) and insignificantly on economic growth rate. The study further shows that capital expenditure may likely induce significant impact on growth rate in the long-run

Olopade and Olepade [15] assess how fiscal and monetary policies influence economic growth and development. The study employs an analytic framework based on economic models, statistical methods encompassing trends analysis and simple regression. They find no significant relationship between most of the components of expenditure and economic growth.

Abu and Abdullah [1] investigate the relationship between government expenditure and economic growth in Nigeria from the period ranging from 1970 to 2008. The study used disaggregated analysis in an attempt to explain the impact of government expenditure on economic growth. Their results reveal that government total capital expenditure, total recurrent expenditure and education have negative effect on economic growth. On the contrary, government expenditure on transport, communication and health result in an increase in economic growth.

Olorunfemi, [16] studied the direction and strength of the relationship between government investment and its implications in Nigeria, using time series data from 1975 to 2004 and observed that government expenditure impacted positively on Nigeria economy and that there was no link between gross fixed capital formation and Gross Domestic Product. He averred that from disaggregated analysis, the result reveal that only 37.1% of government expenditure is devoted to capital expenditure while 62.9% share is to current expenditure.

Mitchell [17] evaluated the implications of government expenditure on economic performance in developed countries. He assessed the international evidence, reviewed the latest academic research, cited examples of countries that have significantly reduced government spending as a share of national output and analyzed the economic consequences of these reforms. Regardless of the methodology or model employed, he concluded that a large and growing government is not conducive to better economic performance. He further argued that reducing the size of government would lead to higher incomes and improve American's competitiveness.

Gemmell and Kneller [18] provide empirical evidence on the impact of fiscal policy on long-run growth for European economy. Their study employs panel and time series econometric techniques, including dealing with the endogeneity of fiscal policy. Their results indicate that while some public investment spending impacts positively on

economic growth, consumption and social security spending have zero or negative growth effects.

3. Methodology

To analysis the effect of government expenditure on economic growth during the period under investigation (1986-2018), the uses multiple regression model in the estimation. The study subjected the variables to unit root test, and also performed co-integration test. The explanatory variables in the model are government capital expenditure (GCE), government recurrent expenditure (GRE), money supply (MS), gross fixed capital formation (GFCF) and labour force participation rate (LAF) while the dependent variable is economic growth proxy by gross domestic product (GDP). Hence the model for the study is implicitly specified as;

$$GDP_t = f(GCE, GRE, MS, GFCF, LABF) \quad (3)$$

The econometric form of the model is explicitly written as;

$$GDP_t = \alpha_0 + \alpha_1 GCE + \alpha_2 GRE + \alpha_3 MS + \alpha_4 GFCF + \alpha_5 LABF + \mu_t \quad (4)$$

Where; GDP=Gross Domestic Product, GCE= Government Capital Expenditure, GRE= Government Recurrent Expenditure, MS= Money Supply, GFCF= Gross Fixed Capital Formation, LABF = Labour Force Participation Rate and μ = the error term.

4. Data Presentation and Discussion of Results

4.1. Unit Root Test Result

Table 1. Unit Root Test Result.

Variables	ADF Statistics	Critical values	Order of integration
GDP	-4.846643(0.0000)	1% = -2.568432 5% = -1.793063 10% = -1.586431	Stationary at first difference
GCE	-5.129653(0.0000)	1% = -2.568432 5% = -1.793063 10% = -1.586431	Stationary at level
GRE	-7.475326(0.0000)	1% = -2.568432 5% = -1.793063 10% = -1.586431	Stationary at first difference
MS	-3.952753(0.0000)	1% = -2.568432 5% = -1.793063 10% = -1.586431	Stationary at first difference
GFCF	-8.154258(0.0000)	1% = -2.568432 5% = -1.793063 10% = -1.586431	Stationary at level
LABF	-4.956367(0.0000)	1% = -2.568432 5% = -1.793063 10% = -1.586431	Stationary at first difference
ECM	-6.263629	1% = -2.568432 5% = -1.793063 10% = -1.586431	Stationary at level

Source: E-Views 7.0

The results of the unit root test indicate that GCE and GFCF are stationary at level, while GDP, GRE, MS and LABF are stationary at first difference. Moreover, the error correction variable ECM is stationary at level implying that the variables are co-integrated.

4.2. Co-integration Test Result

To have confirmed the stationary of all the variables, we proceeded to determine whether there is a long run equilibrium relationship that exists among the variables. We commenced the co-integration analysis by employing the Johansen co-integration test as indicated in table.

Table 2. Co-integration Trace Statistics.

Hypothesized		Trace	5 Percent	1 Percent
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Critical Value
None	0.720250	80.70646	67.41	75.16
At most 1	0.564700	48.75672	46.10	53.35
At most 2	0.346361	24.85066	28.57	34.54

Hypothesized		Trace	5 Percent	1 Percent
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Critical Value
At most 3	0.283338	13.67573	15.30	21.13
At most 4	0.210605	9.254329	11.32	15.93
At most 5	0.200186	5.65288	3.65	6.54

*(**) denotes rejection of the hypothesis at the 5%(1%) level.
Trace test indicates 2 co-integrating equation(s) at 5% level; Trace test indicates 1 co-integrating equation(s) at 1% levels
Source: E-Views 7.0

Table 3. Co-integration Maximum Eigen Statistics.

Hypothesized		Max-Eigen	5 Percent	1 Percent
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Critical Value
None	0.720251	42.82863	33.45	38.65
At most 1	0.574711	26.80605	26.16	31.78
At most 2*	0.346361	11.06282	21.64	26.15
At most 3	0.283338	8.132675	15.16	19.02
At most 4	0.249042	6.214566	12.32	13.63
At most 5	0.220615	5.647321	4.05	7.35

*(**) denotes rejection of the hypothesis at the 5%(1%) level
Max-eigenvalue test indicates 1 co-integrating equation(s) at both 5% and 1% levels
Source: E-Views 7.0

The first column is the number of co-integrating relations under the null hypothesis from r=0 to r=k-1. Since the variables in question are six, we have from none to at most 5, where K is the number of endogenous variables. The second column is the ordered Eigen value, the third column is the trace statistics and Max Eigen statistics respectively for the two tables and the last two columns are the 5% and 1% critical values. The trace and maximum eigenvalue statistics show that the null-hypothesis of co-integrating is rejected at both 5% and 1% levels of significance. The trace test suggests two co-integrating equations at 5% and one co-integrating equation at 1% while the maximum eigenvalue statistics suggests one co-integrating equations at both 5% and 1% levels of significance. Since there is an indication of at least two to three co-integration equations out of five, we conclude that there exists a long run equilibrium relationship between government expenditure and economic growth in Nigeria.

4.3. Regression Result

The regression equation in chapter three was estimated and the result presented and analyzed below:

Table 4. Regression Result.

Dependent Variable: GDP				
Method: Least Squares				
Date: 09/10/19 Time: 11:02				
Sample: 1986 2018				
Included observations: 33				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	107825.6	74371.19	1.449830	0.1600
GCE	0.122128	4.298640	2.261043	0.0963
GRE	0.306798	2.863032	-2.805718	0.0083
MS	0.344770	0.510408	8.512341	0.0000
GFCF	-0.017368	0.001117	-6.598872	0.0000
LABF	-0.463859	1318.113	-1.427692	0.1663
R-squared	0.993633	Mean dependent var		20779.80
Adjusted R-squared	0.992307	S.D. dependent var		29361.80
S.E. of regression	2575.312	Akaike info criterion		18.72219
Sum squared resid	1.59E+08	Schwarz criterion		19.00243
Log likelihood	-274.8328	F-statistic		749.1343
Durbin-Watson stat	2.086447	Prob(F-statistic)		0.000000

Source: E-Views 7.0

The regression result presented in table 4 above reveal that the explanatory variables jointly account for approximately 99 percentage changes in economic growth. The Durbin Watson statistic (2.0) illustrates the absence of auto correlation. The estimation results show that the variables-government capital expenditure (GCE), government recurrent expenditure (GRE), Broad money supply (MS), and Gross Fixed Capital Formation (GFCF) are statistically significant in explaining changes in economic growth as indicated by the t-statistics. However, Labour Force Participation Rate

(LABF) is not significant in explaining economic growth. The coefficient of government capital expenditure (GCE) is 0.12 showing a positive relationship with economic growth in Nigeria. For instance, 1% increases in government capital expenditure in the previous year causes economic growth to increase by about 0.12%. Similarly, 1% increase in government recurrent expenditure (GRE) in the previous year leads to 0.31% increase in economic growth. These findings are in line with the economic theories. The coefficient of Money supply is 0.34 which is high and positive. That means 1% increase in Money supply (MS) in the previous year results to an increase in economic growth by approximately 0.34%. Gross Fixed Capital Formation (GFCF) and Labour Force Participation Rate (LABF) coefficients are -0.02 and -0.46 respectively. They all have negative relationship with economic growth. Percentage increase in any of the variable would results to a decrease in economic growth. Lastly, the F-statistics is very high meaning that the variables altogether are significant in influencing economic growth in Nigeria.

5. Conclusion and Recommendations

The study investigates the effect of government expenditure on economic growth in Nigeria spanning the period 1986-2018. This study concludes that, government expenditure has significant effect on economic growth proxy by GDP. This means that, government expenditure is a true variable for measuring economic growth. Therefore, the study has shown that government expenditure is the main driver of economic growth. The other variables such as money supply also have impact on economic growth. Based on the findings, the following policy recommendations were made: Government should increase its expenditure to productive sectors of the economy in order to further drive economic growth. The monetary authority should increase money supply through reduction in interest rate which will further increase economic growth.

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