Government Expenditure and the Economy: The Nigeria Perspective

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Authors' contributions

This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.

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ABSTRACT

Logically, government expenditure is expected to boost economic activities and performance. However, this study conjectured that capital and recurrent expenditure or a combination of both would impact differently on the economy. Thus, this study evaluated whether there is no short run and long run causality running from capital expenditure, recurrent expenditure and aggregate expenditure to gross domestic product. Secondary data used for this study were collected from Central Bank of Nigeria statistical bulletin over a period of 34 years (1981-2014). Stationarity test for variables was performed to establish whether variables are stationary or nonstationary. Johansen cointegration test was employed to investigate whether variables are cointegrated or not. Having established that variables are not cointegrated, VAR Granger Causality model was estimated. Since this study focused on four variables (GDP, CAPE, RECE and TOTE), VAR estimated four linear regressions specifying each of the variables as dependent variable. The second linear regression model where capital expenditure was the dependent variable was the only significant model among all. Essentially, results established significant association between CAPE and GDP lag 1 and GDP lag 2. In other words, GDP lag 1 and GDP lag 2 jointly influences CAPE or CAPE influences GDP lag 1 and GDP lag 2. This outcome has practical implication for Nigeria policy makers and Nigeria government at large. This study therefore recommends a monumental increase in Nigeria capital expenditure as such increase has potentials of propelling economic performance in terms of GDP.

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1. INTRODUCTION

Government world over are interested in achieving reasonable economic growth. In order to achieve this, government basically and broadly employ two tools - Monetary policy and fiscal policy [1]. Whereas, monetary policy is fundamentally concerned with the management of interest rates and the total supply of money in circulation; fiscal policy is concerned with the broad term that describes government tax and spending policies [2]. While the earlier generally is carried out by Central Bank of most nations, fiscal policy decisions are determined by the executive and legislative arms of government [1].

Government fiscal policy is normally embedded in a statement called budget. In other words, the budget is basically the expression of government fiscal policy. A budget in its simplest form is a picture of government projections regarding revenue and expenditure over a period of time, mostly, annually. According to [3], a budget, whether government or private organizations budget, is a plan quantified in monetary terms, prepared and approved prior to a defined period of time, usually showing planned income/revenue to be generated or expenditure/expenses to be incurred during the period and the capital to be employed to maintain the given objective. Consequently, most government annually are expected under law/constitution to roll out budgets [4].

Government revenue is financial resources deploy for the smooth functioning of government. Government revenue is majorly estimated for taxes where a financial burden is imposed on residents and enterprises in a nation. On the other hand, government expenditure refers to expenses incurred by the government for the maintenance of itself and provision of public goods, services and works needed to foster or promote economic growth and improve the welfare of people in the society [5]. Government expenditure is estimated on the basis of spending incurred for the benefit of residents of a nation. Large proportion of government expenditure includes social security, education and infrastructure investment [1].

Government expenditure could be capital or recurrent. [5] defines capital expenditure as expenditure creating future benefits, as there could be some lags between when it is incurred and when it takes effect on the economy. [6] simply describe capital expenditure as expenditure on the creation or acquisition of fixed assets (new or second-hand). On the contrary, recurrent expenditure refers to expenditure on purchase of goods and services, wages and salaries, operations as well as current grants and subsidies (usually classified as transfer payments) [6,5]. Regardless of the classification, government expenditure has direct practical and theoretical connexion with fiscal policy.

Fiscal policy could be either expansionary or contractionary. Expansionary fiscal policy is geared towards expanding an economy. Thus, to expand the economy, government may decide to increase government spending and reduce taxation, thereby increasing the availability of money in the economy. Expansionary fiscal policy is found effective in increasing aggregate demand of good, high employment creation and ultimately, leading to increase in production and overall economic output. However, expansionary fiscal policy should be adopted with caution, as it may cause inflation. On the other hand, contractionary fiscal policy contracts an economy. In a contractionary fiscal policy, the government increases taxation and reduces government spending, thus, reducing the money in the economy. Whereas, this measure is effective in reducing inflation, it may lead to stunted growth and unemployment. The role of government expenditure in both expansionary and contractionary fiscal policies is consistent with the Keynesian macroeconomic theory.

The Keynesian macroeconomic model advocates an active government intervention in the economy through an increase in government spending (money supply) in order to stimulate the demand for goods and services during periods where there is lack of demand (low demand) or the economy is producing less than potential output [7]. According to the Keynesians, public spending can be used to employ idle resources, put the unemployed back to work and boost economic activities [7]. This illustrates the importance of aggregate demand which in turn increases gross domestic product (hereafter referred to as GDP) and prices so as to determine the level of output and income in the economy [7]. Simply put, increase in government spending will result in increased aggregate demand, real GDP and prices. This exactly describes expansionary fiscal policy. Conversely,

in times of economic expansion, the government can adopt a contractionary policy, decreasing spending, which decreases aggregate demand and the real GDP, resulting in a decrease in prices; a depiction of contractionary fiscal policy. In all both expansionary and contractionary fiscal policies are targeted towards achieving strong, sustainable and balanced economic growth. Thus, both policies are expected to impact economic performance, commonly measured by real GDP.

Essentially, Nigeria economy like many crude oil dependent economies is currently in the eye of the storm [8]. Since the global economy is in the midst of an oil price adjustment including the fact that oil is Nigeria's main source of foreign exchange earnings and government financing, growth expectations for the economy have deteriorated [8]. This worrisome economic situation of Nigeria suggests the imperativeness of its incessant appraisal. Therefore, evaluating the effects of government expenditure (capital, recurrent and a combination of both) on the performance of the economy in terms of real GDP is an empirical academic adventure this study seeks to explore.

The rest of the paper is organized as follow: Section 2 contains a brief statement of the problem that this study addresses. Processes of developing Nigeria budget are discussed in section 3. The theoretical typical indicators of the performance of the economy are contained in section 4. Section 5 discusses the methodology of this study. Empirical analyses are presented in section 6. Section 7 contains the conclusions, implications and recommendations of the paper.

2. PROBLEM STATEMENT

Several studies have been conducted in the academic world to evaluate the relationship between government expenditure and spending and economic growth of different countries. Nigeria is not an exception. However, findings from these studies are mixed and contradictory. The first school of thought established significant positive relationship between government expenditure and economic growth. [9] studied the relationship between economic growth and government spending focusing on seven transition economies in the South Eastern Europe (SEE). [9] evidenced that four out of the five variables used in the estimation i.e. government spending on capital formation, development assistance, private investment and

trade-openness all have positive and significant effect on economic growth. Similarly, [10] examine the causal relationship between government expenditure and economic growth by conducting the panel Granger causality test. Their empirical results strongly established that regardless of how they measure the government size and economic growth, government spending is helpful to economic growth. Also, [11,12] established that government expenditure enhances economic growth.

However, the second school of thought established significant adverse association between government spending and economic growth. [7] investigate the validity of the Keynesian macroeconomic framework and the Classical perspective of a long run relationship and causality between government expenditure and economic growth in South Africa. Their results established that increased government spending in South Africa has not led to a meaningful development of the economy of the country. Their results were inconsistent with the Keynesian standpoint. Also, [13] disaggregating government expenditure into total expenditure, public debt expenditure, expenditure on health and expenditure on education, investigates the empirical relationship between government expenditure and economic growth. The results of their study established that there is an inverse relationship between government expenditures on health and economic growth. They equally found out that government expenditure on education sector is seen to be insufficient.

Yet, [14] investigate the impact of public expenditures on economic growth using time series data on Tanzania. They segregated total government expenditure into expenditure on (physical) investment, consumption spending and human capital investment. Their results demonstrated that whereas, increase in productive expenditure (physical investment) appears to have a negative impact on growth, consumption expenditure relates positively to growth, and in particular appears to be associated with increased private consumption. The inconsistencies that trail findings from studies that evaluated the effects of government expenditure on economic growth, call for additional evidences in the literature, a concern for this study.

Essentially, in the context of model specification, some studies regressed GDP on total government expenditure [7,15,16]. However, this

approach suffers from aggregation bias by restricting the components of total government expenditure to the same response coefficient, thus masking the incremental effects of each component. Essentially, [17] provide contradictory assertions that capital and recurrent expenditure would impact differently on economic growth. They asserted that if government reduces its budgetary allocation to recurrent expenditure, particularly on education, and increases capital expenditures, economic growth is likely to be accelerated. They also posited on the contrary that if government direct its expenditure towards the productive sectors like education, there is the likelihood of reducing the cost of doing business and increasing the standard living of the poor. [17] assertion is suggestive that even when total government expenditure affects economic growth, demarcating total government expenditure into its capital and recurrent components, acknowledges that not all government expenditure behaves similarly. This therefore, reflects the different roles played by capital and recurrent government expenditure in contributing to economic development, thus, providing policy makers' optimum direction in decision making. Commonly, economic analysts have established gross disproportionateness between Nigeria capital and recurrent expenditure over the years [18]. Yet, the segregation of total government expenditure into its capital versus recurrent components is seldom addressed in the literature.

Conversely, [19-21,11,12] are among the few that acknowledges the differential characteristics and effects of the components of total government expenditure. However, their model fails to account for the combined effects of both components by incorporating total government expenditure as additional independent variables. As capital, recurrent and total government expenditure have the potential to impact differently on economic activities and performances, distinguishing between these components should be an important consideration in any investigation of the effects of government spending on economic growth and development.

The need to better evaluate the specific impact of capital, recurrent and total government expenditure on economic growth motivated this study. Therefore, this study presents a method for identifying these components through the development of a new model that specifically acknowledges the differences between capital, recurrent and total government expenditure. Results are expected to establish which among capital, recurrent and total government expenditure stimulates greater economic growth. Consequently, Nigeria government and policy makers will better be able to target the component that has the greatest impact on the growth and development of the economy. The model of this study therefore, specifies GDP as dependent variable while capital, recurrent and total government expenditure are independent variables. Overall, this study used a more comprehensive but specific independent variables in terms of government expenditure compared to previous studies. This will no doubt accord the findings of this study more conclusiveness.

3. NIGERIA NATIONAL BUDGET DEVELOPMENT

To take this study further, it is imperative to give an in-depth definition of a budget. According to [22], a budget is a statement of the activities to be carried out by an entity (government or private entities) expressed in qualitative terms within a specified period of time. Precisely, [22] established that a budget is an estimate for a year ahead of revenues and expenditure chargeable to revenue and parts of its receipts and payments on the capital accounts. Also, [4] established that a budget is a statement of income and expenditures that provides an indication of the government's priorities regarding expenditures for the year. The definitions of budget as given by [22,4] is suggestive that a budget is a means of ensuring effective and efficient resource mobilization, proper management of expenditure, policy adjustments and effective control and co-ordination of economic activities. [4] specifically mentioned that the national budget is the most important economic policy instrument for a government and it reflects the government's priorities regarding social and economic policy more than any other document.

Nations of the world including Nigeria usually draw up budgets annually to properly guide the formulation of sustainable fiscal policy, financing developmental purposes and overall, facilitate economic growth. Nigeria's effort to publish budgets acknowledges that transparent information is essential to allow citizens to participate effectively in governance, authorities should be held accountable and a pointer to

enhanced developmental potentials. Although complex, the development of the Nigeria budget commences with the executive arm of government.

Call circulars through the plan and budget coordinating ministries or agencies such as the Budget Office of the Federal Ministry of Finance (hereafter referred to as BOFMF) and the National Planning Commission (hereafter referred to as NPC) mark the initiation of the budget development process in Nigeria. The call circular is expected to provide clear guidelines regarding agencies requirements in preparing their requests for inclusion in the budget [22]. Having received requests from the various ministries, departments and agencies, such requests are subjected to critical review by the coordinating agencies (BOFMF and NPC). This is with the view to ensuring that the requests as received are in compliance with policies and general directions stated in the call circular [22]. Also, the review is intended to establish the reasonableness of cost and the possibility of realizing the projected targets as articulated by the various ministries, department and agencies. The BOFMF and NPC would then hold administrative budget hearings in order to ensure that guidelines and policies are stringently adhered in terms of compliance and uniformity. The BOFMF and NPC may also request for additional justifications, where necessary, from ministries, departments and agencies. The collation of each ministry, department and agency requests culminates into a draft budget to be forwarded to the legislative arm of government to be passed into law [22].

To complement the activities of the executive, the legislature having received the budget proposal subject the said budget proposal to legislative consideration. Specifically, the legislature via the instrumentality of various national assembly sub-committees exposes the budget proposal to a more stringent examination. Also, the legislature may request various ministries, departments and agencies to defend their requests in the budget proposals during budget hearings. The interactive sessions between the legislature and benefitting ministries, departments and agencies may attract introducing some amendments and modifications into the budget proposal. Subsequently, a committee of the National Assembly will harmonize the various amendments made by the sub-committees and come up with a unified budget for final approval by the President [22].

Finally, [22] established that the President's assent to the budget bill gives it legal status and expresses its readiness for execution.

Overall, [4] established that the budget cycle in Nigeria usually proceeds in four stages: Budget formulation, during which the budget plan is established by the executive arm of government; enactment, during which the budget plan is debated, altered, and approved by the legislative arm; execution, during which the policies of the budget are implemented by the government; and auditing and assessment, during which the actual budget expenditures are accounted for and assessed for effectiveness.

In practice, the constitutional collaboration between the Nigeria executive and legislative arms of government has engendered, repeatedly, delay in the development of the budget. [4] demonstrated that the continued delays in budget formulation and implementation in Nigeria are worrisome. Further from the unnecessary delays in passing and implementing Nigeria's national budget, faceoff exists between the legislative and executive arms of the government over the budget performance. While the executive arm of government has always demonstrated that it is committed to the proper implementation of the annual budget, the National Assembly (Legislature) has commonly debated that the executive arm of government does not always implement the annual budget as it has been enacted [4]. Consequentially, [4] established that negative issues associated with the passing and implementation of the Nigeria's national budget have continued to slow economic activities in Nigeria and prevent the implementation of projects that would enhance the quality of life of the people. Worrisome issues relating to the passing and implementation of the Nigeria's national budget is indicative of the existence of an empirical platform for the imperativeness to assess the effects of Nigeria budget, particularly, the expenditure component on economic performance, an issue this study painstakingly addressed.

4. ECONOMIC PERFORMANCE INDICATORS

The workings and performance of the economy has been a concern to researchers including economist for decades. Since the economy is a system made up of several sub-systems, a number of indicators have been used to evaluate the performance or growth of the economy.

These indicators include levels of real national income, spending, and output; growth in real national income; investment levels and the relationship between capital investment and national output; levels of savings and savings ratios; price levels and inflation; competitiveness of exports; levels and types of unemployment; employment levels and patterns of employment; trade deficits and surpluses with specific countries or the rest of the world; debt levels with other countries; the proportion of debt to national income; the terms of trade of a country; the purchasing power of a country's currency. Others include wider measures of human development, including literacy rates and health care provision (e.g Human Development Index (HDI)); measures of human poverty (Human Poverty Index (HPI)). Several measures mentioned above is indicative that no single economic indicator measures the general macro-economic performance of a nation, state, or region in a methodologically simple and intuitive way [23].

However, there is a relatively common agreement among researchers and economists that gross domestic product (hereafter referred to GDP) is a simple but informative indicator of overall economic performance. GDP primarily is used to gauge the health of a country's economy. [23] established that one simple way to understand the economy is to look at GDP or GDP per capita. GDP is probably, the most widely accepted indicator for measuring economic welfare in theory and practice. [24] similarly established that the most basic measure of economic output is of course GDP. According to [25], GDP is the most common measure of the amount of stuff produced in the whole economy.

GDP is total currency value of all final goods and services produced in an economy over some time period [25]. In other words, the value of all goods and services produced within the geographic territory of an economy in a given interval, such as a year is known as GDP [26]. GDP is commonly computed using three approaches. The expenditure perspective adds up households' consumption expenditures, firms' investments expenditures, government expenditures and net exports. The income approach is the addition of income earned by various factors of production (compensation to workers, gross profits for incorporated and non-incorporated firms, rental income, taxes on production and imports (less subsidies), interest, miscellaneous payments and depreciation). The production or value added method is the

difference between value of sales of goods and the purchase of intermediate inputs used to produce the final products. Regardless of the approaches in calculating GDP, adjustments for inflation are normally introduced; redefining GDP as real GDP. Overall, GDP incorporates reasonable number of key indicators, making it the godfather of the indicator world. Therefore, since GDP is an extremely comprehensive and detailed report, this study used real GDP to proxy for economic performance index.

5. METHODOLOGY

5.1 Type, Sources and Period of Data Used

Existing data, also known as secondary data were used for this study. Data were sourced from the Central Bank of Nigeria Statistical Bulletin. Data used were for periods from 1981 – 2014.

5.2 Techniques and Tool of Analysing Data

Multiple regression technique was specified to numerically estimate the causality in association between government expenditure and the Nigerian economy in both the long run and short run. Unit Root Tests for Stationary was performed. Johansen test of cointegration was used to determine whether variables are cointegrated or not. Evidences established that variables are not cointegrated. Therefore, VAR Granger Causality model was estimated to evaluate association among variables. Eviews was used in analysing collected data.

5.3 Model Development

A multiple regression models were specified for this study. This regression model regressed GDP; proxy for economic performance on government expenditure. Precisely, the model regressed real GDP (dependent variable) on capital, recurrent and total government expenditure (independent variables). The regression model used is specified below:

$$ln\text{GDP}_t = a_0 + a_1 ln\text{CAPE}_t + a_2 ln\text{RECE}_t + a_3 ln\text{TOTE}_t + \varepsilon_t \qquad (1)$$

Where:

$ln\text{GDP}_t$ = Natural log of real Gross Domestic Product, a proxy for economic performance;

lnCAPE$_t$= Natural log of Total Capital Expenditure;

lnRECE$_t$= Natural log of Total Recurrent Expenditure;

lnTOTE$_t$= Natural log of Total Government Expenditure;

ε_t= White noise error term, with the usual stochastic assumptions.

This study used log transformation for all variables.

6. ANALYSES

6.1 Unit Root Tests for Stationary

Khramov and Lee [27] established that when nonstationary series are used in regression analysis, there exists a danger of obtaining regression results that are spurious. To avoid this problem, this study first test for the stationarity or nonstationarity of time series. In this regard, Augmented Dickey-Fuller test was executed. Calculated Augmented Dickey-Fuller test statistic for all variables (GDP, -0.205812; CAPE, -1.156167; RECE, -1.216461; TOTE, -1.215825) is greater than the 5% critical value of (-2.957110). This is suggestive that this study did not reject the null of nonstationarity. In other words, variables were nonstationary. However, calculated Augmented Dickey-Fuller test statistic for the first difference for all variables (GDP, -2.398515; CAPE, -4.840867; RECE, -4.835981; TOTE, -4.159201) is less than the 5% critical value of (-1.951687). This is indicative that this study rejects the null of nonstationarity. Since

statistics evidenced that all the variables used for both models are integrated of same order, this study proceeded to perform Johansen test of cointegration.

6.2 Johansen Test of Co-integration

Trace statistic and Max-Eigen Statistic cointegration test were performed. Results of Trace statistic and Max-Eigen Statistic cointegration test where GDP is the dependent variable and CAPE, RECE and TOTE are independent variables are giving in Tables 1 and 2.

Trace statistic of 42.04752 is lower than 0.05 critical value of 47.85613. This is revealing that this study failed to reject the null hypothesis of no cointegration between the four variables. Larger p-value of 0.1574 also supports this decision. Also, since Max-Eigen Statistic of 22.13165 is less than 0.05 critical value of 27.58434, this test failed to reject the null hypothesis of no cointegration of the four variables. Supporting this decision also is a larger p-value of 0.2137. Overall, both Trace statistic and Max-Eigen test established that the variables are not cointegrated. Therefore, this study proceeded to estimate Vector Autoregression (VAR) Granger Causality model.

6.3 VAR Granger Causality Model

Originally, this study intended estimating the relationship between economic performance in terms of GDP as dependent variable having

Table 1. Unrestricted co-integration rank test (Trace)

Unrestricted co-integration rank test (Trace)				
Hypothesized no. of CE (s)	Eigenvalue	Trace statistic	0.05 critical value	Prob. **
None	0.510281	42.04752	47.85613	0.1574
At most 1	0.246103	19.91587	29.79707	0.4285
At most 2	0.202390	11.15838	15.49471	0.2020
At most 3*	0.125246	4.148199	3.841466	0.0417

Trace test indicates no cointegration at the 0.05 level
*denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 2. Unrestricted Co-integration rank test (Maximum Eigenvalue)

Unrestricted co-integration rank test (Maximum Eigenvalue)				
Hypothesized no. of CE (s)	Eigenvalue	Max-eigen statistic	0.05 critical value	Prob. **
None	0.510281	22.13165	27.58434	0.2137
At most 1	0.246103	8.757485	21.13162	0.8515
At most 2	0.202390	7.010183	14.26460	0.4880
At most 3*	0.125246	4.148199	3.841466	0.0417

Max-eigenvalue test indicates no cointegration at the 0.05 level
*denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

capital (CAPE), recurrent (RECE) and total (TOTE) government expenditure as independent variables. Thus, there are four variables in all. However, in the VAR model, since four variables are considered, four linear regression models were estimated specifying each variable as dependent variable and others as independent variables. The four vector autoregression model estimates generated in the VAR model are:

GDP = C(1)*GDP(-1) + C(2)*GDP(-2) + C(3)*CAPE(-1) + C(4)*CAPE(-2) + C(5)*RECE(-1) + C(6)*RECE(-2) + C(7)*TOTE(-1) + C(8)*TOTE(-2) + C(9)

CAPE = C(10)*GDP(-1) + C(11)*GDP(-2) + C(12)*CAPE(-1) + C(13)*CAPE(-2) + C(14)*RECE(-1) + C(15)*RECE(-2) + C(16)*TOTE(-1) + C(17)*TOTE(-2) + C(18)

RECE = C(19)*GDP(-1) + C(20)*GDP(-2) + C(21)*CAPE(-1) + C(22)*CAPE(-2) + C(23)*RECE(-1) + C(24)*RECE(-2) + C(25)*TOTE(-1) + C(26)*TOTE(-2) + C(27)

TOTE = C(28)*GDP(-1) + C(29)*GDP(-2) + C(30)*CAPE(-1) + C(31)*CAPE(-2) + C(32)*RECE(-1) + C(33)*RECE(-2) + C(34)*TOTE(-1) + C(35)*TOTE(-2) + C(36)

From the above it is obvious that the VAR model has in total 36 coefficients. In other words, each regression model has 9 coefficients. Each variable has Lag 1 and Lag 2 and a constant. It becomes imperative to test the significance of each of these independent variables to explain the dependent variable per regression model. P-value less than 5% is suggestive of the significance of the independent variable to influence the dependent variable. Otherwise, the independent variable cannot influence the dependent variable. The estimated coefficients and corresponding p-value from system equation for all variables in VAR model is shown as in Table 3.

Table 3. Estimated coefficients and p-value from system equation in VAR model

System: Estimated coefficients and p-value from system equation in VAR model
Estimation Method: Least squares
Date: 01/19/16 Time: 18:17
Sample: 1983 2014
Included observations: 32
Total system (balanced) observations 128

	Coefficient	Std. error	t-statistic	Prob.
C(1)	0.694332	0.236693	2.933466	0.0042
C(2)	-0.465001	0.268518	-1.731730	0.0867
C(3)	0.294338	0.467601	0.629463	0.5306
C(4)	-0.617348	0.443094	-1.393266	0.1669
C(5)	0.056101	0.761857	0.073637	0.9415
C(6)	-0.405808	0.670281	-0.605430	0.5464
C(7)	0.056095	1.290626	0.043463	0.9654
C(8)	1.349555	1.078956	1.250797	0.2142
C(9)	1.542371	0.735010	2.098436	0.0386
C(10)	1.075938	0.379252	2.837001	0.0056
C(11)	-0.530760	0.430245	-1.233623	0.2205
C(12)	0.820556	0.749234	1.095192	0.2763
C(13)	0.330973	0.709966	0.466182	0.6422
C(14)	-0.117478	1.220718	-0.096237	0.9235
C(15)	0.735242	1.073986	0.684592	0.4953
C(16)	-0.290144	2.067960	-0.140305	0.8887
C(17)	-1.041065	1.728803	-0.602188	0.5485
C(18)	-0.531594	1.177700	-0.451383	0.6528
C(19)	0.042267	0.347726	0.121553	0.9035
C(20)	-0.048103	0.394480	-0.121941	0.9032
C(21)	0.302736	0.686953	0.440694	0.6605
C(22)	0.223042	0.650949	0.342641	0.7327
C(23)	0.775186	1.119244	0.692597	0.4903
C(24)	0.613129	0.984709	0.622650	0.5351
C(25)	-0.449854	1.896059	-0.237257	0.8130
C(26)	-0.447694	1.585095	-0.282440	0.7782
C(27)	0.966637	1.079802	0.895198	0.3730
C(28)	0.520807	0.258081	2.017997	0.0465

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System: Estimated coefficients and p-value from system equation in VAR model
Estimation Method: Least squares
Date: 01/19/16 Time: 18:17
Sample: 1983 2014
Included observations: 32
Total system (balanced) observations 128

	Coefficient	Std. error	t-statistic	Prob.
C(29)	-0.232645	0.292782	-0.794603	0.4289
C(30)	0.242837	0.509854	0.476287	0.6350
C(31)	0.310634	0.483132	0.642958	0.5219
C(32)	0.030688	0.830699	0.036943	0.9706
C(33)	0.742393	0.730847	1.015798	0.3124
C(34)	0.228178	1.407247	0.162145	0.8715
C(35)	-0.831310	1.176451	-0.706625	0.4816
C(36)	0.481859	0.801425	0.601253	0.5492

Determinant residual covariance 4.66E-08

From Table 3, it is apparent that of all the 36 coefficients in the VAR model, four [C(1), C(9), C(10), C(28)] have the capacity to influence respective dependent variable. C(1) is the coefficient of GDP lag 1 while C(9) is the constant coefficient all in the first linear regression model. C(10) is the coefficient of GDP lag 1 in the second linear regression model while C(28) is the coefficient of GDP lag 1 in the fourth linear regression model. The interpretation is that GDP lag 1 influence GDP in the first linear regression model, CAPE in the second linear regression model and TOTE in the fourth linear regression model. This is to mean that of all the coefficients only the coefficient of GDP lag 1 influences GDP, CAPE and TOTE as respective dependent variable. However, since it is only GDP lag 1 that influences respective dependent variable this study proceeded to test if GDP lag 1 and GDP lag 2 jointly influences respective dependent variables using VAR Granger Causality/Block Exogeneity Wald Tests. Estimated results are presented in Table 4.

Table 4. VAR granger causality/block exogeneity wald tests

VAR granger causality/block exogeneity wald tests
Date: 01/19/16 Time: 02:55
Sample: 1981 2014
Included observations: 32
Dependent Variable: GDP

Excluded	Chi-sq	df	Prob.
CAPE	1.989563	2	0.3698
RECE	0.498075	2	0.7796
TOTE	2.200036	2	0.3329
All	13.30663	6	0.0384
Dependent Variable: CAPE			
Excluded	Chi-sq	df	Prob.
GDP	8.115028	2	0.0173
RECE	0.623796	2	0.7321
TOTE	0.635993	2	0.7276
All	12.74220	6	0.0473
Dependent Variable: RECE			
Excluded	Chi-sq	df	Prob.
GDP	0.021964	2	0.9891
CAPE	0.734131	2	0.6928
TOTE	0.277704	2	0.8704
All	2.517566	6	0.8665
Dependent Variable: TOTE			
Excluded	Chi-sq	df	Prob.
GDP	4.081317	2	0.1299
CAPE	1.501329	2	0.4721
RECE	1.686676	2	0.4303
All	9.525899	6	0.1461

Models where GDP and CAPE were respectively dependent variables are statistically significant at 5% level of significance. That is to mean that the association between GDP and jointly with CAPE, RECE and TOTE in the first model is significant. Also, the association between CAPE and jointly with GDP, RECE and TOTE in the second model is statistically significant. Specifically, only GDP has significant relationship with CAPE in the second model. That is there is a significant association between CAPE and GDP lag 1 and GDP lag 2 jointly as specified in the second model. That is, statistical connection exist between GDP lag 1 and GDP lag 2 jointly and CAPE. However, models with RECE and TOTE as independent variable are not significant statistically.

7. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Nigeria's economy has over the years suffered. Following an oil price crash, the situation is aggravated. Yet, evidences demonstrated that year in year out Nigeria budget, particularly, the expenditure profile has been poorly implemented. In addition, analysts have commonly established unevenness between Nigeria capital and recurrent expenditure. This study therefore evaluated the association between GDP as proxy for economic wellbeing and capital, recurrent and total government expenditure. Using the VAR Granger model, four linear regression models having each of the variables as dependent variable were estimated. Out of the four regression models, two (those having GDP and CAPE as dependent variable) were statistically significant while two (those having RECE and TOTE as dependent variable) were not significant statistically. In other words, estimations suggest that significant association exist between GDP, CAPE, RECE and TOTE based on the first two models. Opposite was the situation for the last two models. Specifically and interestingly, model with CAPE as the dependent variable and GDP, RECE and TOTE as independent variables established that GDP lag 1 and GDP lag 2 jointly have significant association with CAPE. Clearly results demonstrated that GDP and CAPE influences each other.

The findings of this study are enthralling and well-timed. Findings have practical implications for policy makers and the Federal government of Nigeria. For years, capital expenditure has not been given the priority it deserves in the Nigeria economy. This is reflected in the little amount it attracts on the Nigeria annual budget. The Federal Government of Nigeria has for the first time in many years, given capital expenditure the biggest share of N1.8 Trillion out of the total 2016 budget of 6.08 Trillion, representing 30 percent of the budget. Even the 30% of the total 2016 budget allocated to capital expenditure does not show any sign of helping to create jobs. According to [18], budget document that provides only 30 percent or less for capital expenditure is a trip in self-delusion and propagation of false hood. The weight of recurrent expenditure cannot be supported by the capital budget. This is symptomatic of a rent economy whose long-term growth is not sustainable [18]. Thus, creation of job demands massive capital investment in order to rejuvenate dilapidated infrastructure and build new capacities to support job creating growth. Essentially, the dilapidating state of the Nigeria economy calls for striking a balance between the "capital economy and people economy". Therefore, this study strongly recommends remarkable increase in the Nigeria capital expenditure.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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