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THE INFLUENCE OF GOVERNMENT EXPENDITURE ON ECONOMIC GROWTH IN NIGERIA

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Abstract

Over the years, government expenditure and economic process have continued to occupy a series of dialogue among students and policymakers. The common accord among researchers is that government expenditure has been acknowledged as a crucial equipment that the government uses to influence the performance of the economy. The channel through which public authorities satisfy the collective wish of the individuals may be classified underneath public sector expenditure. There is a need to understand the influences of government expenditures on growth in Nigeria. This study seeks to measure the degree of government expenditures shocks on economic growth in Nigeria and Vector Error Correction mechanism and also the impulse response to trace transmission of shocks between government debt and economic growth in Nigeria. The result shows a strong impulse response of GDP from one period of a shock to ten periods of domestic debt outstanding (DOMD). The shock was positive and very significant on the GDP; this influence also shows that government domestic debt can predict economic growth in future. Based on the findings of the paper, it is recommended that government should increase its expenditure to further drive economic growth in Nigeria. Furthermore, the monetary authority in Nigeria should ensure that the value of the naira is protected; this will lead to an appreciation of the naira and further increase economic growth.

Keywords: external debt, economic growth, domestic debt outstanding, and error correction mechanism

1. Introduction

In an extended length of time, government expenditure and economic process have continued to occupy a series of dialogue among students and policymakers. The common accord among the students is that government expenditure has been acknowledged as a crucial equipment that the govt. uses to influence the performance of the economy. The channel through which public authorities satisfy the collective wish of the individuals may be classified underneath public sector expenditure. Salawu (2005) ascertained that public expenditure is the expenses incurred by the govt. for the upkeep of itself, the society and economy. Public expenditure is a crucial equipment that the govt. uses to pilot vital effects on the overall growth of the economy. Anyanwu (1993) ascertained that government expenditure is solely government disbursal from revenue derived from taxes and different sources. Again, the study articulated that public expenditure is centered on expenses narrowed on government own maintenance for the expansion and solidity of the economy. Another study by Anyanwu (1997) noted that public expenditure is a part of commercial enterprise tool that embrace and puts to use judiciously, all revenue generated from all sources, for the expansion and put in a system within the economy.

On a decomposed level, Akinlo (2004) believes that government expenditure on collective needs and desires of the country is in several areas as well as pension, infrastructure, capital investment; roads etc. are unconditionally classified beneath public sector expenditure. Jhingan (2004) asserts that government expenditure is "the starting and finish of the gathering of revenues by the government". In line with the same, there's an immediate relationship between the number of presidency expenditure and economic process. Therefore, the policymakers place a lot of stress on the roles of presidency expenditure as associate instrument that the government will apply to revive some economic issues like reduction in difference, inflation, fall in rate of exchange, state, dwindling oil value and also the need to revive the economy

on the part of economic condition, value stability, balance of payment equilibrium and specifically, increase in economic process. No surprise Mankiw, David and David (1992) earlier reviewed that economic process is the increase within the inflation-adjusted value of products and services made by economy overtime.

Another point of interest among researchers and policymakers in Nigeria economy is that total government expenditure in terms of capital and recurrent expenditures have continued to rise over the last three decades. Notable studies such as the likes of Abu, Abdullahi (2010) and Omoke (2009) all stressed that expenditure on defense, internal security, education, health, agriculture, construction transport and communication are rising overtime. Judging from the above viewpoints, the various components of capital and recurrent expenditure have risen between the decades of 1981 and 2018. It has been a great debate among researchers in economic literature on the influence and contribution of this multiple increases on our economy. Recurrent expenditure during the last decade accounted for over 50% of total expenditure, while the share of capital expenditure was relatively below 50% of total government expenditure. It must also be noted that the government capital expenditure, theoretically, is the aspect of government expenditure expected to drive economic growth. Out of the various categories in government capital expenditure, in the light of the foregoing, it could be deduced that the current state of Nigeria economy could be partly linked to the nature of government expenditure. Intuitively, for a developing nation capital expenditure particularly in capital projects or infrastructural development ought to constitute a significant proportion of her total expenditure to lay the foundation for economic growth and sustainable development, but this has not been the case in Nigeria. However, we are careful not to jump to the conclusion that the preponderance of recurrent expenditure over capital expenditure has adversely affected the nation's

economy. This is purely on the desired results in the economy to force an increasing intervention on the part of the nation.

The question is, therefore: "Is the increasing government expenditure influencing the rate of economic growth in Nigeria?" Jhingan (2004) observed that some of the reasons put forward for the increase in government expenditure over time are; inflation, public debt, tax revenue and population. Furthermore, it is a common belief that the government plays a significant role in the development of a country and the expenditure is an important apparatus for the government to control the economy. Also, economists have noted its effects in promoting economic growth. Meanwhile, the general view is that government expenditure either recurrent or capital expenditure especially on social and economic infrastructure can be growth-enhancing. Anyanwu (1997) stated that government expenditure, by increasing social welfare, helps in reducing inequalities of income and wealth and as well can be used to create trade as well as to correct externalities and regional disparities if employed prudently, thereby fastening economic growth. Omoke (2009) also puts that an increase in government expenditure will yield a positive increase in the growth of the economy by increasing the national income especially when it is injected in development programs. For example, government expenditure on social and community services such as health and education are capable of raising the productivity of labour and increasing the growth of national output. Also, an increase in infrastructural equipment and rise in salaries will motivate the lecturers and teachers to dedicate more time in equipping the students with more skills and knowledge. Similarly, Abu and Abdullah (2010) observed that the government expenditure on infrastructure such as roads, communication, power etc. reduces production costs, increases private sector investment and profitability of firms and fosters economic growth.

In Nigeria today, the public sector is predominant, the reason appears to lie in what the government perceived as its social responsibility or share of commitment in the growth and development process. Its largeness has been stimulated by the urge to adopt shock adjustment to economic growth for the quicker realization of national aspiration. This has led to an overwhelming consistent increase in government expenditure in Nigeria. Precisely, the government expenditure in Nigeria has continued to rise for over three decades, due to the increased demand for public goods like roads, communication, power, education and health. However, it has been argued by scholars if the rising state of government expenditure in Nigeria has gainfully contributed to economic growth in Nigeria. Okoro (2013) pointed out an increase in per capital which is a symbol of economic growth that leads to development and reduction in poverty. However, the study alarmed that many Nigerians have continued to wallow in abject poverty, while more than 50% live on less than US$1 per day. Moreover, macroeconomic indicators like the balance of payments, import obligations, inflation rate, exchange rate, and national savings reveal that Nigeria has not fared well in decades.

Furthermore, the government has incurred expenses in areas such as physical infrastructure, health, education, economic services, defense and general administration. Economic theory predicts that increases in productive public spending in areas like physical infrastructure, health and education leads to increases in the economic growth of a country. Some governments have tried to promote public spending due to an understanding that large government expenditure is a source of economic growth and development, especially, in a country where the public sector is predominant like Nigeria. Therefore, understanding the relationship between government expenditure and economic growth could have a significant impact on the formulation and implementation of major macroeconomic policies. It could also guide the

formulation of major economic policies that require urgent funding and attention.

Controlling for the influence of non-oil revenue, this study seeks to uncover the following; (1) degree of the shock of government expenditures, domestic and external debt on economic growth in Nigeria, (2) the causal relationship between inflation, government debt, government expenditures and economic growth in Nigeria.

2 REVIEW OF RELATED LITERATURE

This section highlights same basic theories that have been used to support the influence of government expenditure and economic growth. Such theories amongst others are:

The Keynesian Theory

In the Keynesian macroeconomics, an 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 an increase in the rate of interest and this slows down economic growth and reduces the rate of capital accumulation in the long run. (Keynes, 1936) regarded government expenditure as an exogenous variable that contributes positively to economic growth. Hence, an increase in government expenditure would likely lead to an increase in employment, profitability and output through the multiplier effects on aggregate demand. With the introduction of government expenditure (G) by Keynes, the national income determination model is expanded which becomes;

$$AD=C+I+G$$

Where, AD represents aggregate demand, which equals the sum of consumption (C), Investment (I), and government expenditure. Government

expenditure has a direct and positive impact on GDP. An increase in government expenditure will boost aggregate demand, resulting in a 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 a contractionary effect on output and income. The neoclassical growth models argued that government fiscal policy does not have a positive effect on the growth of an economy. On the contrary, a significant number of scholars have agreed that fiscal policy is a potent tool for promoting growth and improving failures arising from the inefficiencies of the market. Hence, government fiscal policy could be a vital tool for militating against failure arising from market inefficiencies (Abu, 2010).

Adolph Wagner's Theory of Increasing State Activities

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 the increasing demand for public utilities. Wagner advanced the theory of rising public expenditure by analyzing the trend in the growth of government expenditure and 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. Bureau Voting Theory rejected the role of industrialization and urbanization, suggesting that the main driver of public sector expansion is an artificial demand for government services created by self-interested government employees (Niskanen, 1971). Fiscal illusion theory, which tries to explain government growth by linking the intricacies of tax systems to the masking of the costs of public goods. Also, tax systems can hide the costs of public goods and therefore stimulate their growth (Goetz, 1977). Empirical support for these theories has varied, causing them to lose some of their impetus.

Musgrave's Theory of Public Expenditure Growth

The Musgrave's theory of public expenditure and growth explained that, at low level of per capita income, the demand for public services tend to be very low, arguing that such income is devoted to satisfying primary needs and it is only when the per capita income starts to rise above these level of low income that the demand for services provided by the public sector such as education, health, and transports starts to rise, thereby forcing government to increase expenditure on them. The theory observed that with high per capita income typical in the developed nations, the rate of public spending falls as most basic wants are being satisfied. Therefore, the theory suggested in connection to Wagner that as progressive nations become more industrialized, the share of the public sector in the national economy grows continually (Musgrave, 1988). Iyoha (2002) stated five stages of expenditure growth; "Traditional society, preconditions for take-off, the take-off; the drive to maturity and the eye of high mass consumption." What determines the accepted expenditure-growth

depends critically on the assumption of the type of economy, i.e. whether it is a free-market economy, a mixed economy or a command economy.

2.1 EMPIRICAL LITERATURE

Several studies have focused on the relationship between government expenditure and economic growth in developed and developing countries like Nigeria. The results varied from one study to another. Alexander (1990) applied the OLS method for a sample of 13 Organization for Economic Cooperation and Development (OECD) countries panel during the period ranging from 1959 to 1984. The results show, among others, that growth of government spending has a significant negative impact on economic growth. Using panels of annual and period-averaged data for 22 Organizations for OECD countries from 1970 to 1995, Bleaney et al (2001) studied the impact of government spending on economic growth. Applying OLS and GLS methods, they found that productive government expenditures enhance economic growth, but non-productive public spending does not, following the predictions of Barro (1990) model.

Liu et al. (2008) examined the causative relationship between value and public expenditure for the United States of America exploitation knowledge from the period 1947-2002. The relation results disclosed that total government expenditure causes the expansion of value. On the opposite hand, growth of value doesn't cause growth of state expenditure. Moreover, the estimation results indicated that public expenditure raises United States of America's economic process. In Nigeria, several researchers and policymakers have tried to look at the link between the 2 economics variables. Fajingbesi and Odusola (1999) by trial and error investigated the link between government expenditure and economic process in African nation over the period 1970 to 1995. The political economy results indicated that real government cost includes a vital

positive influence on real output. However, the results showed that real government continual expenditure affects economic process solely by very little.

In Nigeria, many authors have also attempted to examine government expenditure-economic growth relationship. For example, Oyinlola (1993) examined the relationship between Nigeria's defense sector and economic development and reported a positive impact of defense expenditure on economic growth. Fajingbesi and Odusola (1999) empirically investigated the relationship between government expenditure and economic growth in Nigeria. The econometric results indicated that real government capital expenditure has a significant positive influence on real output. However, the results showed that real government recurrent expenditure affects growth only by little.

Also, a study by Ogiogio (1995) revealed a long-term relationship between government expenditure and economic growth. Moreover, the author's findings showed that recurrent expenditure exerts more influence than capital expenditure on growth. Akpan (2005) used a disaggregated approach to determine the components (that include capital, recurrent, administrative, economic service, social and community service and transfers) of government expenditure that enhances growth and those that do not. The author concluded that there was no significant association between most components of government expenditure and economic growth in Nigeria.

Chude and Chude (2013) while studying the impact of government expenditure on economic growth in Nigeria (1977-2012) found that total government expenditure on education has a significant effect on Gross Domestic Product (GDP). The study suggested that the Government should direct its expenditure towards the productive sectors like education as it would reduce the cost of doing business as well as raise the standard living of poor ones in the country. Again, Chude and Chude (2013) concluded that the Government should

ensure that capital expenditure and recurrent expenditure are properly managed in a manner that will raise the nation's production capacity. This study is an expansion of other studies on government expenditure-economic growth relationship in Nigeria. Secondly, the paper extends the study period to 2018.

3. MODEL SPECIFICATION

Adopting the *Keynesian Theory*, this study uses annual data from CBN statistical bulletin 2018, covering the period from 1981 to 2018. Two widely used components of government expenditures are employed: recurrent expenditure and capital expenditure. To examine the effect of government expenditure on economic growth in Nigeria, we adopt the Vector Error Correction Model (VECM) approach. Barro and Martin (1992), Davidson and Mackinnon (1993) and Verbeck (2000) states that VECM is a derivation of autoregressive distributed lag (ADL) model. Armorur (1996) and Engert and Hendry (1998) found VECM to be a good tool for government spending.

This model, therefore, estimates that:

$Yt = \beta0 + \beta1xt + \mu t$ …………………………………………………………………………… (1)

Where Yt is the real gross domestic product (RGDP), $\beta0$ is the intercept term, β is the regression coefficient, Xt is a set of baseline explanatory variables and μt is the error term.

The above model was modified and estimated as follows:

$GDP = \alpha + \beta govtexp + \beta DOMD + \beta EXTD + \beta EXRT + \beta INFRT + e_i$ ……………………….**(2)**

Where:

GDP	=	Gross Domestic Product (index or proxy for economic growth)
GOVTEXP	=	Government expenditure
DOMD	=	Fed Govt Domestic Debt Outstanding
EXTD	=	Fed Govt External Debt Outstanding
Exc	=	Exchange rate

INFRT = Inflation Rate

β = Parameter to be estimated

e_i = Error term

4. Data Presentation and Analysis

Table1. Augmented Dickey Fuller (ADF) unit root test (Trend and Intercept)

Variables	ADF Statistics	1% critical Value	5% Critical Value	10% Critical Value	Prob./ Remark
GDP	-6.460924	-3.632900	-2.948404	-2.612874	0.0000/2(I)
DOMD	-4222986	-4.243644	-3.544284	-3.204699	0.0105/I(I)
GOVTEXP	-5.792909	-4.234972	-3.540328	-3.202445	0.0008/I(I)
EXC	-5.395799	-4.234972	-3.540328	-3.202445	0.0005/I(I)
EXTD	-6.046154	-4.252879	-3.548490	-3.207094	0.0001/2(I)
INFRT	-5.278850	-3.632900	-2.948404	-2.612874	0.0001/I(I)

Source: Authors' (E-view 9)

The behaviour of each of the variables is tested through the applications of Augmented Dickey-Fuller (ADF) unit root test, mainly to find out the order of integration of the individual variables employed in the investigation. Hence, the Augmented Dickey-Fuller (ADF) test result shown in the above table 1 is in first difference and second difference. In the estimation, the results of the tests indicate that all variables were not stationary at the level form and included in test equations is trends & intercepts. However, the results provided strong

evidence indicating that all the variables became stationary at 1%, 5% and 10% critical values. Therefore, the study rejects the hypothesis of non-stationarity and concludes that the variables were stationary. Thus, there is a need to proceed with co-integration analysis to examine the existence of short or long-run equilibrium among the variables.

Table 2. Lag length

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1601.249	NA	2.42e+31	89.29160	89.55552	89.38372
1	-1344.945	412.9345	1.21e+26	77.05248	78.89992	77.69729
2	-1272.775	92.21716*	1.93e+25*	75.04304*	78.47400*	76.24054*

This pre-estimation test table 2 indicates lag order selected by the criterion LR: sequential modified LR test statistics (each test at 5% level), FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion and HQ: Hannan-Quinn information criterion. To run the VAR analysis for the period of 1981-2018, this study takes 2 lags to estimate the VAR test.

Table 2a. Result of the Johansen co-integration rank Test (Trace)

Hypothesis: No. of CE(s)	Eigenvalue	Trace	0.05	Prob.**
None*	0.790819	154.1341	95.75366	0.0000
At most 1*	0.669340	99.37460	69.81889	0.0000
At most 2*	0.561347	60.64139	47.85613	0.0020
At most 3*	0.500625	31.79977	29.79707	0.0290

Table 2b. Result of the Johansen co-integration rank test (Maximum Eigenvalue)

Hypothesis: No. of CE(s)	Eigenvalue	Max-Eigen	0.05	Prob.**
None*	0.790819	54.75948	40.07757	0.0006
At most 1*	0.669340	38.73321	33.87687	0.0122
At most 2*	0.561347	28.84162	27.58434	0.0343
At most 3*	0.500625	24.30394	21.13162	0.0173

Source: Authors' (E-view 9)

The results of the cointegration test are shown in the Tables 2a and 2b above. The result shows there is no existence of a long-run equilibrium relationship among the variables. The result also shows the trace statistic and the maximum eigenvalue statistic as estimated (Johansen co-integration test). In the estimation result of the co-integration test, both the trace statistic and the maximum eigenvalue statistic show that short-run equilibrium relationship exists among the variables at 5% critical value, which implies that co-integration exists between the variables understudied. Therefore, we proceed to conduct the VAR analysis, using the vector error correction estimator VAR criterion.

Table 5. Vector Error Correction Estimates
Date: 08/01/19 Time: 09:14
Sample (adjusted): 1984 2018
Included observations: 35 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
DOMD(-1)	1.000000

EXC(-1)	-27.13855 (16.0989) [-1.68574]
EXTD(-1)	0.046884 (0.35319) [0.13275]
GDP(-1)	0.452807 (0.08619) [5.25374]
GOVTEXP(-1)	-6.602627 (1.12805) [-5.85314]
INFRT(-1)	-44.63323 (11.0239) [-4.04877]
C	-2788.159

Error Correction:	D(DOMD)	D(EXC)	D(EXTD)	D(GDP)	D(GOVTEXP)	D(INFRT)
CointEq1	0.001407 (0.07335) [0.01918]	0.006577 (0.00520) [1.26583]	-0.029501 (0.16010) [-0.18427]	-0.851713 (0.13870) [-6.14090]	0.039278 (0.06849) [0.57351]	0.003979 (0.00391) [1.01794]
D(DOMD(-1))	0.649817 (0.34985) [1.85742]	-0.010539 (0.02478) [-0.42522]	0.917578 (0.76366) [1.20156]	-1.344535 (0.66156) [-2.03239]	0.504291 (0.32667) [1.54373]	-0.005054 (0.01864) [-0.27108]
D(DOMD(-2))	0.232633 (0.51534) [0.45142]	0.063338 (0.03651) [1.73491]	0.062197 (1.12489) [0.05529]	-3.834286 (0.97449) [-3.93468]	-0.137730 (0.48119) [-0.28623]	0.021604 (0.02746) [0.78667]
D(EXC(-1))	5.586113 (6.78985) [0.82271]	0.610683 (0.48101) [1.26958]	-0.317357 (14.8210) [-0.02141]	-19.57075 (12.8394) [-1.52427]	-2.135207 (6.33999) [-0.33678]	0.044411 (0.36184) [0.12274]
D(EXC(-2))	-7.438497 (5.14657) [-1.44533]	-0.254332 (0.36460) [-0.69757]	2.836043 (11.2340) [0.25245]	15.40233 (9.73202) [1.58265]	11.73701 (4.80558) [2.44237]	0.323449 (0.27427) [1.17933]
D(EXTD(-1))	-0.120060 (0.13141)	-0.004567 (0.00931)	0.439096 (0.28685)	0.338590 (0.24850)	0.048342 (0.12271)	0.004193 (0.00700)

	[-0.91362]	[-0.49054]	[1.53076]	[1.36256]	[0.39397]	[0.59880]
D(EXTD(-2))	0.130475	0.005738	-0.329445	-0.384076	-0.220422	-0.003796
	(0.11961)	(0.00847)	(0.26109)	(0.22618)	(0.11169)	(0.00637)
	[1.09082]	[0.67713]	[-1.26180]	[-1.69808]	[-1.97357]	[-0.59545]
D(GDP(-1))	0.081158	0.006760	-0.099301	0.145852	0.019664	0.000321
	(0.09318)	(0.00660)	(0.20339)	(0.17620)	(0.08701)	(0.00497)
	[0.87100]	[1.02401]	[-0.48823]	[0.82777]	[0.22601]	[0.06459]
D(GDP(-2))	0.033199	-0.000178	-0.068168	0.268927	0.052277	0.001644
	(0.09722)	(0.00689)	(0.21222)	(0.18384)	(0.09078)	(0.00518)
	[0.34147]	[-0.02579]	[-0.32122]	[1.46281]	[0.57587]	[0.31733]
D(GOVTEXP(-1))	-0.038333	0.010857	-0.719349	-2.760818	-0.088779	0.013549
	(0.44005)	(0.03117)	(0.96056)	(0.83213)	(0.41090)	(0.02345)
	[-0.08711]	[0.34826]	[-0.74889]	[-3.31778]	[-0.21606]	[0.57777]
D(GOVTEXP(-2))	-0.385735	-0.021994	-0.688439	-0.444694	0.110620	0.015304
	(0.31296)	(0.02217)	(0.68314)	(0.59180)	(0.29223)	(0.01668)
	[-1.23253]	[-0.99201]	[-1.00776]	[-0.75142]	[0.37854]	[0.91760]
D(INFRT(-1))	0.448379	0.276971	-2.279035	-11.06371	1.891666	0.212790
	(4.32110)	(0.30612)	(9.43218)	(8.17108)	(4.03481)	(0.23028)
	[0.10377]	[0.90478]	[-0.24162]	[-1.35401]	[0.46884]	[0.92407]
D(INFRT(-2))	-0.092215	-0.159383	-5.895391	-5.233307	0.291876	-0.323037
	(4.01813)	(0.28466)	(8.77085)	(7.59817)	(3.75191)	(0.21413)
	[-0.02295]	[-0.55992]	[-0.67216]	[-0.68876]	[0.07779]	[-1.50860]
C	-22.27796	-18.81045	311.5196	3265.774	-95.16331	-15.62406
	(268.276)	(19.0054)	(585.599)	(507.303)	(250.502)	(14.2967)
	[-0.08304]	[-0.98974]	[0.53197]	[6.43752]	[-0.37989]	[-1.09284]
R-squared	0.776193	0.389732	0.593144	0.893248	0.587618	0.419751
Adj. R-squared	0.637645	0.011947	0.341280	0.827163	0.332334	0.060549
Sum sq. resids	2127423.	10676.88	10136537	7607182.	1854857.	6041.735
S.E. equation	318.2858	22.54824	694.7606	601.8694	297.1978	16.96177
F-statistic	5.602357	1.031623	2.355023	13.51673	2.301820	1.168565
Log likelihood	-242.4266	-149.7714	-269.7483	-264.7248	-240.0273	-139.8071
Akaike AIC	14.65295	9.358365	16.21419	15.92713	14.51585	8.788976
Schwarz SC	15.27509	9.980504	16.83633	16.54927	15.13799	9.411115
Mean dependent	364.3480	8.750739	221.3892	1598.866	222.9744	0.966268
S.D. dependent	528.7497	22.68414	856.0220	1447.719	363.7189	17.49984

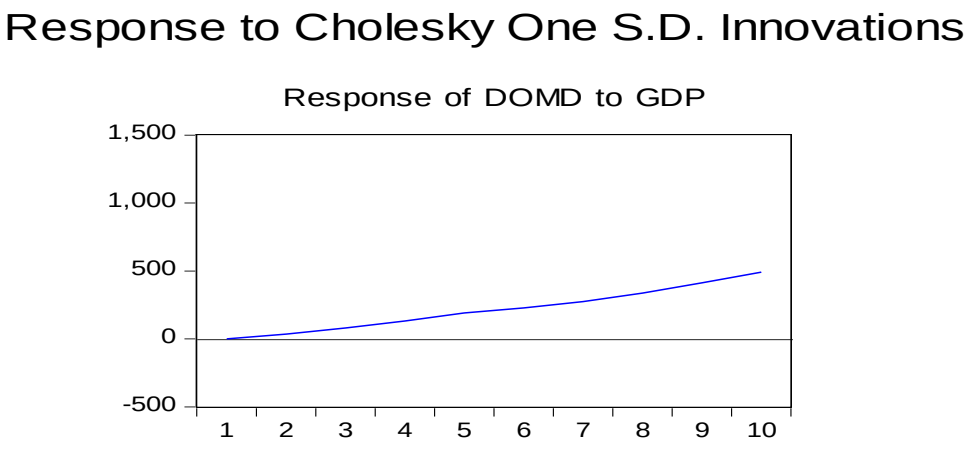
Determinant resid covariance (dof adj.)	9.46E+24
Determinant resid covariance	4.41E+23

Log likelihood	-1250.747
Akaike information criterion	76.61414
Schwarz criterion	80.61360

Source: Authors' (E-view 9)

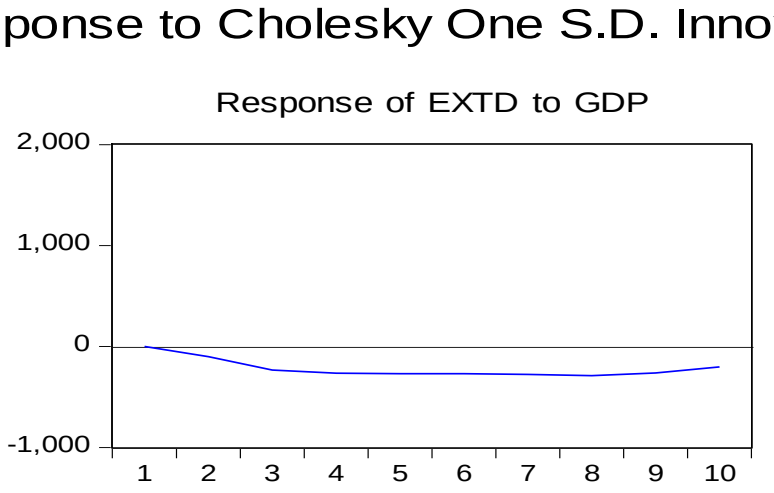
To ascertain the first objective (To determine the effect of government expenditures on the Nigeria economy). The estimation results above depict the test of Vector Error Correction VEC as shown in Table 4. The estimated results indicate the value of ECM to be -0.851713 with its associated t-statistical value as -6.14090. The negative value of the ECM implies that the relationship among the variables met the a priori expectation and as well satisfies stability requirement. This claim is supported by the t-statistical value, which indicates that the variables for the study are statistically significant. The ECM result also shows that the speed of adjustment between the short-run dynamics and the long-run equilibrium relationship is 85%. Therefore, theoretically, the ECM shows the length of period it will take to correct temporary short-run disequilibrium within the long-run equilibrium relationship among the variables under covered. The results also indicated that the value of GOVTEXP has positive influence contributed to the Nigeria economy growth (GDP) within the period covered. It is estimated on average that 1% increase in the value of GOVTEXP would increase the GDP. Similarly, the result shows that GOVTEXP had significant impact on the Nigeria economic growth within this period (1981-2018).

Figure 1a.



The objective one (To ascertain the degree of the shock of the government debt on Nigeria economy growth), figure 1a. depicts a strong impulse response of GDP from one period of a shock to ten periods of DOMD. The shock was positive and very significant on the GDP; this influence also shows that government domestic debt can predict the Nigeria economic growth in future.

Figure 1b.



External debt (EXTD) shocks from period one to period ten gave GDP a negative shock, however, this means that a period standard deviation shock on EXTD could not and will not have any positive influence on GDP in the long run.

Table 6. Variance Decomposition Test (DOM)

Period	S.E.	DOMD	EXC	EXTD	GOVTEXP	GDP	INFRT
1	253.1754	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	420.7117	97.30947	0.480076	0.004426	0.559043	1.620481	0.026507
3	**474.3017**	**89.90588**	**1.435001**	**0.986712**	**0.710114**	**6.925558***	**0.036733**
4	510.8678	78.07528	4.251542	1.058836	2.529515	14.03469	0.050140
5	554.0068	66.42475	6.640401	1.263279	8.909819	16.21686	0.544892
6	597.3698	59.33720	7.008340	2.658195	14.45772	14.72453	1.814009
7	682.5383	60.65705	5.438179	5.498313	14.76694	11.53856	2.100958
8	763.5821	61.53228	5.159211	7.633038	13.44045	10.50252	1.732501
9	798.5415	57.10661	5.306502	8.332733	13.47827	14.06883	1.707055
10	**855.6228**	**53.25379**	**5.209193**	**7.544306**	**14.13341**	**18.22984***	**1.629463**

EXTD

Period	S.E.	DOMD	EXC	EXTD	GOVTEXP	GDP	INFRT
1	624.8790	6.052308	39.29583	54.65186	0.000000	0.000000	0.000000
2	1073.096	11.66169	36.68281	49.90492	1.529472	0.068393	0.152721
3	**1360.897**	**15.83307**	**39.16300**	**41.02773**	**2.543640**	**0.720912***	**0.711653**
4	1470.819	13.96695	39.40555	39.49685	3.096734	2.239226	1.794694
5	1533.780	14.15252	37.04628	39.02575	3.042672	3.660215	3.072566
6	1554.659	14.24334	36.25900	38.93805	3.122859	4.043177	3.393572
7	1575.790	15.72740	35.46263	38.13642	3.414159	3.952938	3.306447
8	1683.138	25.72117	31.35115	33.43084	3.007832	3.578636	2.910372
9	1795.030	34.40410	27.62190	29.44659	2.687511	3.230332	2.609577
10	**1825.446**	**34.55111**	**27.28451**	**28.49502**	**2.602133**	**4.335481***	**2.731746**

GOVT EXP:

Period	S.E.	DOMD	EXC	EXTD	GOVTEXP	GDP	INFRT
1	224.4925	15.96608	13.45958	19.86956	50.70479	0.000000	0.000000
2	259.8949	35.94518	10.04866	14.82510	37.84289	0.001305	1.336859
3	**371.1635**	**47.30353**	**13.41533**	**15.30246**	**19.36343**	**3.304517***	**1.310724**
4	399.0142	45.16541	11.82349	14.39256	18.41725	9.063689	1.137610
5	463.3324	53.88230	8.948449	11.18841	14.32545	10.50189	1.153498
6	495.0376	49.94034	11.88851	9.926239	16.97298	10.21313	1.058799
7	532.3673	44.15974	20.02441	8.587035	16.92611	8.835070	1.467640
8	613.2935	42.62597	30.19517	6.546744	12.75562	6.698110	1.178384
9	700.0592	36.33571	39.48659	5.141860	9.898345	7.075758	2.061734
10	**778.9605**	**32.27485**	**40.53194**	**5.596114**	**8.008600**	**10.23036***	**3.358132**

GDP:

Period	S.E.	DOMD	EXC	EXTD	GOVTEXP	GDP	INFRT
1	721.2768	10.51494	3.323700	26.00627	9.391070	50.76402	0.000000
2	1162.185	13.33333	3.371238	12.56604	19.61666	44.53591	6.576836
3	**1505.291**	**13.62636***	**9.176038**	**7.566257***	**25.91869**	**31.55615**	**12.15651**
4	1789.162	11.95408	27.68033	5.383347	22.13369	23.47587	9.372675
5	2451.675	16.15671	47.41674	3.402903	12.81206	14.85068	5.360895
6	2995.548	11.02250	57.17318	2.336232	8.852537	15.50992	5.105636
7	3640.258	12.13694	56.05378	3.100286	6.241050	17.10075	5.367189
8	4371.098	14.52978	55.65877	4.274935	5.165086	15.79961	4.571820
9	5061.759	11.77360	61.44336	5.472312	4.568934	13.06536	3.676440
10	**5943.887**	**9.700103***	**68.00106**	**5.874456***	**3.398176**	**10.00092**	**3.025285**

Cholesky Ordering: DOMD EXC EXTD GOVTEXP GDP INFRT

In the above variance decomposition estimate, table 5, shows that in the short run, shocks in GDP cause 6.9 percent variation of the fluctuation in domestic debt (DOMD), while in the long run, impulse in GDP account for 18.2 per cent fluctuation in DOMD, note carefully also that GDP contributed more shocks in the fluctuation of DOMD both in the short run and long run (Period 3 and 10) than other variables (apart from own shocks). GDP also accounts for 0.7 per cent fluctuation in external debt (EXTD) in the short run and 4.3 per cent in the long run.

Government expenditure (GOVTEXP) witness a fluctuation of 3.3 per cent shock from GDP in the short run and the long-run period shows that GDP can cause 10.2 per cent fluctuation in the GOVTEXP. Note that in the short run and long-run periods, GDP has always had increases in its contributions to shocks in other variables understudied. Above all, in considering our objective two (2) 'To ascertain the degree of the shock of the Nigeria economic growth on the government debt', let us examine the last component of table 5 (Variance decomposition of GDP). In the short run, DOMD can cause 13.6 per cent shock fluctuation in GDP and the long run DOMD can cause 9.7percent impulse fluctuation in GDP. EXTD in the short run accounts for 7.5 per cent shock

fluctuation influence in GDP, while in the long run it also accounts for a decrease of 5.8 per cent shock influence in GDP.

Table 7. VEC Granger Causality/Block Exogeneity Wald Tests
Date: 08/05/19 Time: 23:05
Sample: 1981 2018
Included observations: 35

Point 1. Dependent variable: D(EXC)

Excluded	Chi-sq	df	Prob.
D(DOMD)	3.349027	2	0.1874
D(EXTD)	0.522978	2	0.7699
D(GDP)	2.985996	2	0.2247
D(GOVTEXP)	2.588003	2	0.2742
D(INFRT)	1.145980	2	0.5638
All	12.49699	10	0.2532

Point 2. Dependent variable: D(DOMD)

Excluded	Chi-sq	df	Prob.
D(EXC)	2.403384	2	0.3007
D(EXTD)	1.483932	2	0.4762
D(GDP)	4.034511	2	0.1330
D(GOVTEXP)	2.330153	2	0.3119
D(INFRT)	0.011360	2	0.9943
All	19.81636	10	0.0310

Point 3. Dependent variable: D(EXTD)

Excluded	Chi-sq	df	Prob.
D(EXC)	0.064438	2	0.9683
D(DOMD)	2.109152	2	0.3483
D(GDP)	1.771389	2	0.4124
D(GOVTEXP)	1.035441	2	0.5959
D(INFRT)	0.505897	2	0.7765
All	10.90954	10	0.3646

Point 4. Dependent variable: D(GDP)

Excluded	Chi-sq	df	Prob.
D(EXC)	4.064075	2	0.1311
D(DOMD)	39.04344	2	0.0000
D(EXTD)	3.491403	2	0.1745
D(GOVTEXP)	14.08769	2	0.0009
D(INFRT)	2.283038	2	0.3193
All	55.70260	10	0.0000

Point 5. Dependent variable: D(GOVTEXP)

Excluded	Chi-sq	df	Prob.
D(EXC)	5.980818	2	0.0503
D(DOMD)	2.775984	2	0.2496
D(EXTD)	4.038073	2	0.1328
D(GDP)	1.764596	2	0.4138
D(INFRT)	0.224919	2	0.8936
All	17.45398	10	0.0649

Point 6. Dependent variable: D(INFRT)

Excluded	Chi-sq	df	Prob.
D(EXC)	1.513986	2	0.4691
D(DOMD)	0.648355	2	0.7231
D(EXTD)	0.517828	2	0.7719
D(GDP)	0.410248	2	0.8145
D(GOVTEXP)	0.842031	2	0.6564

All	9.651503	10	0.4716

Source: Eview 9

Table 7 depicts the resulting test of Granger causality and the individual variables DOMD, EXTD, GDP, GOVTEXP and INFRT do not influence EXC. As a group as well, there is no causality running from them to EXC. DOMD as a dependent variable has no causality running from EXC, EXTD, GDP, GOVTEXP and INFRT to it, but, all independent variable is taken together, their granger cause DOMD by 3 %.

EXC, DOMD, GDP, GOVTEXP and INFRT independent variables have no causality running from them to the dependent variable EXTD and taken together, there do not granger cause EXTD.

DOMD has a strong Granger causality running from it to GDP and GOVTEXP also granger cause GDP. Every other variable does not granger cause GDP. The result also indicates that all the variables are taken together, granger cause GDP strongly.

In point 5, all the independent variable individually does not granger-cause GOVTEXP, if taken together, there still not granger cause GOVTEXP.

EXC, DOMD, EXTD, GDP and GOVTEXP as shown in point 6, have no influence on INFRT individually and taken together as well, cannot influence IINFRT. Above all, this granger causality test has shown that, the only variables that have and can influence GDP strongly are government expenditure and domestic debt. The other individual variables will not have any influence on GDP if not as a group in the course of this period(s) and future.

5. CONCLUSION AND RECOMMENDATIONS

From this study, we can conclude that government expenditure impacts significantly the growth rate of GDP based on the research analysis. This means that government expenditure is a true parameter for measuring economic

growth. Therefore, the study has shown that government expenditure is the main driver of economic growth. The other variables such as interest rate, exchange rate and inflation rate also have an impact on economic growth because of their right signs. Based on the findings, for the government expenditure, interest rate, inflation rate and exchange rate to have a positive impact on economic growth, the following policy options are recommended:

1) The government should increase its expenditure to further drive economic growth.

2) The monetary authority should ensure that the value of the naira is protected; this will lead to an appreciation of the naira and further increase economic growth.

3) In light of the position of the effect of the rate of inflation and economic growth, some level of inflation is advisable/ tolerable for economic growth to take place. Zero inflation should not be the goal of the monetary authority, but the sustainable level of inflation for sustainable growth rate. Therefore, some level of inflation is good for economic growth in Nigeria.

4) Lastly, the government should be more transparent in its effort in tackling corruption in the country and should increase its funding for anti-graft or anti-corruption agencies like the Economic and Financial Crime Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC) to arrest and penalize those who divert and embezzle public funds.

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