EFFECT OF GOVERNMENT EXPENDITURE ON THE MACROECONOMIC PERFORMANCE OF NIGERIA

NWACHUKWU, ATHANASIUS C.
Dept. of Social Sciences, Federal Polytechnic Nekede, Owerri, Imo State, Nigeria
Email: athanchukspoly@gmail.com

ADISHI, CHARITY C.
Federal Polytechnic Nekede, Owerri, Nigeria
Email: amalicharity@gmail.com

&
DIM, HENRY C.
Dept. of Insurance, Imo State University Owerri, Imo State, Nigeria
Email: henry.dimc@gmail.com

ABSTRACT

This study looked at the impact of government spending on Nigeria's macroeconomic performance from 1981 to 2021. The study used three different models with three different macroeconomic variables as the dependent variables: real GDP, unemployment and inflation. The data was subjected to unit root econometric analysis, the Johansen cointegration test, and the error correction model. The findings revealed that government recurrent expenditure increased Nigeria's real GDP and unemployment rate significantly, while the variable's positive effect on inflation rate was minimal, that is, not significant. Furthermore, though the effect was not statistically significant, government capital expenditure was found to have a positive effect on real GDP. Capital expenditure reduced unemployment and inflation rates during the study period. In the models, the intervening effect of government borrowing was predominantly negative, whereas government borrowing significantly increased real GDP. From the research, the positive aspect of capital expenditure by government is yet to be consistent in significantly improving macroeconomic variables. Only recurrent expenditure has had a significant impact on the macro economy, but the significance was negative at times. It was suggested that the prudent budgetary spending, increase capital spending to build productive capacity, and channel both capital and recurrent spending into job creation and human capacity building ventures should be engaged by government.

Keywords: Capital expenditure, recurrent expenditure, inflation rate, unemployment rate, macro-economic indicators.

Introduction/Background

Government spending determines the overall progress of economic activities in many countries around the world. Government spending, also known as public spending, holds a strategic position in various world economies. As a result, government spending is critical to the aggregate economy, also known as the macro economy. The issue of government spending cannot be overstated in multiple dimensions, and it has remained a critical issue in economic

development, particularly in Sub-Saharan African developing countries. According to Bhatia (2002), developing social overheads, creating transportation and communication facilities, education and training, growth of capital goods industries, industries, research and development are all functions of well-planned government expenditure.

The trend in Nigeria government spending has changed dynamically. Since achieving independence in 1960, government spending has increased significantly as a result of a deliberate policy of stimulating industrialization in order to increase overall economic activity and diversify the economy (Okpara and Nwaoha, 2010). Nigeria began to experience a serious fiscal crisis, which manifested as an economic crisis, around the turn of the 1980s. In 1986, the country implemented stabilization and adjustment programs that required significant reductions in government spending so as to reduce high fiscal deficits and boost economic growth. According to CBN (2018), initially two options were considered: first, revenue-generating measures for reduction of the fiscal deficit, and second, expenditure reduction. The former was implemented, which resulted in the 1986 Structural Adjustment Programme (SAP). This metric influenced economic performance in terms of output and put an undue strain on the macro economy.

The direction of government spending in an economy may reflect the government's policy objectives. For example, the allocation of public expenditures could have a significant impact on both economic growth and poverty alleviation. As a result, only expenditures directly related to growth should be shielded from broad-based spending cuts. With real public spending reduced or tightly controlled, there may be a need to ensure that scarce public funds are allocated to the highest priority areas and used very efficiently. This implies that a thorough empirical analysis of public expenditure is required before embarking on any meaningful public spending policy.

Nigeria is a market-driven economy, with the government's role being to create an enabling environment in which businesses can thrive and contribute to the country's growth. The high rate of government spending is expected to increase investment, create job opportunities, lower the inflation rate, and sustain the increase in productive capacity (Islam, 2004). Nigeria's recurrent and capital expenditures increased from N4.8 billion and N6.6 billion in 1981 to approximately N36.2 billion and N24 billion in 1990, respectively. According to the CBN (2021), the positive trend continued until 2000, when recurrent expenditure reached N461.6 billion and capital expenditure reached N239.5 billion. In 2010, recurrent expenditure had grown exponentially to N3.1 trillion, compared to capital expenditure of N883 billion. Nigeria had recurrent public expenditure of N9.15 trillion as of the end of 2021, while capital expenditure was N2.52 trillion (CBN, 2021).

The continuous increase in expenditure has suggested that the macroeconomic environment should respond accordingly. For example, Nigeria's real GDP has risen steadily since 1981, from N19.7 trillion in 1981 to N73.4 trillion at the end of 2021. However, the inflation rate has fluctuated between 7% and 60% over the last two decades, reaching an all-time high of 72.8 percent in 1995 and a low of 5.39 percent in 2007. Nigeria's current inflation rate is 15.5 percent. In the case of unemployment, the macroeconomic variable has not responded in accordance

with government spending. The unemployment rate in Nigeria remains positive, having reached 62.8 percent as of the end of 2021 (CBN, 2021).

Clearly, the continued rise in spending has resulted from massive receipts from the production and sale of crude oil, also public goods in high demand such as health, roads and education facilities, external and internal security in light of an ever-increasing population (CBN, 2021). Rising government spending has yet to translate into commensurate growth and improvement in key macroeconomic indicators. It is troubling that government spending does not appear to have replicated the same level of economic growth in Nigeria. For example, between 1981 and 1990, while Nigeria's GDP growth rate declined from 57.15 percent to 2.87 percent), government spending growth rate increased from 23.2 percent to 41.24 percent (CBN, 2021). It is currently unknown how the macroeconomic variables have reacted to this phenomenal increase, going by the interplay of massive government recurrent expenditure. Again, empirical observations are yet not consistent in providing a clear picture of the nation's macroeconomic performance as it relates to the distribution of public resources. While studies such as Momodu and Ogbole (2014), Arewa and Nwakahma (2013), and others found the public sector to be more effective, albeit marginally, in stimulating economic growth, other works such as Dikeogu (2018), Olaiya et al., (2012), and others found that government capital spending had a negative effect on inflation. Furthermore, the time scope of previous studies has not been updated to reflect current economic realities, which poses a problem for this study.

In light of the issues raised above, the purpose of this research is to assess the influence of government spending on the performance of selected macroeconomic variables in Nigeria from 1981 to 2021. The specific goals are to investigate the effects of government recurrent and capital spending on macroeconomic variables such as real GDP, unemployment, and the inflation rate. This study will eventually aid policymakers in their quest to put Nigerian economy on a path of more targeted government spending that touches every key sector nationally.

Literature Review
Conceptual Literature
Government expenditure: According to Nnamocha (2001), government or public expenditure are the expenses incurred by the government for its own maintenance as well as the society and economy as a whole. Anyanwu (1993) defines public expenditure as the expenses incurred for its own maintenance, the advantage of society, the economy, external bodies, and other countries. He went on to define public expenditure as government spending derived from taxes and other sources. According to Ajie, Akekere, and Ewubare (2014), public expenditures are those incurred by public authorities such as the federal, state, or local governments to meet the collective social needs of the people. The term "public expenditure" refers to the flow of resources from the government to other sectors. Thus, public expenditure has three components: government expenditure, entire population spending and economy expenses. Government spending can be summarized as expenses incurred by the government to build government capacity, human capital and economic capacity.

Constitutionally, government expenditure in Nigeria is divided into two components: capital expenditure and recurrent expenditure. Capital expenditure is spent on the creation or acquisition of fixed assets (new or used), whereas recurrent expenditure is spent on the purchase of goods and services, the payment of wages and salaries, and the settlement of fixed asset depreciation. Hence, government expenditure entails government spending at all times to purchase public goods as to meet the economy's goals and objectives.

Capital Expenditure: Payments made by the government on the creation or acquisition of assets that will be used for production for more than one year or for an extended period of time. Capital expenditures include payments for the purchase of equipment and machinery, as well as the construction of roads and other infrastructure. Capital expenditure has a long-term impact on the economy and contributes to a more efficient and productive economy, such as the construction of canals, dams, water storage, roads, and railway lines, among other things. According to Nnamocha (2002), capital expenditure is defined as expenditure incurred in:

a) The initial establishment of the business
b) The acquisition of fixed assets required for business use rather than resale.
c) The modification or improvement of assets in order to increase their profit earning capacity.

He also defined it as money injected into the business permanently or for an extended period of time, typically longer than one accounting period or one year.

Recurrent Expenditure: This is a short-term government expenditure that does not result in the creation or acquisition of fixed assets. It is the spending on the day-to-day operations of the government. It includes expenditure on wages and salaries, as well as interest and debt servicing. Most are usually non-refundable, and the impact on the economy is only temporary. According to Nnamocha (2002), recurrent expenditures are expenses incurred in maintaining the revenue earning capacity of fixed assets, acquiring assets required for conversion into cash, manufacturing, selling and distribution of goods, and day-to-day business administration. The benefit from recurrent expenditure is typically consumed entirely within one accounting period, typically one year**.**

Unemployment: Like most countries, the Nigeria Bureau of Statistics (2017) uses a variant of the International Labor Organization definition of unemployment. According to the ILO in the NBS report (2017), unemployment is defined as the proportion of those in the labor force (not the entire economic active population, nor the entire Nigerian population) who were actively looking for work but were unable to find work for at least 20 hours during the reference period to the total currently active (labor force) population (NBS, 2017). As a result, one is unemployed if he or she did nothing or worked for less than 20 hours during the reference week.

Nigeria, on the other hand, uses the ILO's definition, or a variant of it, to calculate unemployment. The ILO definition includes people aged 15 to 64 who were available for work and actively seeking work during the reference period (usually the week before the survey) but were unable to find work. Unemployment, according to Gbosi (1997), is a situation in

which people who are willing to work at the prevailing wage rate are unable to find work. As a result, the unemployment rate is the percentage of the working-age population who are not directly employed. In Nigeria, unemployment increased by 65 percent between 2015 and 2016, particularly among young people (NBS, 2017). As of 2021, the official unemployment rate is 38 percent, with youth unemployment at 65 percent, according to the National Bureau of Statistics (CBN, 2021; NBS, 2021). By implication, more than 50 million Nigerians are unemployed; if Nigeria's active working population is 100 million, this means that 60 percent of Nigerians are unemployed.

Inflation is defined by Abu and Abdullahi (2010) as a long-term rise in the general price level of a wide range of goods and services. According to Dikeogu (2018), inflation is always and everywhere a monetary phenomenon that can be produced only by a faster increase in the quantity of money than output. Inflation, he saw, was "a destroying disease born of a lack of monetary control, the result of which undermined the rules of business, causing havoc in the market and financial ruin of even the products." Inflation is simply defined as an increase in the price of goods and services that does not correspond to an increase in the quantity of goods and services. In practice, the inflation rate is the percentage increase in the level of prices in the economy over a given time period, which is usually one year.

GDP (Gross Domestic Product): GDP is the market value of all finished goods and services produced in a country over a given time period (Nurudeen & Usman, 2010). GDP is also defined as the market value of all officially recognized finished goods and services produced in a given year or other time period within a country. GDP grew at a positive rate of 4.0 percent in response to economic adjustment policies on economic liberalization from 1988 to 1997. Nigeria's GDP has increased since 2005 growth rate has averaged 6.8 percent, peaking at 7.36 percent in 2011 and falling to 6.5 percent in 2012, 4.69 percent in 2017 and 1.93 percent in 2018. (NBS, 2021). From the early 2000s to the end of 2021, the government used fiscal policies to direct economic growth, with a focus on recurrent expenditure. Nigeria's GDP fell into a recession in early 2016 (CBN, 2021), recovered in late 2016, and has since been the subject of government interventions in the form of increased social and economic spending services. As a result, GDP is regarded as the primary macroeconomic growth indicator in this study, alongside other macroeconomic indicators.

Theoretical Framework
Adolph Wagner (1912) investigated the rise in spending in Germany and proposed the famous theory of expanding state activities. In his research published in 1912, he proposed the theory of increasing public and especially state activities. According to Wagner's theory, as the economy develops over time, the government's activities and functions expand. He stated that the activity of both central and local governments in rapidly expanding countries increases on a regular basis. The increase can be both extensive and intensive, with central and local governments constantly taking on new tasks while performing old ones more efficiently and thoroughly (Taiwo and Abayomi, 2011).

The theory proposed a functional relationship between economic growth and the expansion of government activities, with the government sector growing faster than the economy. Thus, the central tenet of Wagner's theory is that sectors of an economy have an inherent tendency

to grow in size and importance as government spending increases (Nnamocha 2001). The graph below depicts the smooth and continuous trend of Wagner's theory over time:
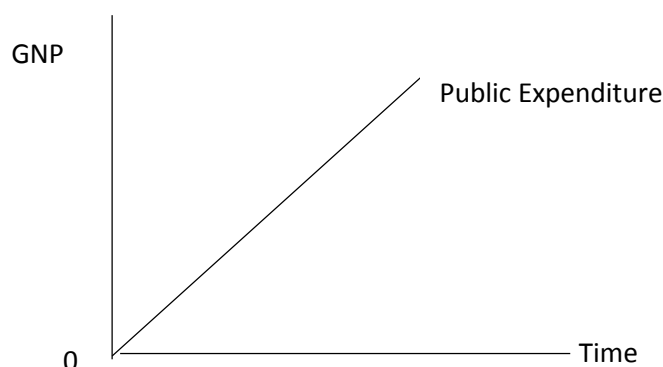

Fig 1: Wagner's theory of increasing state activities

In summary, Wagner's theory applies to progressive societies in which central and local government activities increase on a regular basis, governments take on new functions that are performed more efficiently and completely than before, the purpose of government activities is to meet the economic needs of the people, and the expansion and intensification of government functions and activities result in an increase in public expenditure.

Although Wagner's theory was developed for the German economy, it can be applied to developing countries with progressive governments. However, Keynes expanded on this theory in 1936, when he expatiated on government spending as an economic growth accelerator.. Keynes contended that the lingering economic depression was the result of the government's failure to control the economy through appropriate economic policies (Iyoha et. al., 2003). As a result, Keynes proposed the concept of government intervention in the economy via macroeconomic policies (Torres, 2010). Any economy thrown off balance by severe economic shocks, the government can help restore normalcy by increasing demand through government spending, according to Keynes economics.

As a result, the two theories of Wagner and Keynes emphasize the importance of government spending in economic growth. The government is the sole driver of every economy, and it delegated authority to other players in order to accelerate economic growth. The government's power lies in her fiscal powers, which can be used to either increase or decrease monetary flow. In either case, macroeconomic growth is the goal.

Empirical Review
Ojeka (2002) used the OLS regression method to inspect the separate effects of various categories of government expenditure on private sectors. He demonstrated that, while the fiscal deficit had a negative impression on private investment, the inflation rate had a positive impact. He concluded that effective fiscal management, increased public investment in education, health, and infrastructure, macroeconomic stability, and a reduction in external debt services will boost private investment. Perotti (2004) used a structural VAR model to study the effects of fiscal policy in OECD countries. Data on per capita real public spending, net taxes, gross domestic product, inflation, and interest rates were collected and analyzed for

five OECD) countries from 1960 to 2001. The findings indicated that the effects of spending shocks and tax cuts on product and its components had weakened or turned negative over time, particularly on private investment. Perotti discovered evidence of positive effects of government spending on long-term interest rates, while spending had a minor influence on inflation under plausible price elasticity values. Ohwofasa (2008) used a simple regression model and granger causality methodology in another study on economic growth and public expenditure in Nigeria from 1986 to 2005. According to the study, government spending on the administrative and economic sectors was significant in explaining growth in Nigeria, whereas spending on social and transfers were not.

Pyraee et al. (2010) used the maximum-likelihood method to estimate macroeconomic variables such as private investment, capital, employment, wages, and output in another related study on the effect of public expenditure shocks on macroeconomic variables in an Iranian real business cycle model. They discovered that a positive response to government spending shocks influenced these variables. They concluded that increased government spending increases private sector productivity and reduces production costs, stimulates the private sector to increase investment and production, and increases consumption in the long run. The findings also revealed that increased government spending stimulates and increases other variables.

Arewa and Nwakahma (2013) discovered a long-run relationship between government spending and the macroeconomic variables studied (GDP, consumer price index and unemployment). Momodu and Ogbole (2014) discovered in their study that the public sector was marginally more effective in stimulating economic growth (measured by GDP) in the regulatory period and more effective in reducing unemployment and improving BOP in the regulatory period.

Karimi et al. (2016) discovered that variables such as the goods price index and services, as well as government investment spending, had positive effects on economic development, whereas variables such as the exchange free rate, government consumption spending, and government tax revenues had negative effects.

Clearly, several studies on public spending and economic growth have been conducted by Nigerian researchers, but there appears to be a gap in the current literature on this topic of study. Dikeogu (2018)'s recent study is limited in time to 2017. The time scope should be updated to the most recent year, 2021, and more models should be used to highlight the relationship between economic variables. Our analysis is based on the disaggregated components of government expenditure, namely government capital and recurrent expenditure, in relation to macroeconomic variables such as inflation, unemployment, and real GDP (RGDP). This is because Keynesian theory underpins the effect of government expenditure (both recurrent and capital) on macroeconomic variables in Nigeria, which is consistent with our findings.

Methodology
This research adopts the *ex post facto* research design which is a very common and ideal method in conducting research in business and social sciences. It is mostly used where

variables are drawn from already concluded events and there is no possibility of data manipulation. We used secondary date collected from CBN Statistical Bulletin 2021 edition. Data on government expenditure disaggregated into government capital expenditure and government recurrent expenditure, inflation rate, gross domestic product and unemployment rate were used. Three econometric models were formed to test the relationship with the dependent variables (GDP, unemployment rate and inflation rate) and the explanatory variables (government recurrent expenditure and government capital expenditure).

The study employed econometric techniques in analyzing the data. Specifically, the Error Correction model within the framework of the Ordinary Least Square Regression Method (OLS) is used to test the relationship and impact of independent variables on the dependent variable due to its computational simplicity. Also unit root and co-integration tests on the collected data were conducted.

Model Specification
The empirical work of Dikeogu (2018) provides the basis for the specification of the model in this study. Dikeogu (2018) specified a model where public capital and recurrent spending were the main explanatory variables while money supply (MSS) and exchange rate (EXR) were added as check variables. The model specification of Dikeogu (2018) was stated as follows:
INF = f(GCE, GRE, MSS, EXR) …i

By way of modification of the above specification of Dikeogu (2018), we shall disaggregate the macro-economic variables into three key variables while specifically limiting government expenditure to capital and recurrent spending. We shall re-specify a three-equation model capturing the three selected macro-economic growth indicators in each of the models as well as adding an intervening variable. The simplified model is specified thus:
$MEI_t = f(GRE_t, GCE_t)$ …ii

Where MEI_t represents the macro-economic indicators for Nigeria during period t;
GRE_t and GCE_t are the specific government recurrent and capital expenditure at time t.
The general model to be estimated is expanded to include the macro-economic indicators and as well inclusion of the intervening variables which is government borrowing. The functional form is represented thus:
$RGDP_t = f(GRE_t, GCE_t, GBR_t)$ …iii
$UNEP_t = f(GRE_t, GCE_t, GBR_t)$ …iv
$INF_t = f(GRE_t, GCE_t, GBR_t)$ …v

Where GBR_t is government borrowing at time t.
More specifically, the econometric model can be expressed in mathematical form incorporating the identified macro-economic indicators and the intervening variable. The models are specified thus:
Model I: $RGDP_t = \alpha_0 + \alpha_1 GRE_t + \alpha_2 GCE_t + \alpha_3 GBR_t + \varepsilon_{1t}$ …vi
Model II: $INF_t = \beta_0 + \beta_1 GRE_t + \beta_2 GCE_t + \beta_3 GBR_t + \varepsilon_{2t}$ …vii
Model III: $UNEP = \lambda_0 + \lambda_1 GRE_t + \lambda_2 GCE_t + \lambda_3 GBR_t + \varepsilon_{3t}$ …viii

Where RGDP, INF and UNEP represent the real gross domestic product, inflation rate and unemployment rate which are the selected macro-economic growth indicators. And GRE, GCE and GBR are the government expenditure variables (capital and recurrent) as well as government borrowing.

A-priori Expectation

It is expected that government recurrent and capital expenditures should have positive relationships with the macro-economic growth indices. In line with economic theories of growth, government expenditure is meant to meet the basic needs of the people as well as improve the overall economy. Thus, stated mathematically, for model one, we have: $\alpha_1 > 0$; $\alpha_2 > 0$, $\alpha_3 > 0$. For model two, $\beta_1 < 0$; $\beta_2 < 0$, $\beta_3 < 0$. For model three, $\lambda_1 < 0$; $\lambda_2 < 0$, $\lambda_3 < 0$.

Data Analysis

Unit Root Test

This test summarized below shows the order of integration. The test is summarized as follows:

Table 1: Summary of Unit Root Test Result

Variable(s)		ADF Test Statistics		Decision			Order Of Integration
		At Level	At 1st Difference				
RGDP		0.1716	-3.0503	Stationary at first difference			I(1)
UNEMP		-1.9990	-6.0920	Stationary at first difference			I(1)
INF		-2.8942	-3.3593	Stationary at first difference			I(1)
GCE		-1.1074	-8.2993	Stationary at first difference			I(1)
GRE		-0.8412	-6.1618	Stationary at first difference			I(1)
GBR		1.2753	-4.8565	Stationary at first difference			I(1)
Critical Values	1%	-3.6329	-3.6268				
	5%	-2.9484	-2.9458				
	10%	-2.6129	-2.6115				

Source: Authors computation from E-view

A unit root test (ADF) was conducted to ascertain whether the variables in the model are stationary. This is necessary as it helps to avoid spurious regression results. From Table 1 above, all the variables became stationary after first differencing which implies that the variables were all integrated of order one I~(1). In other words, Real gross domestic product (RGDP), unemployment rate (UNEP), inflation rate (INF), government recurrent expenditure (GRE), government capital expenditure (GCE) and government borrowing (GBR) were stationary after first differencing, indicating an order of integration 1, i.e. they were integrated of order one I~(1).

Johansen cointegration test for model 1

Given that the variables which seek to analyse the relationship between government expenditure and macro-economic growth in Nigeria are integrated of order one I(1), we will make use of the Johansen co-integration approach to ascertain the long run relationship amongst the variables. The test is summarized below:

Table 2: Johansen cointegration test result for model 1

Model 1: Trace Statistic					Max-Eigen Statistic		
Hypothesized No of CE (S)	Eigen-Value	Trace statistics	5% Critical Value	Prob	Max-Eigen statistics	5% Critical value	Prob
None**	0.4976	34.6189	20.7971	0.0121	24.0196	21.1316	0.0186
At Most 1	0.2367	10.5273	15.4947	0.2423	9.4544	14.2646	0.2503
At Most 2	0.0302	1.0728	3.8415	0.3003	1.0728	3.8414	0.3003
At Most 3	0.5499	2.0136	2.9841	0.3092	1.8857	2.0687	0.6750

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level
Max-eigen value test indicates1cointegratingeqn(s) at the 0.05 level

From the result in Table 2 above, using the Trace test of detecting co-integration test, it is indicative that there is one Co-integrating equation in the model; hence there exist a long run relationship between government expenditure and economic growth in Nigeria.

Table 3: Johansen cointegration test result for model 2

Trace Statistic					Max-Eigen Statistic		
Hypothesized No of CE (S)	Eigen-Value	Trace statistics	5% Critical Value	Prob	Max-Eigen statistics	5% Critical value	Prob
None**	0.5773	35.3312	29.7970	0.0104	30.1384	21.1316	0.0021
At Most 1	0.1343	5.1927	15.4947	0.7880	5.0472	14.2646	0.7359
At Most 2	0.0041	0.1455	3.8415	0.7029	0.1455	3.8414	0.7029
At Most 3	0.3352	0.0289	2.1190	0.8655	0.0167	2.4475	0.8133

Trace test indicates 1cointegratingeqn(s) at the 0.05 level
Max-eigenvalue test indicates1cointegratingeqn(s) at the 0.05 level

From the result in Table 3 above, using the Trace test of detecting co-integration, there is1 Co-integrating equation in the model; hence there exist a long run relationship between government expenditure and unemployment rate in Nigeria.

Table 4: Johansen cointegration test result for model 3

Model 1: Trace Statistic					Max-Eigen Statistic		
Hypothesized No of CE (S)	Eigen-Value	Trace statistics	5% Critical Value	Prob	Max-Eigen statistics	5% Critical value	Prob
None**	0.5464	43.5194	29.7970	0.0007	28.4619	21.1316	0.0039
At Most 1	0.3313	15.0576	15.4947	0.0581	14.4882	14.2646	0.0461

| At Most 2 | 0.0157 | 0.5693 | 3.8415 | 0.4505 | 0.5693 | 3.8414 | 0.4505 |
| At Most 3 | 0.0098 | 0.3271 | 1.5299 | 0.0124 | 0.3059 | 2.4986 | 0.5943 |

Trace test indicates 1cointegratingeqn(s) at the 0.05 level
Max-eigenvalue test indicates 2cointegratingeqn(s) at the 0.05 level

The Table 4 above shows the existence of long run relationship between government expenditure and inflation rate in Nigeria. This is evidenced in the co-integrating equation in the model. Therefore, the overall result showed long run properties of the variables in the three models. This justifies the estimation of the model parameters using the error correction model.

Error Correction Model
Given the already established an existing long run relationship, it's necessary to ascertain if a short run relationship exist in the model. The error correction model will be employed to this.
Table 5: Error correction model (ECM) for model 1 - RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.63313	2.908250	3.656195	0.0009
D(GCE)	1.041003	2.031195	0.512508	0.6117
D(GRE)	3.940275	1.205654	3.268164	0.0025
D(GBR)	0.165489	0.023043	7.181747	0.0012
ECM(-1)	-0.250000	0.102762	-2.432811	0.0206

Source: E-views9 output

Result from the ECM estimates above displays that the residual model was negative, with value of -0.2500 which shows that a short run relationship exist between government expenditure and economic growth. Thus the speed of adjustment to which disequilibrium in economic growth could be corrected by government expenditure is 25% annually. The intercept C, has a positive value of 10.633; this implies that when all the independent variables are held at constant, RGDP will increase by 10.633 units.

Government Capital expenditure (GCE) and government recurrent expenditure (GRE) both have positive coefficient values of 1.041 and 3.940; this indicates that there is a positive relationship between government capital and recurrent expenditure and economic growth in Nigeria, thus if there is a unit change in GCE and GRE, it increases RGDP by 1.041 and 3.940 units respectively. The significance test revealed that government recurrent expenditure significantly increased economic growth while government capital expenditure did not.

The intervening variable which is government borrowing (GBR) has a positive and significant effect on economic growth increasing real GDP by 0.165489 units. The p-value of 0.0012 shows that the positive effect of government borrowing on growth was significant in the short run.

Table 6: Error correction model for model 2 – unemployment rate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.723126	0.275368	2.626037	0.0130
D(GCE)	-0.000246	0.001878	-0.131262	0.8964
D(GRE)	0.000909	0.000102	8.911765	0.0155
D(GBR)	-1.346227	0.297676	-4.522457	0.0133
ECM(-1)	-0.166992	0.083894	-1.990521	0.0549

Source: E-views9 output

In the second model, the residual is rightly signed -0.1669 which is an indication of a short run significant relationship between government expenditure and unemployment rate. Thus, the model corrects its previous period's disequilibrium at an estimated speed of 16.69% annually. The intercept has a positive value of 0.723, which implies that when all the independent variables are held constant at zero, unemployment will increase by 0.723%.

Government Capital expenditure (GCE) has a negative coefficient value of -0.000246, this indicates that there is an inverse relationship between government capital expenditure and unemployment rate in Nigeria, thus if there is a unit change in GCE, it decreases unemployment by 0.000246%. The *p-value* revealed that government capital expenditure did not significantly decrease unemployment rate in Nigeria for the period. Government recurrent expenditure (GRE) showed positive coefficient value of 0.000909 (p-value = 0.0155), which is an indication that there is a positive and significant relationship between government recurrent expenditure and unemployment rate in Nigeria.

The intervening effect of government borrowing in the model was negative decreasing unemployment by 1.346% annually. Thus, the p-value of 0.0133 indicates that government borrowing significantly decreases the rate of unemployment in Nigeria.

Table 7: Error correction model for model 3 - inflation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.187632	2.452995	0.076491	0.9395
D(GCE)	-0.005493	0.016752	-0.327895	0.7451
D(GRE)	0.000792	0.009820	0.080687	0.9362
D(GBR)	-0.595673	0.286740	-2.077398	0.4950
ECM(-1)	-0.476285	0.146633	-3.248145	0.0027

Source: E-views9 output

The speed of adjustment to which disequilibrium in inflation rate could be corrected by government expenditure was estimated at 47.62%. Also, inflation rate increases by 0.1876% when all the independent variables are held constant at zero. Government capital expenditure (GCE) decreased inflation rate by 0.0055 units while government recurrent expenditure

increased inflation by 0.00079 units in the short run period. None of the two expenditures were found to have significant effect on inflation rate in Nigeria.

Furthermore, the intervening variable, government borrowing had negative effect in the model decreasing inflation rate by 0.596 units. This implies that government borrowing has the tendency to decrease the level of inflation in Nigeria but the decrease was not found to be significant in the short run analysis.

Post-Estimation Test Results

The post estimation tests are summarized in the Table 4.9 below. The tests comprised of the Durbin Watson test for autocorrelation, Heteroscedasticity test, and the Coefficient of determination (Adjusted R-squared. These tests are necessary in order to ascertain the statistical and econometric robustness and predictive ability of the model. They are summarized as follows:

Table 8: Diagnostic Tests

S/N	Test	Probability			Decision
		Model 1	**Model 2**	**Model 3**	
1.	Adj. Coefficient of determination	98.03%	86.89%	61.43%	High explanatory coefficients
2.	Durbin Watson Statistic	1.9959	1.3708	1.9499	Autocorrelation
3.	Whites Heteroscedasticity Test	0.0022	0.1839	0.2498	No Heteroscedasticity
4.	F-test (Joint test)	4.285 (*p=0.0116*)	3.494 (*p=0.0341*)	3.565 (*p=0.0244*)	Government expenditure have joint significant effect on the macro-economic variables.

Source: *Extracted from E-Views 9.0 output (See Appendix)*

The post-estimation tests as presented in table 8 above shows the adjusted R^2 which indicates that about 98.03% of the total variation in real gross domestic product (RGDP) is being explained by government expenditure, leaving only 1.07 % to the error term. In Model 2, the adjusted R^2 indicates that about 86.89% of the total variations in unemployment can be explained by government expenditure, leaving about 13.11% to error term. In model 3, about 61.43% of the total variation in inflation rate is being explained by government expenditure, leaving38.57% to the error term. These represent a strong goodness of fit.

The Durbin Watson test statistics revealed that there was negative autocorrelation in the three models. This is as a result of the DW stat which tends closer to 2 than to 0.

The probability value of the Whites test for heteroscedasticity is 0.0022, 0.1839 and 0.2498 for models 1, 2 and 3 respectively. The *p-values* for model 1 is less than 0.05, thus we reject the null hypothesis, and conclude that model 1 shows slight presence of heteroscedasticity. Model

2 and 3 on the other hand, are both greater than 0.05 critical value; thus we accept the null hypothesis, and hence conclude that there was no heteroscedasticity in the models 2 and 3, implying that their error terms were homoscedastic.

The F-statistic values show that the government expenditure variables have joint significant effect on the macro-economic indicators. In other words, government capital and recurrent expenditure, as well as government borrowing jointly influence economic growth, unemployment rate and inflation rate in Nigeria.

Discussion of findings

The study sought to investigate government spending and the performance of selected macroeconomic variables in Nigeria between 1981 and 2021. The ADF unit root test was used to determine the model's stationarity, and it was discovered that all variables were stationary at first difference. The co-integration test confirmed the existence of a long run relationship between government expenditure and macroeconomic variables based on the results of the stationarity test, with variables integrated at only first difference. This was consistent with the findings of Arewa and Nwakahma (2013), who discovered a long-run effect of government spending on the macroeconomic environment.

In all three models, the Error Correction Model was used to test for the short run relationship. Government capital and recurrent expenditure both increased Nigeria's economic growth, but only recurrent expenditure significantly increased growth. This supports the earlier findings of Modebe et al. (2012), who discovered that recurrent expenditure has a positive impact on economic growth. The negative effect of capital expenditure on economic growth discovered by Modebe et al, (2012), on the other hand, can be attributed to the peculiarity of the data that has been updated in this current study, resulting in the disparity in the signs.

The short run result for model two revealed a negative relationship between government capital expenditure and Nigeria's unemployment rate. In other words, capital spending reduced unemployment in the short run. Recurrent expenditure, on the other hand, increased the unemployment rate in the short run. The implication is that capital expenditure has increased over time, which has the potential to improve welfare for the vast majority of unemployed people. This is only possible if these funds are directed to the appropriate source. Just as in the case of recurrent expenditure, which significantly increased the rate of unemployment. The effect of government borrowing on unemployment was negative, indicating that borrowing and channeling the borrowed funds to productive uses can reduce unemployment in Nigeria. Increased government spending boosts productivity and creates jobs, as Pyraee et al (2010) found in their study. Furthermore, Arewa and Nwakahma (2013) discovered that government spending has a significant effect on unemployment in Nigeria.

The short run result for model 3 showed that capital expenditure had a negative effect on inflation, recurrent expenditure had a positive effect on inflation, and government borrowing had a negative effect on the inflation rate in Nigeria. This means that as the government increases capital spending, inflation falls, but as recurrent spending increases, inflation rises. In the short run, the level of inflation will fall due to the intervening effect of government borrowing and a focus on capital expenditure. Our findings are consistent with the findings

of Dikeogu (2018), who discovered that government capital spending has a negative impact on inflation. The negative effect of government recurrent spending on inflation, however, was not consistent with our current finding, which can be attributed to the inclusion of the intervening variable in our current model.

Overall, the three models had significant joint effects on the macroeconomic indicators and accounted for a larger proportion of the variations observed in the macroeconomic variables. The data standardization ensured that the problem of autocorrelation was defeated, allowing for an efficient estimation of the model.

Conclusion and Recommendations
The study concludes that government spending has had a significant impact on the selected macroeconomic growth variables in Nigeria, namely real GDP, unemployment rate, and inflation rate. For the time period studied, government capital expenditure had a positive effect on economic growth, unemployment, and inflation. However, the positive effects of government capital expenditure have not been consistent in improving macroeconomic variables. Only recurrent expenditure has had a significant impact on the macro economy, but the significance was negative at times. It is now critical for the government to strengthen its fiscal responsibilities by implementing one or more of the following recommendations:

1. The growth of the Nigerian economy is hinged on government spending that the government should implement and prudently disburse its budgetary expenditures effectively, as this will lift the country's economy to a higher level.

2. The findings indicated that government spending has not effectively regulated the price level in Nigeria; therefore, more effective policies such as monetary ceilings should be used to combat inflation in Nigeria rather than budgetary expenditures.

3. Capital spending, the engine of industrial development, should be increased to build up or increase productive capacity. In 2021, capital expenditure accounted for less than 16 percent of total public expenditure, while recurrent expenditure accounted for more than 84 percent of total government expenditure (CBN, 2021). Capital spending in more productive areas of the economy should thus be significantly increased.

4. Policymakers should demonstrate strong public expenditure management on both recurrent and capital spending ensuring they are properly and effectively managed to achieve the desired results. The government should plan carefully before launching projects so as to avoid abandoning them. This emphasizes the importance of transparency, probity, and accountability in government spending.

5. The government's capital and recurring expenditures should be directed toward job creation and human capacity building. This could be accomplished by increasing budgetary allocations to key sectors in order to build human capacity and create more jobs.

References
Abu, N. and Abdullahi, U. (2010). Government expenditure and economic growth in Nigeria, 1970-2008: a disaggregated analysis. *Business and Economics Journal*, 4(2): 33-41

Ajie, H.A, Akere, J. and Ewubare, D. B., (2014) Praxis of Public Sector, Economics & Finance, Pearl Publishers, Port Harcourt, Nigeria

Anyanwu, J. C. (1993) Monetary Economics: Theory, Policy and Institutions. Onitsha Hybrid Publishers.

Arewa, U. & Nwakahma, J. (2013). Government expenditure and macro economic growth in Nigeria, *Research Journal of Social Sciences*, 2(4); 44-55

Bhatia, H. L. (1982) Public Finance. New Delhi: Vikas Publishing.

Central Bank Nigeria (2021) Annual Statistical bulletin, Vol. 31, retrieved from www.cbn.gov.ng

Central Bank of Nigeria (2018) Statistical Bulletin, Published by Research Department, Central Bank of Nigeria, Abuja.

Dikeogu, C. C., (2018). Public spending and inflation in Nigeria, *International Journal of Advanced Academic Research*, 4(14): 61-82

Dikeogu, C.N., Ohale, L and Otto, G. (2016) Public expenditure and economic growth in Nigeria, *International Journal of Advanced Academic Research*, 2(12): 22-34

Echekoba, F. N. & Amakor, I. C. (2017). Impact of government expenditure on Nigeria economic growth: a further disaggregated approach. *Journal of Social Development*, 6(3), 34-49

Gbosi, A. N. (1997). Chronic unemployment in Nigeria, Napean, Australia, *International Journal of Employment Studies*. 1(2):55-62

International Labour Organization (2009). Global employment trends - update, international labour office, Geneva. Available: www.ilo.org

International Labour Organization (2018). Definition of unemployment trends, international labour office, Lecture series. Available: www.ilo.org

Iyoha, T., Amadi, Y., Uche, C. C. & Ojo, M. (2003). Examining the Keynesian approach to long run stability in the economy. Journal of Social Sciences and Economic Studies, 1)1): 79-91

Karimi, K., Ghasemzade, R., Khodaei, P & Abdi, P. (2016). Effect of government spending on macroeconomic stability. *Accounting* 2(1), 31–36

Modebe, N.J., Okafor, R. G., Onwumere, J.U.J and Ibe, I. G. (2012*).* Impact of recurrent and capital expenditure on Nigeria's economic growth. *European Journal of Business and Management.* 4(19): 1-15

Momodu, A. A. and Ogbole F (2014). Public sector spending and macroeconomic variables in Nigeria. *European Journal of Business and Management*. 6(18): 14-27

National Bureau of Statistics (2017). Report Date: June 2017.

National Bureau of Statistics (2021). Labour Statistics for Nigeria. December 2020

Nnamocha P.N., (2001) Public Finance – Concepts, Principles and Theories, Bon Associates, Owerri, Nigeria

Nnamocha P.N., (2002) Public finance for a developing Economy: the Nigerian application, Bon Associates, Owerri, Nigeria

Nurudeen, A. & Usman, A. (2010). Government expenditure and economic growth in Nigeria, 1970-2008: a disaggregated analysis. *Business and Economics Journal*, 4(2): 11-20

Ohwofasa, B. O. (2008), Public expenditure and economic growth in Nigeria, 1986 – 2005. An Unpublished M.Sc. Thesis, Department of Economics, Ahmadu Bello University, Zaria Nigeria.

Ojeka, G. O. (2002) Federal Government expenditure and domestic private investment in Nigeria, 1973 – 1997. An Unpublished M.Sc. Thesis, Department of Economics, Ahmadu Bello University, Zaria Nigeria

Okpara, A. & Nwoha, J. (2010), Government expenditure and industrialization in Nigeria. *Journal of Economic Literature*, 2(1), 15-28.

Olaiya, S. A., Nwoa Philip Ifeakachukwu, N. P. and Ditimi, A. A (2012). Trivariate causality test among economic growth, government expenditure and inflation rate: evidence from Nigeria. *Research Journal of Finance and Accounting*. 3(1): 22-28

Perotti, R. (2004), Estimating the effects of fiscal policy in OECD countries, IGIER, Università Bocconi, Working Paper, No. 276, Milano.

Pyraee, K., Keshavarz, G. R. H. & Mofrad, M. A. P. (2010). The effect of public expenditure shocks on macroeconomic variables in a real business cycle model, case study of Iran. *School of Doctoral Studies (European Union) Journal*. 1(2): 111-122

Taiwo, M. & Abayomi, T. (2011). Government expenditure and economic development: empirical evidence from Nigeria, *European Journal of Business and Management*. 3(9): 12-19