

An Empirical Analysis of Government Expenditure and Economic Growth in Nigeria

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Abstract

Sustained and equitable economic growth is a major objective of government expenditure policy and as such, it is obligatory of any government to allocate public spending across different sectors of the economy. Unfortunately, over the years Nigeria has been faced with the problem of translating rising government expenditure to meaningful economic growth. This research examined the impact of government expenditure on economic growth in Nigeria for the period 1981–2016. Specifically the impact of government recurrent and capital expenditures were tested using two separate models. The stationarity of the variables were tested to determine the stochastic properties of the series. Also, the co-integration result indicates that the two models each have one co integrating equation. An ordinary least square technique with error correction specifications was used to analyze the data. The result for the model 1 indicates that the coefficients of social and economic services were negative while administration was positive and significant. The result for the model 2 indicates that coefficients of administration and social services were negative and insignificant while economic services was positive but insignificant. The study therefore concluded that government expenditure has not translated into meaningful economic growth. On the basis of the above, the paper went on to recommend that government should increase her budgetary allocation to capital projects and ensure effective utilization of such funds. Also, it should increase social services capital expenditure allocation bearing in mind its multiplier effects on long-run economic growth.

Keywords: Recurrent, Capital, Expenditure, Economic growth.

JEL Classification: E62, E60, F43, O23

1. Introduction

1.1 Background to the Study

Globally, government expenditure has been a source of interest to both scholars and macroeconomic policymakers due to its effects on the level of growth in an economy. Many political philosophers like Hobbes and Locke considered the hypothetical disadvantages of life without government (Miles, 2003). This must have given governments in Nigeria and other developing countries, where market failures and other socially unwarranted vices are predominant, the impetus to exercise greater controls and discretion over their economies. They do this through periodic planning for the allocation of resources and productive spending in critical areas of need. Thus, government expenditure has become an important factor for self – sustaining productivity improvements and long-term growth. Sustained and equitable economic growth is clearly a predominant objective of government expenditure policy. It is therefore incumbent on government to allocate public spending across various sectors of an economy in order to maximize prospects of achieving its growth and development objectives.

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1.2 Statement of the Problem

Despite the rising government expenditure in Nigeria, the problem of translating this to a meaningful growth and development of the country has been daunting over the years. This is evident by high rates of unemployment, illiteracy rate, and the number of its citizens who continue to wallow in abject poverty, while more than 65% of its people live on less than US\$1 per day. As high as 70% of Nigerians also still lack medical care, do not have access to clean and portable water and basic needs of life (WHO, 2010). Macro-economic indicators do not favor Nigeria, for instance, indicators like balance of payments, import obligations (35.2 billion USD), inflation rate (15.7%), exchange rate (304.7), unemployment (14.2%) and national savings (13.1% of GDP) reveal Nigeria had not fared well in the last four decades despite being the largest economy in Africa with an estimated GDP of US\$510 billion (World Bank, 2012; CIA, 2016).

In view of the importance of government expenditures in the transformation of an economy, especially that of Nigeria which is public sector driven, it is imperative that there is a need to determine the actual impact of government expenditure on the Nigeria economy, whether high public expenditure are responsible for the lack of development and the sectors that government needs to curtail or increase expenditure as the case may be. It is also evident that increasing government expenditure has not yielded the desired growth and development in Nigeria. Therefore, this study will attempt to provide answers to the following research questions;

- i. What impact has recurrent government expenditure on economic growth in Nigeria?
- ii. What is the impact of capital government expenditure on economic growth in Nigeria?
- iii. What is the trend of government expenditure in Nigeria?

1.3 Research Objectives

The major objective of this study is therefore, to investigate the relationship between government expenditure and economic growth in Nigeria. The specific objectives are:

1. To determine the impact of government recurrent expenditure on economic growth in Nigeria.
2. To assess the impact of government capital expenditure on economic growth in Nigeria.
3. To establish the trend of government expenditure in Nigeria.

1.4 Statement Of Hypotheses

This research will verify the following hypotheses:

- H₀₁: Recurrent public expenditure has no significant impact on economic growth in Nigeria.
 H₀₂: Capital public expenditure has no significant impact on economic growth in Nigeria.

This paper is organized into six sections. Section one is the introduction while section two is the literature review where the conceptual, theoretical and empirical issues were treated. Section three discussed government capital expenditure trends in selected sectors of the Nigerian economy. Sections four and five respectively dealt with the study's methodology and the data analysis and discussion of empirical results. Section six is the conclusion and recommendations of the paper.

2. Literature Review

2.1 Conceptual Issues

Concept of Government Expenditure

Government expenditures are the costs that are usually incurred by the government for the provision and maintenance of itself as an institution, the economy and society. Government expenditures usually tend to increase with time as the economy becomes large and more developed or as a result of increase in its scope of activities. Ogboru (2010) identified recurrent and capital budget as one of the major types of budget in an economy. It is sometimes referred to as revenue budget and it covers recurrent items or expenditure. The capital budget has to do with expenditures necessary to procure capital assets.

According to Taiwo (2012), government's spending is a fiscal instrument which serves a useful role in the process of controlling inflation, unemployment, depression, balance of payment equilibrium and foreign exchange rate stability. In the period of depression and unemployment, government spending causes aggregate demand to rise and production and supply of goods and services follow the same direction.

As a result of the increase in the supply of goods and services couple with a rise in the aggregate demand exerts a downward pressure on unemployment and depression. In Nigeria, the federal government's expenditures are broadly divided into capital and recurrent expenditure. The recurrent expenditure consist of government expenditure on administration such as wages, salaries, interest on loans, maintenances etc. whereas the capital expenditure are on projects like roads, airport, health, education, electricity generation, telecommunication, water etc. Capital expenditures are investments with multiplier effects on the economy in terms of public benefits. In most cases government intervention has brought stability in income and employment in the economy. Public expenditure is therefore an important tool that brings about egalitarian society through the provision of welfare facilities (Ogba, 1999).

Public expenditure is functionally classified into four (4) categories in Nigeria: administration, economic services, social and community services, and transfers with capital and recurrent expenditure consumptions for each class (CBN, 2011). This paper adopts CBN's definition of government expenditure as a working definition.

Concept of economic growth

Muritala and Taiwo (2011) defined a country economic growth as a long term rise in capacity to supply increasing diverse economic goods to its population, this growth capacity based on advancing technology and the institutional and ideological adjustment that is demand. In other words, economic growth refers to increase in a country's potential Gross Domestic Product (GDP), although this differs depending on how national product has been measured. According to Ogundipe and Oluwatobi (2010), economic growth must be sustained for a developing economy to break the circle of poverty. Economic growth can be defined as the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income (Todaro and Smith, 2005). However, it is pertinent to note that growth is concerned solely with quantitative and measurable attributes (Ogboru, 2006).

Furthermore, Lipsey and Chrystal (2007) regarded economic growth as the engine for generating long-term increase in the overall standard of living. This justifies why every economy aims at achieving economic growth annually. Economic growth is also defined as the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as a percent rate of increase in real gross domestic product (GDP). (IMF, 2012). This conceptualization by IMF is adopted as the working definition for this paper because real GDP will be used to proxy economic growth.

Jhinghan (2011) stated that economic growth is the quantitative sustained increase in a country's per capita output or income, accompanied by expansion in its labour force, consumption, capital and volume of trade. While economic development is economic growth plus change. An economy can grow but may not develop. However, it is difficult to imagine economic development without economic growth. Though they differ in concept, they are sometimes used interchangeably.

2.2 Theoretical Framework

Classical economists believed that government intervention brings more harm than good to an economy and that the private sector through the forces of supply and demand should carry out most of the economic activities. According to the classical dichotomy, an increase in the total amount of money leads to a proportionate increase in all money prices, with no change in the allocation of resources or the level of GDP, which is known as money neutrality. The classical economy have a clear message that except for certain unavoidable responsibilities like national defence, the administration of justice and provision of certain socially necessary institutions such as educational institutions that private interest might neglect, the government ought to stay out of economic sphere. Laissez-faire became the motto and the policy was to leave the economy alone out of the government control (Akor, 2010).

On the other hand, Wagner designed three focal bases for the increase in state expenditure. Firstly, during industrialization process, public sector activity will replace private sector activity and state functions like administrative and protective functions will increase. Secondly, governments needed to provide cultural and welfare services like education, public health, old age pension or retirement insurance, food subsidy, natural disaster aid, environmental protection programs and other welfare functions.

Thirdly, increased industrialization will bring out technological change and large firms that tend to monopolise economic activities. Governments will have to offset these effects by providing social goods through budgetary means. Wagner further pointed out that public spending is an endogenous factor, which is determined by the growth of national income. Hence, it is national income that causes public expenditure. The Wagner's Law tends to be a long-run phenomenon: the longer the time-series, the better the economic interpretations and statistical inferences. It was noted that these trends were to be realized after fifty to hundred years of modern industrial society.

In addition, Peacock and Wiseman (1967) suggested that the growth in public expenditure does not occur in the same way that Wagner theorised. Peacock and Wiseman choose the political propositions instead of the organic state where it is deemed that government like to spend money, people do not like increasing taxation and the population voting for ever-increasing social services.

The Keynesian Perspective on Government Expenditure

Following the 1929-30 Great Depression, the classical economists that opposed government intervention argued that strong trade unions prevented wage flexibility which resulted in high unemployment. The Keynesians, on the other hand, favoured government intervention to correct market failures. In 1936, John Maynard Keynes (1883-1946) "General Theory of Employment, Interest and Money" criticized the classical economists for putting too much emphasis on the long run. According to Keynes, "we are all dead in the long run". Keynes believed depression needed government intervention as a short term cure. Increasing saving will not help but spending. Government should increase public spending giving individuals, purchasing power and producers would produce more, creating more employment. This is the multiplier effect that shows causality from public expenditure to national income.

Keynes categorized public expenditure as an exogenous variable that can generate economic growth instead of an endogenous phenomenon. Keynes believed the role of government to be crucial as it can avoid depression by increasing aggregate demand and thus, switching on the economy again by the multiplier effects. Government spending is a tool that brings stability in the short run but need to be done cautiously as too much of public expenditure would lead to inflationary situation while too little of it would lead to unemployment. From the Keynesian thought, public expenditure can contribute positively to economic growth. Hence, an increase in the government consumption is likely to lead to an increase in employment, profitability and investment through multiplier effects on aggregate demand. As a result, government expenditure augments the aggregate demand, which provokes an increased output depending on expenditure multiplier. The Keynesian analysis of government expenditure formed the bases for this research.

2.3 Empirical Review

This section discussed some related empirical studies on the impact of government expenditures on economic growth in Nigeria. In their study, Oyinlola and Akinnibosun (2013) examined the relationship between public expenditure and economic growth in Nigeria during the period 1970-2009. The study used components of public expenditure such as recurrent expenditure, capital expenditure, administrative expenses, community and social service and transfer. The result also showed the presence of a cointegrating relationship between the variables in the system thus, suggesting that a long term relationship exists between them. Among other studies with similar findings are Nworji, Okwu, Obiwuru, and Nworji, (2012); Oyinlola and Akinnibosun (2013); Tajudeen and Fasanya (2013); Aregbeyan and Akpan (2013) and Akpokerere and Ighoroje (2013)

Gukat (2015), analysed the relationship between government expenditure on human capital and economic growth in Nigeria. Using the error correction mechanism the study found that public expenditure on human capital has a positive and significant impact on economic growth in Nigeria.

Also, Ohwofasa, Obeh, and Atumah (2012) and Chude and Chude (2013) have investigated the relationship between government expenditure in the education sector and economic growth in Nigeria with similar findings.

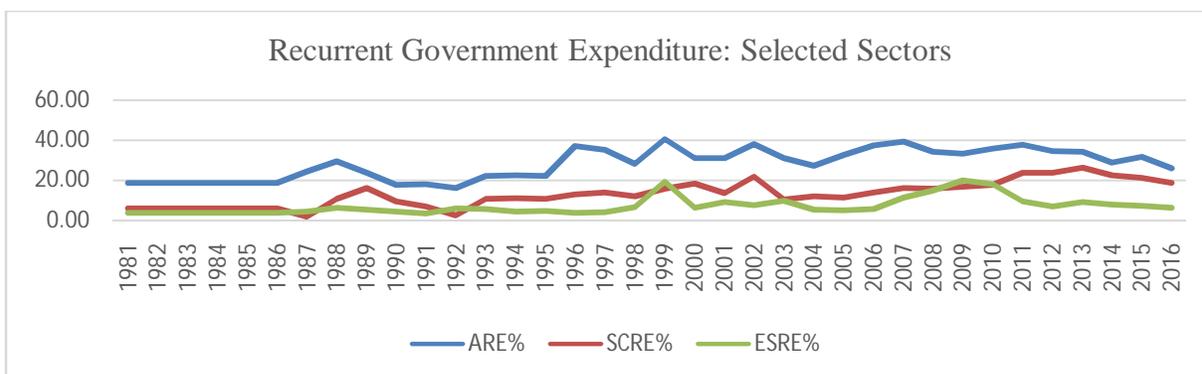
Emori, Duke and Nneji (2015) investigated the impact of government expenditure on the Nigerian economy using ADF unit root test and OLS regression test. They found that public expenditure had a significant effect on the Nigerian economy. Ebong, Ogwumike, Udongwo and Ayodele (2016) assessed the impact of government capital expenditures on economic growth in Nigeria. A multiple regression model based on a modified endogenous growth framework was utilized to capture the interrelationships. Drawing on error correction and cointegration specifications, an OLS technique was used to analyse the annual time series. They found that the disaggregated expenditures do not crowd out private investment.

Udoffia and Godson (2016) investigated the impact of federal government expenditure on the Nigerian economy using the OLS estimation technique and found that federal government capital and recurrent expenditure have a positive effect on real GDP. In summary, the empirical studies reviewed on the actual relationship between government expenditure and economic growth is mixed and inconclusive. Their results and evidence differ by analytical method employed, and categorization of public expenditures. The sampled period for this study (1981-2015) differed significantly from all other studies. This was in order to provide a robust empirical explanation for the impact of government expenditure on economic growth in Nigeria. Therefore, this study is an improvement on the previous studies on economic growth and government expenditure relationship in Nigeria. It considers government spending only in two categories – capital and recurrent expenditure as important variables that affects economic growth. Secondly, it extends the study period to 2015 and finally employed the Error Correction Mechanism (ECM) in the study. Specifically, it is concerned with determining the relative contributions to economic growth in Nigeria of government capital and recurrent expenditures on administration, social and community services and economic services. The importance of disaggregating government expenditure for proper appreciation of the role of the state in the Nigerian economy is being underscored in this study.

3. Trends in Government Expenditure for Selected Sectors of Nigeria

In Nigeria, the federal government allocates funds to the various sectors of the economy annually. Figure 1 depicts the trend of recurrent government expenditure in selected sectors of the economy. The recurrent expenditure has been disaggregated into Administration, Social Community Services and Economic Services. At a glance, expenditure on administration (ARE) has been consistently the highest within the period of study. Recurrent expenditure on economic services has had the lowest share of government funds over the years except briefly in the early 1990s, late 1990s and late 2000s where it exceeded expenditure on social and community services. This is an irony because the economic services sector is the most productive and should have had the highest allocation to enable economic growth. Since recurrent expenditure on administration is expenditure on salaries, maintenance etc., it implies that a higher percent of the allocation goes to administrative personnel.

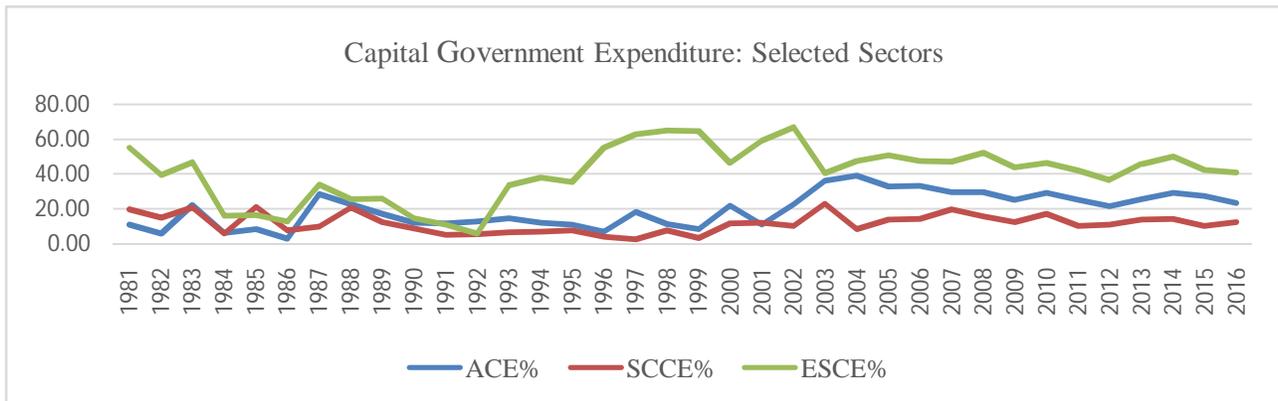
Figure 1: Recurrent Government expenditure in Nigeria: Selected Sectors



Source: CBN Statistical Bulletin, 2016

Figure 2 shows the trend of capital government expenditure from 1981 to 2016. This time around, the economic services sector has the highest allocation within the period. However, the social services sector where the education and health sectors fall always parts with the lowest allocation. This is appalling because neglecting the human capital component of any economy will lead to grim consequences in the long run.

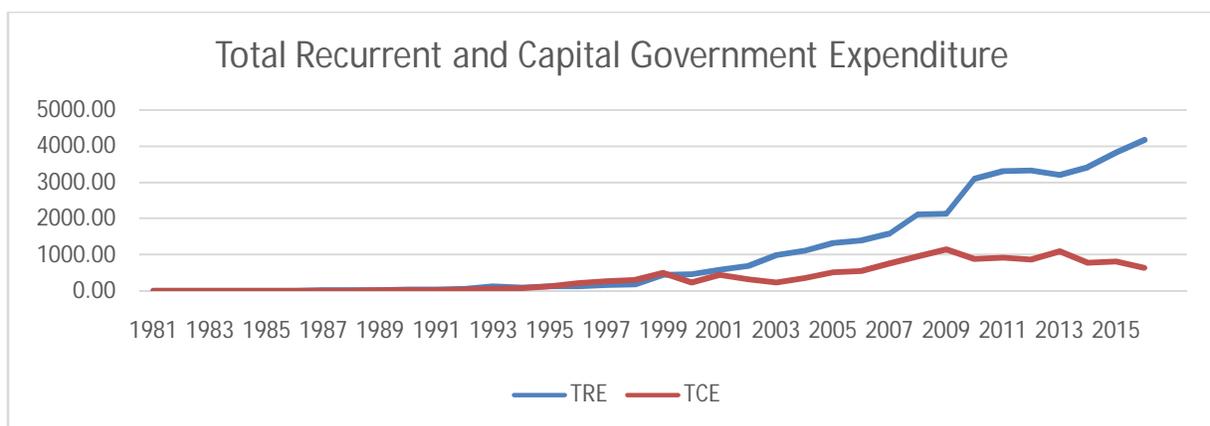
Figure 2: Capital Government Expenditure in Nigeria: Selected Sectors



Source: CBN Statistical Bulletin, 2016

Figure 3 shows the total recurrent and capital government expenditure 1980 to 2015. Except for a brief period between 1995 and 1999, total recurrent expenditure has been given a higher allocation. This means that a higher percentage of our countries income is spent on salaries, interests and maintenance which are not as productive as capital projects. This trend reveals a twist in the governments’ priorities which ought to be realigned.

Figure 3: Total Recurrent and Capital Government expenditure in Nigeria: Selected Sectors



Source: CBN Statistical Bulletin, 2016

4. Methodology

4.1 Types And Source Of Data

The nature of this study necessitates the use of a time-series research design and an extensive reliance on secondary data. The data for the analysis were sourced from the Central Bank of Nigeria (CBN) statistical bulletin for the period 1981-2016.

4.2 Methods Of Estimation

The method of data analysis utilized in the study involves several econometric procedures often used in economic time series studies. First the unit root test is applied to examine the stationarity condition of the variables in the time series analysis. This study adopts the Augmented Dicky-Fuller (ADF) statistics to test for stationarity of the data. The study also tested for co-integration using the Johansen co-integration procedure to see whether the variables can be used together to give meaningful results in the long-run. Two or more variables are co-integrated if they have a long-run relationship (Gujarati 2004). From the estimated static long-run regression equation, the associated residuals were tested for stationarity. Stationarity of residuals implies that variables in the equation that generates the residuals are co-integrated (Engle and Granger, 1987).

Furthermore, the study estimated the model within the framework of an error correction model (ECM). This is intended to provide short-run dynamics of the dependent variable in the stochastic equation. It also provides the basis for assessing both short-run behaviour and the speed of adjustment to the steady state. It says, essentially, what percentage of any disequilibrium in the long-term relationship will be corrected in the current period. It also tells whether or not, and to what extent, a given system has any in-built mechanisms to return to equilibrium after a shock.

4.3 Research Variables Definition

The research variables have been defined in table 1

Table 1: Variablesdefinition

Variables symbols	Variables explanations	Measurement unit
RGDP	Real GDP	Ln RGDP
ARE	Administration Recurrent Expenditure (General administration, defence, internal security and national assembly)	Ln ARE
SCRE	Social and Community Services Recurrent expenditure (Education, health, other social and community services)	Ln SCRE
ESRE	Economic Services Recurrent Expenditure (Agriculture, Transport and communication and other economic services)	Ln ESRE
a_0, a_1, a_2, a_3, a_4	1st model coefficients	
ARE	Administration Recurrent Expenditure (General administration, defence, internal security and national assembly)	Ln ARE
SCRE	Social and Community Services Recurrent expenditure (Education, health, other social and community services)	Ln SCRE
ESRE	Economic Services Recurrent Expenditure (Agriculture, Transport and communication and other economic services)	Ln ESRE
b_0, b_1, b_2, b_3, b_4	2nd model coefficients	

Source: Authors Compilation.

4.4 Model Specification

Based on the objectives of the study, this research adopted the Keynesian model. The Keynesian model believes that increase in government spending should promote economic growth. The study employed a multiple regression model and applied Ordinary Least Squares estimation technique because of its trait as a best linear unbiased estimator. Model 1 expressed economic growth as a function of government recurrent expenditure and model 2 shows economic growth as a function of government capital expenditure. The functional relationship is expressed as follows:

$$RGDP = f(ARE, SCRE, ESRE) \quad (1a)$$

$$RGDP = f(ACE, SCCE, ESCE) \quad (2a)$$

The transformation of the above model into a regression function is given below:

$$\text{Ln RGDP} = a_0 + \text{Ln } a_1 \text{ARE} + \text{Ln } a_2 \text{SCRE} + \text{Ln } a_3 \text{ESRE} \quad (1b)$$

$$\text{Ln RGDP} = b_0 + \text{Ln } b_1 \text{ACE} + \text{Ln } b_2 \text{SCCE} + \text{Ln } b_3 \text{ESCE} \quad (2b)$$

$$a_0, a_1, a_2, a_3, a_4 > 0 \quad : \quad b_0, b_1, b_2, b_3, b_4 > 0$$

The model number (1) measures the impact of the recurrent expenditure on administration, social and community services and economic services (ARE SCRE and ESRE) respectively, on economic growth (real GDP). By calculating the log (Ln) of these variables.

The 2nd model measures the impact of the capital expenditures on administration, social and community services and economic services (ACE SCCE and ESCE) respectively, on economic growth (real GDP). By calculating the log (Ln) of these variables. Where a_0, a_1, a_2, a_3, a_4 are coefficients of the components of recurrent government expenditures, and b_0, b_1, b_2, b_3, b_4 are coefficients of the components of capital government expenditures, which measure the impact of the respective components of government expenditures on economic growth. The *a priori* expectation is that all the parameters will be positive. This is because from theoretical stance (Keynesian theory) government expenditure is expected to positively and significantly impact on economic growth.

5 Results and Discussion

5.1 Unit Root Test Results

Unit Root Test Results (Model No. 1)

Stationary of the independent variables and dependent variable for the 1st model, was tested using Augmented Dickey Fuller (ADF) test. Table (2) depicts the results which indicate the rejection of the unit root null hypothesis of the stationary of ARE, SCRE, ESRE and RGDP at the first difference.

Table 2: Augmented Dickey Fuller (ADF) Unit Root Test (Model 1)

Variables	DATA AT LEVEL			DATA AT 1 ST DIFF.			Order of Integ.
	ADF stat At level	5% CV	Prob.	ADF stat at 1 st Diff.	5% CV	Prob.*	
LOGRGDP	-0.573168	-2.948404	0.8640	-5.369437	-2.951125	0.0001	I(1)
LOGSCRE	-1.821092	-2.960411	0.3637	-7.721273	-2.951125	0.0000	I(1)
LOGESCRE	-1.196161	-2.948404	0.6651	-7.108801	-2.951125	0.0000	I(1)
LOGARE	-1.528536	-2.951125	0.5073	-7.715962	-2.951125	0.0000	I(1)

Source: Authors Computation

Unit Root Test Results (Model No. 2)

Stationary of the independent variables and dependent variable for the 2nd model, was tested using Augmented Dickey Fuller (ADF) test. Table (3) depicts the results which indicate the rejection of the unit root null hypothesis of the stationary of ACE, SCCE, ESCE and RGDP at the first difference.

Table 3: Augmented Dickey Fuller (ADF) Unit Root Test (Model 2)

Variables	DATA AT LEVEL			DATA AT 1 ST DIFF.			Order of Integ.
	ADF stat At level	5% CV	Prob.	ADF stat at 1 st Diff.	5% CV	Prob.*	
LOGRGDP	-0.573168	-2.948404	0.8640	-5.369437	-2.951125	0.0001	I(1)
LOGACE	-1.177666	-2.948404	0.6730	-9.882634	-2.951125	0.0000	I(1)
LOGESCE	-0.925562	-2.948404	0.7681	-6.139453	-2.951125	0.0000	I(1)
LOGSCCE	-0.852773	-2.951125	0.7908	-9.283980	-2.951125	0.0000	I(1)

Source: Authors Computation

5.2 Co-Integration Results

The results of the co-integration indicate that both model 1 and 2 each have one co integrating equation(s) at 5% significant level with the assumption of linear deterministic trend in the data. This is shown by the value of the co integrating likelihood ratio compared with 5% critical values. (See appendix). Hence, the variables are co integrated which implies the existence of a longrun relationship between both recurrent and capital expenditure with economic growth.

5.3 Error Correction Estimation Results

Given the fact that the variables of the two models are co-integrated, the next step was the estimation of the short-run dynamics within the error correction models (ECM) in order to capture the speed of adjustment to equilibrium in the case of any shock to any of the independent variables of the two models. Adopting the general to the specific framework, two parsimonious error correction models were estimated and the results are presented in table 4 and 5 respectively.

Table 4: Error Correction Model Result (Model 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.153229	0.034233	4.476058	0.0001
D(LOGARE)	0.361263	0.141060	2.561055	0.0157
D(LOGSCRE)	-0.029338	0.061255	-0.478953	0.6354
D(LOGESCRE)	-0.116598	0.076337	-1.527415	0.1371
ECT ₁ (-1)	-0.214718	0.093888	-2.286959	0.0294
R-squared	0.245941	Mean dependent var		0.199455
Adjusted R-squared	0.145399	S.D. dependent var		0.184149
S.E. of regression	0.170236	Akaike info criterion		-0.571699
Sum squared resid	0.869408	Schwarz criterion		-0.349507
Log likelihood	15.00473	Hannan-Quinn criter.		-0.494998
F-statistic	2.446166	Durbin-Watson stat		1.988769
Prob(F-statistic)	0.067948			

Source: Authors Computation

From table 4, the coefficient of determination as revealed by R^2 indicates that 24% of the variations observed in the dependent variable RGDP were explained by variations in the independent variables. This is quite low and reveals the unfortunate reality that only about 24% of variations in economic growth are accounted for by the explanatory variables. The test of goodness of fit of the ECM model as indicated by R^2 was properly adjusted by the Adjusted R^2 of 14%. Also, from the results in table 4, the error correction term is 0.21. This implies that the Error Correction Model was adjusting with the previous system dis-equilibrium at the rate of 21% annually. It also means that the ECM term actually corrects dis-equilibrium in the system. The Error Correction Model (ECM) indicated that if the economy is out of equilibrium, 21% of disequilibrium will be corrected for annually. The speed of adjustment of the disequilibrium was 21% annually. This adjustment is essential for maintaining long-run equilibrium in order to reduce the existence of disequilibrium over time. Moreover, the sign is negative and significant indicating the validity of long run equilibrium relationship between the variables. Hence, 21% of disequilibrium in t_{-1} period is corrected and adjusted annually by the changes in RGDP. This implies that the ECM model is robust and suitable for policy recommendations.

Furthermore, table 4 also revealed that the impact of ARE on RGDP is positive and significant. This is in line with the theoretical *a priori* expectation. However both SCRE and ESRE are negative and insignificant this can be attributed to the negligence of the economic, social and community services sectors of the economy over the years. The Durbin Watson Statistic reveals the absence of serial correlation and the low value from the AIC and SIC showed that the model is properly specified.

Table 5: Error Correction Model Result (Model 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.177440	0.032657	5.433395	0.0000
D(LOGACE)	0.100017	0.064668	1.546614	0.1324
D(LOGSCCE)	0.057883	0.056682	1.021188	0.3153
D(LOGESCE)	-0.029862	0.059345	-0.503198	0.6185
ECT ₂ (-1)	-0.090763	0.064823	-1.400178	0.1717
R-squared	0.142470	Mean dependent var		0.199455
Adjusted R-squared	0.028133	S.D. dependent var		0.184149
S.E. of regression	0.181540	Akaike info criterion		-0.443114
Sum squared resid	0.988707	Schwarz criterion		-0.220921
Log likelihood	12.75449	Hannan-Quinn criter.		-0.366413
F-statistic	1.246049	Durbin-Watson stat		1.771992
Prob(F-statistic)	0.312796			

Source: Authors Computation

From table 5, the coefficient of determination as revealed by R^2 indicates that 14% of the variations observed in the dependent variable RGDP were explained by variations in the independent variables. Also, from the results in table 5, the error correction term is -0.09. The sign is negative though statistically insignificant. Table 5 also revealed that the impact of ACE and SCCE on RGDP were positive but statistically insignificant while ESCE was negative and also statistically insignificant. This is not in line with the theoretical *a priori* expectation. Theoretically capital expenditure is expected to translate into economic growth but the consistently low allocation to capital projects, mismanagement of funds, corruption which siphons resources meant for capital projects and abandonment of projects have led to this dismal result. The low value from the AIC and SIC shows that the model is properly specified.

From the empirical results, the findings indicate that:

- a) Both model 1 and 2 were co-integrated thus indicating the presence of a long-run relationship amongst government expenditure and economic growth in Nigeria.
- b) The ECM for the recurrent expenditure model (1) indicates that social and community services as well as economic services were negative and non-significant in explaining economic growth. This is contrary to the *a priori* expectation and can be attributed to the structural inadequacies which are embedded in the economy. However, administration was a significant determinant of economic growth in Nigeria.
- c) The ECM for the capital expenditure model indicates that administration and social and community services were positive though non-significant in explaining economic growth. However, economic services was negative and also insignificant. This indicates that the economic services sector which comprise of agriculture, transport, communication etc. have not complied with theoretical expectation. In Nigeria these sectors have been neglected and this has led to this undesirable outcome.

4 Conclusion and Recommendations

This study investigated the impact of the federal government's expenditure on economic growth in Nigeria. Based on the empirical results obtained, the following conclusions are drawn;

- (i) There is there a long-run relationship between the federal government expenditure on selected variables and economic growth in Nigeria
- (ii) Despite increasing federal government expenditure over the study period, there had not been significant impact of government expenditure particularly, on capital expenditure on economic growth in Nigeria. Thus, it could be concluded that government expenditure has not translated into meaningful economic growth.

Based on the findings of the study, the following policy recommendations are made;

- a) Government should increase her budgetary allocation to capital projects and an effective utilization of such funds is also advocated and all areas of wastages should be blocked.
- b) There is also the need to increase social services capital expenditure allocation in the budget which has the lowest impact, bearing in mind the multiplier effects on long-run economic growth

- c) Government should pay more attention to the economic services sectors by compelling non-governmental financial institutions like commercial banks to supplement government efforts at financing agriculture through the disbursement of loans at low interest rate at the appropriate time in order to avoid the diversion of such loans.

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Appendix I

Date: 10/18/17 Time: 05:24				
Sample (adjusted): 1983 2016				
Included observations: 34 after adjustments				
Trend assumption: Linear deterministic trend				
Series: LOGGDP LOGARE LOGSCRE LOGESCRE				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.619231	54.25868	47.85613	0.0111
At most 1	0.313448	21.42955	29.79707	0.3314
At most 2	0.157026	8.643087	15.49471	0.3994
At most 3	0.080008	2.835254	3.841466	0.0922
Trace test indicates 1 cointegratingeqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.619231	32.82912	27.58434	0.0096
At most 1	0.313448	12.78647	21.13162	0.4721
At most 2	0.157026	5.807833	14.26460	0.6380
At most 3	0.080008	2.835254	3.841466	0.0922
Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Dependent Variable: D(LOGGDP)				
Method: Least Squares				
Date: 10/18/17 Time: 23:30				
Sample (adjusted): 1982 2016				
Included observations: 35 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.153229	0.034233	4.476058	0.0001
D(LOGARE)	0.361263	0.141060	2.561055	0.0157
D(LOGSCRE)	-0.029338	0.061255	-0.478953	0.6354
D(LOGESCRE)	-0.116598	0.076337	-1.527415	0.1371
ECT1(-1)	-0.214718	0.093888	-2.286959	0.0294
R-squared	0.245941	Mean dependent var		0.199455
Adjusted R-squared	0.145399	S.D. dependent var		0.184149
S.E. of regression	0.170236	Akaike info criterion		-0.571699
Sum squared resid	0.869408	Schwarz criterion		-0.349507
Log likelihood	15.00473	Hannan-Quinn criter.		-0.494998
F-statistic	2.446166	Durbin-Watson stat		1.988769
Prob(F-statistic)	0.067948			

APPENDIX II

Date: 10/18/17 Time: 23:39				
Sample (adjusted): 1985 2016				
Included observations: 32 after adjustments				
Trend assumption: Linear deterministic trend				
Series: LOGGDP LOGACE LOGSCCE LOGESCE				
Lags interval (in first differences): 1 to 3				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.512207	52.09930	47.85613	0.0189
At most 1	0.364047	29.12763	29.79707	0.0596
At most 2	0.245063	14.64347	15.49471	0.0669
At most 3 *	0.161791	5.647614	3.841466	0.0175
Trace test indicates 1 cointegratingeqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.512207	22.97167	27.58434	0.1747
At most 1	0.364047	14.48416	21.13162	0.3267
At most 2	0.245063	8.995856	14.26460	0.2865
At most 3 *	0.161791	5.647614	3.841466	0.0175
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				

Dependent Variable: D(LOGGDP)				
Method: Least Squares				
Date: 10/18/17 Time: 23:25				
Sample (adjusted): 1982 2016				
Included observations: 35 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.177440	0.032657	5.433395	0.0000
D(LOGACE)	0.100017	0.064668	1.546614	0.1324
D(LOGSCCE)	0.057883	0.056682	1.021188	0.3153
D(LOGESCE)	-0.029862	0.059345	-0.503198	0.6185
ECT2(-1)	-0.090763	0.064823	-1.400178	0.1717
R-squared	0.142470	Mean dependent var		0.199455
Adjusted R-squared	0.028133	S.D. dependent var		0.184149
S.E. of regression	0.181540	Akaike info criterion		-0.443114
Sum squared resid	0.988707	Schwarz criterion		-0.220921
Log likelihood	12.75449	Hannan-Quinn criter.		-0.366413
F-statistic	1.246049	Durbin-Watson stat		1.771992
Prob(F-statistic)	0.312796			