Global Academic Journal of Economics and Business

Available online at https://www.gajrc.com
**DOI:** 10.36348/gajeb.2021.v03i05.001

OPEN ACCESS

**ISSN:2706-9001(P)**
**ISSN:2707-2584(O)**

**Original Research Article**

# Public Expenditure and Economic Development in Nigeria

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**Article History**
Received: 27.04.2021
Accepted: 04.06.2021
Published: 17.09.2021

**Abstract:** The main objective of this study was to investigate the impact of public expenditure on economic development in Nigeria. The design adopted for this study was ex-post-facto; data used for analysis were elicited from Central Bank Statistical Bulletin and Federal Ministry of Finance. To achieve this broad objective, a model was formulated based on empirical and theoretical reviews. The model used Human Development Index (HDI) as the dependent variable while public capital expenditure, public recurrent expenditure and external borrowing were the independent variables in the model. This study employed the Fully Modified Least Squares (FMOLS) Model to analyze data.The findings elicited from this study revealed that public capital expenditure, public recurrent expenditure and external borrowing all had positive and significant impact on human development index within the scope of this study. Inferential result deduced that public expenditure had positive and significant impact on economic development in Nigeria. The study recommended that urgent need to instill fiscal discipline in government expenditures by initiating far reaching effective internal control measures and more proactive economic management coordination and implementation as well as discouraging all non-productive activities and expenditures in all tiers of government forthwith. Government recurrent expenditure should be channeled to have effects on the economy, enhancing and promoting growth and development in the process. All non- productive activities and expenditure need to be reviewed forthwith while the role of government should be reappraised with more emphasis on providing the enabling policy environment for private sector initiatives.

**Keywords:** Public expenditure, Economic development, Human development index, public recurrent expenditure, public capital expenditure and external borrowing.



## 1.0 INTRODUCTION

### 1.1 Background to the Study

There are two major categories of economic policies that have been widely utilized over a vast period of time for the general purpose of economic stabilization and for the achievement of some essential macroeconomic goals and objectives in specific terms. These policies are fiscal and monetary. Although the two policies are different in terms of their structure and the application of their fundamental instruments, however, they are generally targeted at achieving similar goals and objectives of maintaining economic stability in most nations Saunders (1985). While the latter is generally a formidable instrument in the hands of the apex bank of various nations, the former exists as an important economic instrument in the hands of the governments of various nations.

Fiscal policies are government policies that are strategically designed to regulate or stabilize the economy through various forms of taxes and expenditures. They are economic policies that integrate government strategies for generating

revenue basically via taxation and its subsequent strategies for making decisions on how the corresponding revenue that is generated would be allocated for attaining targeted economic goals. According to Saunders (1985), fiscal policy aims at ensuring long-run economic stability by the adjustments of short-run economic fluctuations in such a way that a government uses its expenditure and revenue programs to generate desirable effects while avoiding those effects that are undesirable on a nation's income production, and employment levels.

Fiscal policy is a fundamental instrument that can be used to lessen short-run fluctuations in output and employment. Meanwhile, in macroeconomic issues such as high unemployment, inadequate national savings, excessive budget deficits, and large public debt burdens, fiscal policy has been acknowledged to hold center stage in policy debate in both developed and developing economies. During the global economic recession of the 1930s, the government sectors of both developed and developing economies played a vital role in stimulating economic growth and development. In such situations every economy attempted to promote its economic growth through increasing government expenditures and reducing taxes.

There are various factors that might be contributing to incremental public expenditures in many nations based on empirical evidences. Hong and Nadler (2015) identified growing sources of government revenue as one major factor that could contribute to incremental public expenditures. Some other studies like Longe (1984), Ekpo (1993) and Enweze (1973) have also shown that factors like access to foreign aid and grants could as well promote incremental public expenditure and this is often witnessed in the majority of low-income countries.

Public expenditure is a fundamental instrument that influences the sustainability of public finances via effects on fiscal balances and government debt. Budget is traditionally generally seen from the phenomenon of shrink the target income, in contrast to the tendency to raise the expenditure budget target. This phenomenon helps to explain that the target revenue would be diminished if the area shows achievement in its realization. The role of the Nigerian government in economic activities has grown enormously and the challenges that public policymakers face are increasing day by day. Public expenditures have been growing continuously over the years and more especially in the last two decades.

Public expenditure theories evolved out of the perceived failure of market economic to efficiently and equitably allocate economic resources for social and economic infrastructure development. This failure necessitated the emergence of welfare economics (state intervention in economic activities) leading consequently to the rapid expansion of the government sector, and by implication, growth in public expenditure. As the public sector size continued to grow relatively, the need for an appropriate mechanism that would ensure efficiency in resource allocation arose. In order to fill this perceived gap, the budget, which contained a package of public expenditure plan and tax legislation of the government for the year readily come to be a veritable tool for controlling, monitoring and relating government expenditure plans to polices of finance and taxation.

Government expenditures were usually broadly categorized into recurrent and capital expenditures. The former, according to Lacey (1989), corresponded to government's purchase of current goods and services (labour, consumables, wages and salaries, etc.), while the latter would ideally include not merely investments in infrastructure (roads, schools, hospitals, etc) but also all other expenditures that might contribute to development. In other words, while the recurrent expenditure refers to financial outlays necessary for the day-to-day running of government businesses, the capital expenditure refers to investment outlets that increase the assets of the state. These categorization, however, were not mutually exclusive but were indeed inter-linked. For instance, while capital expenditure gave rise to recurrent expenditure in most cases through the operational and maintenance costs of completed capital projects, the amount available for investment was a function of not only the size of revenue but also the amount that goes annually into the running of government.

### 1.2 Statement of the Problem

Amassoma, Nwosa, and Ajisafe (2011) opined that in Nigeria, government expenditure has continuously increased due to factors such as persistent rise from huge receipt in production and sales of crude oil and the increased demand for public goods such as; roads, communication, power, education and health plus also the need to ensure both internal and external security so as to avoid external invasion in the country.

In Nigeria, government expenditure has continued to rise due to the huge receipts from production and sales of crude oil, and the increased demand for public goods like roads, communication, power, education and health. Also, there is the increasing need to provide both internal and

external security for the people and the nation. Despite all these, there is a mixed feeling depicting whether increasing government spending induces economic development or not, hence, the need for this study.

Also, there is the belief that the continuous rising government expenditure may not tantamount to meaningful economic development since Nigeria still ranks among the poorest countries in the world and a larger percentage of her population still live on less than US$1 per day. Furthermore, macroeconomic indicators like balance of payments, inflation rate, and exchange rate has shown that the Nigeria economy has been unstable in past years. Therefore, from the various budgetary expenditures on security and the recent Boko Haram menace and unrest in the south east part of the country, to the budgetary allocations to capital projects and the high level of poverty and low per capita income in the country coupled with the expenditures to fund oil subsidy and the high level of corruption in the oil sector, can we say that public expenditures both present and past has impacted on the Nigerian economy positively? This is the question this research attempts to proffer answers to.

### 1.3 Objectives of the Study

The main objective of the study is to investigate the impact of public expenditure on economic development in Nigeria. Specifically, the objectives are to:

i. Examine the impact of public capital expenditure on economic development in Nigeria.
ii. Ascertain the impact of public recurrent expenditure one economic development in Nigeria.
iii. Evaluate the impact of external borrowing on economic development in Nigeria.

## 2.0 REVIEW OF RELATED LITERATURE

### 2.1 Conceptual Review

#### 2.1.1 Capital Expenditure

This is primarily expenditure to create or acquire non-current assets and on the acquisition of land, buildings and intangible assets. In any one year, the amount of funding for cultural activities can be affected by high levels of one-off capital expenditure (Haque and Kim 2003). Capital expenditure is payments for acquisition of non-current capital assets, stock, land or intangible assets. A good example would be building of schools, hospitals or roads.

#### 2.1.2 Recurrent Expenditure

Recurrent expenditure refers to payments made by governments for all purposes except capital costs. Recurrent expenditure includes payments made on goods and services as well as interest and subsidies. Recurrent expenditures exclude payments for capital assets, such as stock, bonds and property. Recurrent expenditure on goods and services is expenditure, which does not result in the creation or acquisition of fixed assets (new or second-hand). It consists mainly of expenditure on wages, salaries and supplements, purchases of goods and services and consumption of fixed capital (depreciation).

Recurrent expenditure refers mainly to expenditure on operations, wages and salaries, purchases of goods and services, and current grants and subsidies (Fajingbesi and Odusola I999) Recurrent expenditure is all payments other than for capital assets, including on goods and services, (wages and salaries, employer contributions), interest payments, subsidies and transfers(Fajingbesi and Odusola I999). According to Ighodaro and Dickson (2010), recurrent expenditure is composed of; administration (examples includes, general administration, defense, internal security); economic services (includes, agriculture, construction, transport, communication and among others); social and community services (includes, education, health, housing and among others); and transfers (includes, public debt charges or interests for both internal and external debts, pensions and gratuities, among others).

#### 2.1.3 Public Expenditure, Economic Growth and Fiscal Policy

The concept of Public Expenditure is often used to denote government expenditure. According to Enweze (1973), any expenditure incurred by such public authorities as local, state and central governments to meet the joint social wants of the general public is recognized as public expenditure. These collective social wants take different forms. The provision of these wants is regarded as part of the legitimate critical roles any responsible government is expected to play. Identifying these roles Cooray (2009) documents: “Government spending as a fiscal instrument serves useful roles in the process of controlling inflation, unemployment, depression, balance of payment equilibrium and foreign exchange rate stability”. When there is depression as well as unemployment, public expenditure often leads total demand to increase, with production of goods and supply of same and service following in the similar direction Cooray (2009).

However, depending on the fiscal objectives of government, this public expenditure takes different classifications. Classification of Public expenditure, according to Cooray (2009), refers to the systematic arrangement of different items on which the government incurs expenditure. The author further identified these arrangements by

different economists as: revenue and capital expenditure; functional classification; transfer and non-transfer expenditure; development and non-development expenditure; productive and unproductive expenditure; grants and purchase price; Hugh Dalton's classification of public expenditure and classification according to benefits. In the Nigerian context, the classification seems to be based on the nature of the expenditure in question. According to Cooray (2009), public expenditure in Nigeria is broadly categorised into recurrent and capital expenditure, and whereas the recurrent expenditure are government expenditures incurred on such administrative items as wages and salaries, maintenance, interest on loans, etc., capital expenditure are expenses on such capital projects as roads, education, airports, electricity generation and telecommunication, etc..These public expenditures are often expected to drive economic growth.

**2.1.4 Human Development Index**

Human Development Index (HDI) is a composite measure of development based on an assessment of education, life expectancy and income per capita income indicators. HDI measurement is more comprehensive than the Gross Domestic Product. According to Agbonkhese and Asekome(2014) Nigeria is Africa largest economy with Gross Domestic Product (GDP) at $490billion in market exchange Rate (MER) terms with the potential of being among the top ten global economies by the year 2050. It was argued in the report that national policies should be guided not only by improvement in GDP but also by a broader measure of development for which many economies has adopted is HDI. It measures the average achievements in three basic dimensions of Human development Index such as a long and healthy life, access to knowledge and a decent standard of living. Hence, HDI measures achievements in each dimension and in a geometric mean of normalized indices.

**2.2 Theoretical Framework**

This segment presents theories associated with public expenditure and economic development in Nigeria. Therefore, this study is anchored on Musgrave theory.

**2.2.1 Musgrave Theory**

According to Musgrave (1959), the demand for public services tend to be low in developing countries due to low per capita income as all income will be devoted to satisfying primary needs (food, clothing, and shelter). As per capita income increases, the demand for public goods increases too thus spanning the government to spend. Finally, at high level of per capita income in developed countries, the rate of public sector growth tends to fall as the more basic wants are satisfied. The assumption that natural forces can cause the changes is phantasmagorical, as giving the same natural factors to two different countries, one might develop and the other might not. This is known as the Musgrave theory.

**2.3 Empirical Review**

Agbonkhese and Asekome (2014) attempted to assess the impact of public expenditure on the growth of the Nigerian economy, and to ascertain whether there is a relationship between gross domestic product (GDP) and government expenditure in Nigeria. It covers the period of 1981 – 2011 and the Ordinary Least Square (OLS) method of econometric technique was used. The econometric analysis indicates that although there is a positive relationship between the dependent and independent variables, the adjustment of economic growth or gross domestic product was a fair one which made it difficult to reject the null hypothesis. The policy implication of the above scenario is that government over the years appears to be bad managers of resources and have failed to play their role in the process of economic growth and development. The study recommended an urgent need to instill fiscal discipline in government expenditure by initiating far reaching effective internal control measures and more proactive economic management coordination and implementation as well as discouraging all non-productive activities and expenditures in all tiers of government forthwith.

Onakoya and Somoye (2013) used the three stage least squares and the macro-econometric model of simultaneous equations to look at the impact of public capital expenditure on different sectors of the Nigerian economy. They concluded that public capital expenditure impacts positively on the Nigerian economy.

Nworji, Okwu,Obiwuru and Nworji (2012) examined the effect of public expenditure on economic in Nigeria for the period 1970 – 2009. The tool of analysis was the OLS multiple regression model specified on perceived causal relationship between government expenditure and economic growth. The major objective of this paper is to analyze the effect of public government spending on economic in Nigeria based on time series data on variables considered relevant indicators of economic growth and government expenditure. Therefore, time series data included in the model were those on gross domestic product (GDP), and various components of government expenditure. Analysis was based on data extracted from the Statistical Bulletin of the Central Bank of Nigeria. Results of the analysis showed that capital and recurrent

expenditure on economic services had insignificant negative effect on economic growth during the study period. Also, capital expenditure on transfers had insignificant positive effect on growth. But capital and recurrent expenditures on social and community services and recurrent expenditure on transfers had significant positive effect on economic growth. Consequently, the study recommended more allocation of expenditures to the services with significant positive effect.

Amassoma, Nwosa, and Ajisafe (2011), used the error correction model to study the impact of government expenditure disaggregated into agriculture, education, health, transport, and communication on the Nigerian economy with data from 1970 to 2010. They concluded that only agriculture expenditure had a significant impact on the economy. Others had insignificant influence on economic growth.

Oluwatobi and Ogunrinola (2011) also studied the impact of capital and recurrent expenditure on education and health (human capital) and their effect on economic growth using Augmented Solow model. They discovered that there is a positive relationship between recurrent expenditure on human capital and level of real output but a negative relationship between capital expenditure and the level of real output.

Muritala and Taiwo (2011) used the Ordinary Least Squares (OLS) technique to see how public expenditure causes growth in the real GDP. The result also proves a positive relationship between real GDP and recurrent and capital expenditure which is consistent with the Keynesian theory.

Loto (2011) studied the effects of government expenditures on security, health, education, transport, communication, and agriculture on the economy using error correction test. He opined that expenditures on agriculture negatively impact the economy. Education was both negative and non-significant to the economy. Expenditures on health positively impacted the economy while security, transport and communication though positively were non-significant to the economy.

## 3.0 METHODOLOGY

### 3.1 Research Design

This study adopts the ex-post facto research design as it deals with event that had taken place and secondary data were readily available for collection. Human development indexis adopted as the explained (dependent) variable, while Public Capital Expenditure, Public Recurrent Expenditure and External Borrowing are employed as the explanatory (independent) variables. The model was estimated using The Fully Modified Least Squares (FMOLS). Since we are making use of annualized time-series data and the study cover a long sample period, we made sure our data set were not impaired by unit root; hence we tested for stationarity of the series by employing the Augmented Dickey-Fuller (ADF).

### 3.2 Model Specification

This research adapted the econometric model previously used by Nurudeen and Usman (2010) who empirically analyzed the impact of public expenditure on Economic Growth in Nigeria from 1977 to 2008. The econometric model of this study, which had earlier been reviewed in the preceding section, is specified below:

RGDP = f (PEX, PRE, PCE, EXD) …… (3.1)

Where

RGDP =Real Gross Domestic Product
PEX =Public Total Expenditure
PRE = Public Recurrent Expenditure
PCE = Public Capital Expenditure
EXD = External debt

From the above function, they derived the statistical model as follows:

$GDP = \beta_0 + \beta_1 PEX + \beta_2 PRE + \beta_3 PCE + \beta_4 EXD + \mu$….. (3.2)

Where

μ - Stochastic variable
f - Functional notation
$B_0 - \beta_4$ = coefficient of estimates

However, this study adapted the scholars' work by replacing Real Gross domestic product (RGDP) with Human Development Index as the regressand; this was done to capture Economic Development. Also, Total Public Expenditure was expunged; this was done to check mulicollinearity and not over bloat the model.

The regression model for this is study is specified thus:

$HDI = \beta_0 + \beta_1 PCEX + \beta_2 PREX + \beta_3 EXB + \varepsilon$ ……. (3.3)

Where:

HDI = Human development Index
$\beta_0$ = intercept;
PCEX = Public Capital Expenditure;
PREX = Public Recurrent Expenditure;
EXB= External Borrowing;
ε = Error term.

### 3.3 Decision Rule for Acceptance or Rejection of Hypotheses

The decision rule is to reject the null hypothesis if the computed p-value is less than 5% significant level. On the contrary, accept the null hypothesis if the computed p-value is higher than 5% significant level.

### 3.4 A priori Expected Results

| Variables | Measure | Notation | A priori Expectation |
|---|---|---|---|
| **Dependent Variable:** Human Development Index | Composite measurement | HDI | |
| **Independent Variables:** | | | |
| Public Capital Expenditure | Total Capital Expenditure | PCEX | + |
| Public Recurrent Expenditure | Total Recurrent expenditure | PREX | + |
| External Borrowing | External Borrowing | EXB | + |

Source: Researcher's compilation (2021)

## 4.0 DATA ANALYSIS AND FINDINGS

### 4.1 Pre-Estimation Test Result (Unit Root Test)

**Table-4.1: Unit Root Test**

| Variables | Augmented Dickey-Fuller test statistic | Probability Value | ADF Critical at 5% | Inference |
|---|---|---|---|---|
| HDI | -4.749831 | 0.0018 | -3.052169 | I(1) |
| PCEX | -3.247887 | 0.0347 | -3.052169 | I(1) |
| PREX | -5.694789 | 0.0002 | -3.040391 | I(1) |
| EXB | -3.724728 | 0.0131 | -3.040391 | I(1) |

Source: Researcher's Field Data (2021)

The unit root test from Table 4.1 above shows that all the variables were stationary at first difference that is I(1). As such, the appropriate estimation technique to employ for inference is the Johansen co-integration test (Pesaran, Yongcheol and Richard 2001).

### 4.2 Descriptive Statistics

**Table-4.2: Descriptive Statistics**

| | HDI | PCEX | PREX | EXB |
|---|---|---|---|---|
| Mean | 0.491350 | 733.9685 | 2549.415 | 3.115250 |
| Median | 0.499500 | 697.0250 | 2618.705 | 3.637000 |
| Maximum | 0.546000 | 2031.890 | 5675.190 | 4.876000 |
| Minimum | 0.445000 | 239.4500 | 461.6000 | 0.701000 |
| Std. Dev. | 0.032592 | 410.1053 | 1506.271 | 1.501429 |
| Skewness | -0.270766 | 1.496203 | 0.241622 | -0.345439 |
| Kurtosis | 1.883390 | 6.026179 | 2.013072 | 1.490789 |
| Jarque-Bera | 1.283396 | 15.09355 | 1.006293 | 2.295858 |
| Probability | 0.526398 | 0.000528 | 0.604625 | 0.317293 |
| Sum | 9.827000 | 14679.37 | 50988.30 | 62.30500 |
| Sum Sq. Dev. | 0.020183 | 3195541. | 43108207 | 42.83149 |
| Observations | 20 | 20 | 20 | 20 |

Source: Researcher's Field Data (2021)

The descriptive statistics presented in Table 4.2 shows that PREX has the highest mean value of N2549.42 billion, followed by PCEX which has N733.97 billion, while BIR and HDI have N83.12and 0.49 respectively. Note that the Mean describes the average value for each data series in the model. From the analysis, PREX has the highest Standard Deviation as it recorded 1506.27, implying that it is the most volatile variable in the model as it has the highest percentage of dispersion from the mean. The Table further reveals that two variables, HDI and EXB with -0.271 and -0.345respectively, are skewed a little to the left, while PREX and PCEX which have 0.242 and 1.496 respectively, are skewed a little to the right.

Kurtosis measures the peakness or flatness of the distribution of a series. The kurtosis of a normal distribution is 3. If it exceeds 3, it means that the distribution is peaked or leptokurtic relative to the normal. Conversely, if it is less than 3, it shows that the distribution is flat or platykurtic relative to the normal. Table 4.2 further reveals that PCEX with a Kurtosis value of 6.03 is peaked or leptokurtic. While HDI, PREX and EXB with Kurtosis values of

1.88, 2.01 and 1.49 respectively are flat or platykurtic.

Jarque-Bera (JB) tests whether the series is normally distributed or not. The test statistic measures the difference of the skewness and kurtosis of the series with those from a normal distribution. In JB statistic, the null hypothesis which states that the distribution is normal is rejected at 5% level of significance. From the results of the analysis presented in Table 4.3 above, only PCEX with a Jarque-Bera statistic of 15.09 with a Probability of 0.000528 is rejected as being a normal distribution since its p-value is less than 5% level of significance, while other variables are said to be normally distributed since their p-values are greater than 5% level of significance. The number of observation of 20 depicts the duration or scope of this study, being 20 years.

Although these skewness and kurtosis indicate departure from normality, such points are not strong enough to discredit the goodness of the dataset for the analysis in view.

### 4.3 Johansen co-integration test

Included observations: 18 after adjustments
Trend assumption: Linear deterministic trend
Series: HDI PCEX PREX EXB
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None * | 0.928283 | 81.85766 | 47.85613 | 0.0000 |
| At most 1 * | 0.761741 | 34.42725 | 29.79707 | 0.0136 |
| At most 2 | 0.315423 | 8.608070 | 15.49471 | 0.4029 |
| At most 3 | 0.094503 | 1.786893 | 3.841466 | 0.1813 |

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Researcher'sField Data(2021)

**Table-4.3.1: Johansen co-integration test results (Maximum Eigenvalue)**

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None * | 0.928283 | 47.43041 | 27.58434 | 0.0000 |
| At most 1 * | 0.761741 | 25.81918 | 21.13162 | 0.0102 |
| At most 2 | 0.315423 | 6.821177 | 14.26460 | 0.5105 |
| At most 3 | 0.094503 | 1.786893 | 3.841466 | 0.1813 |

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Researcher's Field Data (2021)

### 4.4 A priori Expectation Result

The result is evaluated based on economic theories and literatures inline with what is obtainable in Nigeria and the world over.

**Table-4.4: A priori Expectation Result**

| Variables | Expected Signs | Actual Signs | Remark |
|---|---|---|---|
| PCEX | Positive ( + ) | Positive ( + ) | Conform |
| PREX | Positive ( + ) | Positive ( + ) | Conform |
| EXB | Positive ( + ) | positive ( + ) | Conform |

Source: Researcher's compilation

## 4.5 DISCUSSION OF THE FINDINGS

This study was carried out to investigate the impact of public expenditure on economic development in Nigeria between 2000 and 2019. The result of data analysis suggests the following inferences: public capital expenditure had a positive significant impact on human development index in Nigeria, in the same vein; public recurrent

expenditure also recorded positive and significant impact on human development index in Nigeria.Also external borrowing was observed to have a positive and significant impact on human development index in Nigeria. Amongst the three explanatory variables, public recurrent expenditure recorded the least impact on human development index with a coefficient value of 0.000284 compared to 0.000285 and 0.709124 for public capital expenditure and external borrowing respectively. This observation may be attributed to the poor and low level of budget implementation in Nigeria. If Nigeria is to attain sustainable economic development in terms of human development, the rate of implementation of budget should be improved upon. It is also important to note that all the variables conformed to a priori expectations earlier reported in the preceding section in table 3.7 and confirmed in this section in table 4.6. The findings of this study were in consonance with some past studies on this subject matter earlier reviewed, such as; Onakoya and Somoye (2013), Muritala and Taiwo (2011) and Ogujiuba and Adeniyi (2004). The findings elicited from this study was however in negation of the studies conducted by Akpan (2005) and Folster and Henrekson (2000)who suggested a negative impact of budget implementation on economic growth of Nigeria. Furthermore, Aregbeyen (2007) in his study; contribution of government expenditure on economic growth in Nigeria, reported mixed finding that recurrent expenditure recorded positive impact on economic growth in Nigeria, while capital expenditure recorded negative impact.

### 4.5 Inferential Result

#### 4.5.1 Co-integration Regression Results

Dependent Variable: HDI
Method: Fully Modified Least Squares (FMOLS)
Included observations: 16 after adjustments
Cointegrating equation deterministics: C
Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth = 3.0000)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| HDI(-1) | 0.837826 | 0.040412 | 20.73204 | 0.0023 |
| PCEX(-1) | 0.000285 | 2.99E-05 | 9.546238 | 0.0108 |
| PREX(-1) | 0.000284 | 3.15E-05 | 9.033339 | 0.0120 |
| EXB(-2) | 0.709124 | 0.080547 | 8.803846 | 0.0127 |
| C | 0.366755 | 0.025464 | 14.40302 | 0.0048 |
| | | | | |
| R-squared | 0.993947 | Mean dependent var | | 0.502938 |
| Adjusted R-squared | 0.954600 | S.D. dependent var | | 0.025088 |
| S.E. of regression | 0.005345 | Sum squared resid | | 5.71E-05 |
| Long-run variance | 2.84E-06 | | | |

Source: Researcher's Field Data (2021)

The Fully Modified Least Squares (FMOLS) result as shown in the Table above suggests that all the explanatory variables have positive impact on the explained variable. That is, the independent variables in the model exerted positive impact on the dependent variable. The result further revealed that a one period lag unit increase in Public Capital Expenditure would bring about a one period lag0.000285unit increase in Human Development Index, while a one period lag unit increase in Public Recurrent Expenditure would bring about a one period lag 0.000284unit increase in Human Development Index. Also, a two period lag unit increase in External Borrowing would bring about a one period lag 0.709124 unit increase in Human Development Index.

A keen observation of the result showed that the Adjusted R-squared was about 0.95. This means that the explanatory variables accounted for about 95% variations in the explained variable. Put differently, about 95% variation in Human Development Index was explained by the independent variables, while the remaining 5% may be attributed to variables not captured in the model (stochastic variables).

### 4.6 Test of Normality

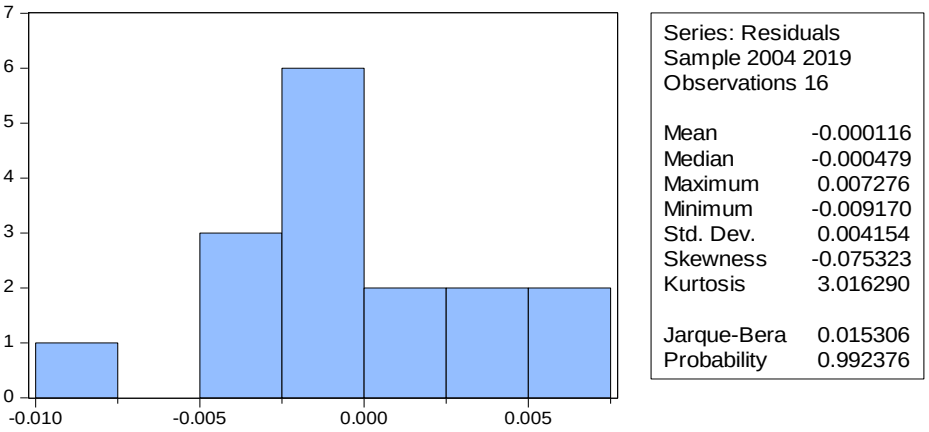


**Fig-1: Normality Chart**

Source: Researcher's Field Data (2021)

This test is conducted to ensure that the data employed in this study are normally distributed. Observing from the normality diagram in figure 4.6 above, as well as the Jarque-Bera statistic value of approximately 0.02 and its corresponding p-value of 99% in the table beside the diagram above, which is >5% significant level,indicates that the data are normally distributed andfit for analysis.

## 5.0 SUMMARY, CONCUSION AND RECOMMENDATIONS

### 5.1 Summary of the Findings

The findings elicited from this study are summarized thus:

1. Public recurrent expenditure impacted positively and significantly on human development index in Nigeria.
2. Public capital expenditure also recorded positive and significant impact on human development index in Nigeria.
3. Just like the first two variables, external borrowing followed in the same vein to exert positive and significant impact on human development index in Nigeria.

### 5.2 Conclusion

This research empirically investigated the impact of public expenditure on economic development in Nigeria. Past studies reveal that researchers have not arrived at a consensus about the impact that public expenditure has on economic development in Nigeria. Therefore, the impact is yet to be well established. This study has added to already existing literature on this subject matter and brings about a different perspective on public expenditure and economic development in Nigeria.

The study employed human development index as proxy for economic development in Nigeria while public capital expenditure, public recurrent expenditure and external borrowing were used as independent variables.The Fully Modified Least Squares (FMOLS)model results suggested that there is a significant positive impact of public expenditure on economic development in Nigeria. The findings of this study were in agreement with the study conducted by Onakoya and Somoye (2013), Muritala and Taiwo (2011) and Ogujiuba and Adeniyi (2004).

### 5.3 Recommendations

Based on the findings elicited from this study, the following recommendations were proffered:

i. The government should ensure that adequate budget provisions are made for both past and present capital expenditures since they impact the economy positively. Also, the introduction of Public Private Partnership for capital projects should be encouraged where there are limited funds in the hands of the government. This will ensure that more projects that will impact the economy are established.

ii. ii. Urgent need to instill fiscal discipline in government expenditures by initiating far reaching effective internal control measures and more proactive economic management coordination and implementation as well as discouraging all non-productive activities and expenditures in all tiers of government forthwith. Government recurrent expenditure should be channeled to have effects on the economy, enhancing and promoting growth and development in the process. All non-productive activities and expenditure need to be reviewed forthwith while the role of government should be reappraised with more emphasis on providing the enabling policy environment for private sector initiatives.

iii. Apart from paper documentations, government should ensure effective implementation of budget by translating the budgeted amount into tangible assets such as

good roads, infrastructures, electricity supply among others so that the ordinary citizen on the road can feel the impact of good governance. Finally, the government should also try to put in place effective budget monitoring and evaluation machinery that will ensure the strict adherence to due process.

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