THE IMPACT OF GOVERNMENT EXPENDITURE ON NIGERIA ECONOMIC GROWTH: A FURTHER DISAGGREGATED APPROACH

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Abstract
The research work explores the impact of government expenditure such as expenditure on General administration, Defense, Education and Health on GDP of Nigeria (1983-2016) the work identifies that despite the continuous increase in government expenditure, there is still a persistent economic backwardness in Nigeria. The researcher sought to determine the relationship and impact of the identified variables on the economic growth of Nigeria. Time series data were generated from the Central Bank of Nigeria (CBN) statistical bulletins of various years spanning from 1983 to 2016. The Ordinary Least Square (OLS) method of estimation was used in the multiple regression analysis. The result showed that expenditure on General Administration has a positive impact and significant relationship with economic growth; Expenditure on Defense has a negative impact but significant relationship with GDP; Expenditure on Education has a positive and highly significant relationship with economic growth; and Expenditure on Health has a positive but insignificant impact on GDP. Among the recommendations were that government should ensure that her expenditure whether capital and recurrent should be managed and monitored at the implementation stage to enhance comparable achievement viz-a-viz on economic growth.

Keywords: Government Expenditure, Economic growth, recurrent expenditure

Introduction
The need to better the lots of citizens through government expenditure (viz-a-viz recurrent and capital expenditure) has raised questions on the impact of government expenditure on economic development and growth of nations. In Nigeria and other developing economies, over the years, there have been a steady increases in government spending without an appreciable and comparable increases in economic growth and development. These have led to several researches and interest on the role of government spending in the long term growth of national economies by economist. In both developed and developing countries there is a concern for raising living standards over time, but this need is much more pronounced in developing countries, given the extent and depth of poverty in these countries. In the relative absence or perpetual weakness of institutions to mobilize and direct savings, the role of the state is crucial in harnessing the resources for development (Gwartney, 1998). Since the regulatory apparatus is weak and market signals imperfect, the state has an important role to play in allocating resources to all sector of the economy. Further, with widespread poverty, there is the expectation that fiscal expenditures would play a major role in anti poverty programs.

In Nigeria for instance, despite the huge amount of expenditures, there is still insignificant level of development witnessed. Public expenditures on all sectors of the Nigerian economy is expected to lead to economic growth in the sense that capital and recurrent expenditure will boost the productive base of the economy which in turn will lead to growth. The interest by financial experts and economist in Nigeria and other jurisdictions on the role of government expenditure is still inconclusive. The relationship between economic growth and government expenditure is an
important subject of analysis and debate Mitchell, (2005). A central question is whether or not public sector expenditure increases the long run growth rate of the economy. Some scholars are of the opinion that public expenditure, notably on physical infrastructure and human capital, can be growth enhancing although the financing of such expenditures can be growth retarding in the short-run. Public expenditure is an important instrument for government to control the economy. It plays an important role in the functioning of an economy whether developed, developing or under developed. It is the expenses which government incurs for the maintenance of the government and the society in general (Oriakhi 2004). They can also be refer to as expenses which government incurs in carrying out its programmes (Okoh 2008). While Anyanwu (1997) posit that government expenditure involves all the expenses which the public sector incurs for its maintenance for the benefit of the economy.

Government expenditure is a major component of national income as seen in the expenditure approach to measuring national income: \( Y = C+I+G +(X – M) \). This implies that government expenditure is a key determinant of the size of the economy and of economic growth. However, it could act as a two-edged sword: It could significantly boost aggregate output, especially in developing countries where there are massive market failures and poverty traps, and it could also have adverse consequences such as unintended inflation and boom-bust cycles (Wang and Wen, 2013). The effectiveness of government expenditure in expanding the economy and fostering rapid economic growth depends on whether it is productive or unproductive. All things being equal, productive government expenditure would have positive effect on the economy, while unproductive expenditure would have the reverse effect.

Baro(1990) endogenize government spending in a growth model and analyze the relationship between size of the government and rates of growth and saving. He concluded that an increase in resources devoted to non-productive government services is associated with lower per capital growth. therefore, government expenditure which enhances economic growth should be tailored towards productive services. Therefore, it is on the basis of the above, this seminar paper would want to find out the impact of some selected recurrent and capital expenditure indices on the growth of the Nigeria Economy. The variable index for recurrent expenditure would General Administration and expenditure on Defense. While the variable index for capital expenditure would be expenditure on education and health. A critical look at the structure of the above independent variable, that will be analyze in this seminar paper, will be more appreciable if two among the variable associated with the recurrent expenditure structure, be use. Same also will be applied to the capital expenditure structure. Economic growth is measure by real gross domestic product. The study which will cover a period of 34 years (1983 – 2016) will be carried out to compliment and cover up the gap of the work of other researchers who had carried out a similar study in Nigeria have created.

Statement of the Problem

For a resource- and cash-rich country(Nigeria) having nearly 70% of its population living in relative poverty conditions, whose infrastructures are in a state of decay, whose health, education and other growth-promoting and welfare-enhancing institutions are in a state of near-collapse, whose roads (most of them) have become death traps due to their deplorable conditions, whose power sector is in a state of moribund, whose rates of unemployment, illiteracy rate, poverty rate (evidenced in the number of people living in shanties, with little or no access to quality education, medi-care, potable water, etc.) is increasing as the clock ticks, whose human development index its continuously reducing, etc. Amidst all these problems the government has continuously increased her expenditure. Therefore one would expect that there will be a comparable achievement on economic growth in Nigeria, but otherwise has been the case.

The problems highlighted above have been there over the years despite various works done by researchers and authors on the field of study. It will be unwise for the researcher of this work to also base the problems of this study on the above stated problems. It is on the above premise the researcher chooses to look at the problem of obsolescence of information that is the last time the research was carried out, the geographical problem, that is the areas other researches have not covered and which variables among the government expenditure component have not been tested and as well as the methodological problem, that inform the gaps of this study and which also form the foundation that arouse the interest of the researcher.

Objectives of the Study

The major objective of this study is therefore, to ascertain whether there is a relationship between government expenditure and economic growth in Nigeria. The specific objectives are:
To examine the extent of the impact of government expenditure on General Administration on economic growth in Nigeria.
To examine the extent of the impact of government expenditure on Defense on economic growth in Nigeria.
To examine the impact of government expenditure in Education on economic growth in Nigeria.
To examine the extent of the impact of government expenditure in Health on economic growth in Nigeria.

**Research Questions**

This study is designed to investigate and determine the impacts of public expenditure on economic growth measured by the growth rate of gross domestic product. In order to achieve this, the following research questions will be used to direct the investigations.

- Is there any significant relationship between government expenditure on General Administration and the growth rate of Gross Domestic Product in Nigeria?
- What is the nature of relationship between expenditure on education and the growth rate of Gross Domestic Product in Nigeria?
- To what extent expenditure on Defense have impact on the growth rate of Gross Domestic Product in Nigeria?
- What is the nature of relationship between expenditure health and the growth rate of Gross Domestic Product in Nigeria?

**Research Hypothesis**

The following hypothesis will be tested at 0.05 level of significance;

H0: There is no significant relationship between government expenditure on General Administration and Gross Domestic Product.

H0: There is no significant relationship between government expenditure on Defense and Gross Domestic Product.

H0: There is no significant relationship between government expenditure in Education and Gross Domestic Product.

H0: There is no significant relationship between government expenditure on Health and Gross Domestic Product.

**Scope and Limitations of the Study**

In any research study of this nature, there is normally the enthusiasm to touch as many areas as possible which are connected to the various needs of such study.

However due to the nature and scope of the work, such a wild scope is out of the question since a work of this nature can hardly achieve a feat.

This study will examine mainly the Impact of government expenditure on economic growth of Nigeria covering the period 1983 to 2016.

In the course of conducting this research, the following constraints were experienced; Due to the nature of this research work, which deals with secondary data only it was difficult to gather the necessary figure like the statistical data for the dependent variable. Hence the researcher has to consult some statistical bulletin, journal and the internet in other to come up with the right figures.

**Review of Related Literature**

**Conceptual Review**

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. 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, the increases in the supply of goods and services couple with a rise in the aggregate demand exalt a downward pressure on unemployment and depression.
In the case of persistent rise in price (inflation) and the depreciation in the value of money, it is expected that reduction in government expenditures discourages aggregate demand and inflation and falling in the value of exchange rate are controlled. It is worthy to note that these two tools may be adopted simultaneously in the economy.

A rise in the government expenditure has the same effects as a reduction in the tax rates on aggregate demand.

Similarly, the effects of a reduction in the government expenditures are the same as increases in tax rates.

**Nature of Public Expenditure:** Bhatia (2008) defines Public expenditure as the expenses which a government incurs for (i) its own maintenance, (ii) the society and the economy, and (iii) helping other countries. Public expenditure refers broadly to expenditure made by local, state and national government agencies as distinct from those of private individuals. Public Expenditure also comprises of government payments for the goods and services acquired and for the works done pursuant to their respective laws, social security contributions, interest payments of domestic and foreign debts, general borrowing expenditures, payments resulting from the discounted sale of borrowing instruments, economic, financial and social transfers, donations and grants, and others.

It is conventional to classify public expenditure into various economic categories. Accounting classification has been there for centuries because it enables the State Executives to maintain an effective control and check over public expenditure and possible leakages and wastage, diversion and misappropriations (Bhatia, 2008). It may be classification base on department or heads of expenditure. Such a classification is good for auditing and safeguarding against misappropriations, etc., but it does not help in the understanding of its effects. It is therefore, difficult to formulate an appropriate expenditure policy on this basis.

Economists classify government expenditures into three main types (Gerson, 1998): (i) Government purchases of goods and services for current use are classed as government consumption; (ii) Government purchases of goods and services intended to create future benefits, such as infrastructure investment or research spending are classed as government investment; and (iii) payments for debt services are classified as transfer payments. The classification of expenditure involves the division of government transactions into categories that would serve the purposes of government. Anyafo (1996) identifies five ways of classifying public expenditures: by levels of government, by ministries, extra-ministerial departments and parastatals, by economic life span, by object of expenditure and by sectoral economic functions. Public expenditures are functionally classified into four in Nigeria (CBN, 2008): Administration, Economic services, Social and Community services, and Transfers with capital and recurrent expenditure compositions.

**Public Expenditure and Economic Growth:** Public expenditure can help the economy in numerous ways in attaining higher levels of production and growth. The ways in which such effect might be brought about are obviously inter-related. The analysis of these effects can be taken up separately in the context of developed and developing economies (Bhatia, 2008). According to Dalton (1954), public expenditure tends to affect the level of production in three possible ways:

a) Effect on the Capacity to Work and Save: Public expenditure provides various kinds of social and economic facilities stimulating the capacity to work of the people. Increased capacity implies increased efficiency and greater employment. Level of income and saving tends to rise, facilitating greater investment and adding the pace of growth. Dalton opines that ‘just as taxation reduces an individual’s capacity to work, in the same way public expenditure increases the individual’s capacity to work.’

b) Desire to Work and Save: Public expenditure induces the public’s willingness to work and save. As a result, their income and standard of living rise.

c) Redistribution of Economic Resources: Public expenditure makes the economy balanced by redistributing the income resource from unproductive activities to productive ones. This results in increase in production. This effect varies between developed and developing countries.

The developed countries have enough of production capacity, but its optimum utilization does not take place as a result of low demand. Consequently, there is low level of production. By increasing public expenditure, aggregate demand can be increased. Wealth can be distributed by increasing public expenditure among those who are willing to spend. Thus increase in demand results in the increase in production. In the event of full employment already existing in the economy, increase in public expenditure will only increase prices instead of production.
Bhatia (2008) cautions that to maximize the benefits of public expenditure and to avoid possible harmful incidental effects, firstly, the various projects have long gestation period, in which case the output is delayed. Yet they need to be funded, adding to the inflationary pressures. Care must therefore be taken that inflationary pressures are put under control during the process of development.

Secondly, on account of faulty planning and execution, a lot of wastage can take place in public expenditure. This must be avoided. Thirdly, given the scarce resources, care must be taken to choose the most appropriate and most useful projects. Cost-benefits study may be needed to prioritize the projects. Fourthly, a careful decision has to be taken regarding the volume of public expenditure in various projects and on various measures expected to stimulate investment. The effects of the sources of financing the compositions of public expenditure must be considered.

Public expenditure can also prove helpful in accelerating the rate of economic development. In order to maintain a steady growth rate in developed economy, public expenditure can be helpful in maintaining the adequate amount of investment and consumption expenditure, so that the full employment rate of the economic development is steadily maintained. Jain et al. (2008) aver that in order to accelerate economic development in the developing economies, public expenditure plays a crucial role. Public expenditure facilitates social overheads, roads, electricity, irrigation, etc. Development of private industries and agriculture is thus assisted, markets expand and the rate of investment increases. If public expenditure is made through foreign capital, it may prove more effective. If public expenditure is unproductive, it will only result in price hike.

Buti and Van den Noord (2003) adopt a definition of neutral expenditure policy according to which primary public expenditures grow in line with potential output plus expected inflation. Fatas et al. (2003) and Hughes-Hallet et al. (2004) resort to three different definitions of ‘neutral fiscal policy’: government spending is held constant in volume terms; government expenditures grow in line with revenues; government expenditures grow in proportion with trend GDP. Moreover, Gali and Perotti (2003), among others, consider a broader concept of “non-discretionary” fiscal policy, obtained as the residual of an estimated fiscal reaction function where the primary cyclically-adjusted budget balance is regressed against its own lag, the lagged debt/GDP ratio and a measure of the output gap.

**The Role of Public Expenditure:** Public expenditure is used for allocation, stabilization and distribution of resources (MUSGRAVE AND MUSGRAVE 1989). The allocation function becomes necessary so as to provide both private and in particular, social goods in appropriate mix with available resources. Due to special characteristics of goods (spillover, externalities, non-excludability/joint consumption, non-rivalries) they will not be provided at all, or where they are produced the output will be inadequate and outrageously costly if left in the hands of private individuals, the government intervenes using the instrument of public expenditure and other fiscal policy tools.

According to Omoruyi (1998) stabilization function of public expenditure is that of maintaining high employment, a reasonable degree of price stability an appropriate rate of economic growth, with allowance for effect on trade and on the balance of payment. That is the stabilization function is concerned with the attainment by the national economy of full employment and capital utilization at stable price, a good balance of intervention performance and a satisfactory rate of growth in per capita income over a period of time.

**Public Expenditure Policies in Nigeria:** The Second National Development plan (1970-1974) accorded a leading role to government just as it considered public enterprise as crucial to growth and self – reliance due to capital scarcity, structural defects in the private sector and perceived danger of foreign dominance of the private sector. The third National Development plan (1975-1980) advocated some shift in resources allocation in favor of rural areas, which were said to have benefited little from the economic growth of 1970’s. Thus small farmers and the rural population were expected to benefit from public expenditure.

However, against the background of the austere fiscal outlook of the government, under the Third National Plan (1981- 1985)), the role of fiscal policy was viewed mainly as the generation of revenue through increased tax effort and the control of public spending. The structural adjustment programmed (SAP) introduced in July 1986 recognized that the financial resources for public expenditure for the rest of the 1980s and beyond were likely to be less than was previously envisaged. And given the uncertainty in the oil market and substantial debt repayment falling due, there was need to curtail government expenditure, especially those involving foreign exchange.

In the main, as with other IMF and World Bank programmers, measures were to be taken to reduced government expenditure. Such measures, include reduction of the growth of government wage bill; reduction in government subsidies on fertilizer, foods petroleum and petroleum products; limiting or delaying new investments, and the
rationalization, and hence the privatization and commercialization of public enterprise, thereby efficiency of investment and expenditure control and administration. During the first National Rolling Plan (1990-1992), government aimed at effort of combat inflation hence budgetary deficit were to be avoided hence government expenditure was made more cost-effective and kept levels that were consistent with the nation’s resources, realistic growth targets and general economic stability.

**An Overview of The Nigerian Economic Growth:** The Nigerian economy has had a truncated history. In the period 1960-70, the Gross Domestic Product (GDP) recorded 3.1 per cent growth annually. During the oil boom era, roughly 1970-78, QDP grew positively by 6.2 per cent annually - a remarkable growth. However, in the 1980s, GDP had negative growth rates. In the period 1988-1997 which constitutes the period of structural adjustment and economic liberalization, the GDP responded to economic adjustment policies and grew at a positive rate of 4.0. In the years after independence, industry and manufacturing sectors had positive growth rates except for the period 1980-1988 where industry and manufacturing grew negatively by -3.2 per cent and -2.9 per cent respectively. The growth of agriculture for the periods 1960-70 and 1970-78 was unsatisfactory. In the early 1960s, the agricultural sector suffered from low commodity prices while the oil boom contributed to the negative growth of agriculture in the 1970s. The boom in the oil sector lured labor away from the rural sector to urban centers.

The contribution of agriculture to GDP, which was 63 percent in 1960, declined to 34 percent in 1988, not because the industrial sector increased its share but due to neglect of the agricultural sector. It was therefore not surprising that by 1975, the economy had become a net importer of basic food items. The apparent increase in industry and manufacturing from 1978 to 1988, was due to activities in the mining sub-sector, especially petroleum. Capital formation in the economy has not been satisfactory. Gross domestic investment as a percentage of GDP, which was 16.3 percent and 22.8 percent in the periods 1965-73 and 1973-80 respectively, decreased to almost 14 percent in 1980-88 and increased to 18.2 percent in 1991. Gross National Saving has been low and consists mostly of public savings especially during the period 1973-80. The current account balances before official transfers are negative for 1965-73, 1980-88 and 1991-98.

The economy never experienced double-digit inflation during the 1960s. By 1976, however, the inflation rate stood at 23 percent. It decreased to 11.8 percent in 1979 and jumped to 41 percent and 72.8 percent in 1989 and 1995, respectively. By 1998, the inflation rate had, however, reduced to 9.5 percent from 29.0 percent in 1996.

Unemployment rates averaged almost 5 per cent for the period 1976-1998. However, the statistics especially on unemployment, must be interpreted with caution. Most job seekers do not use the labour exchanges, apart from the inherent distortions in the country’s labour market. Based on some basic indicators, it appears that the economy performed well during the years immediately after independence and into the oil boom years. However, in the 1980s the economy was in a recession. The on-going economic reform programme is an attempt to put the economy on a recovery path with minimal inflation. The analysis that follows tries to discuss the developments in the economy for different periods.

**Theoretical Literature**

*Theories of Public Expenditure and Economic Growth*

Economic theory has shown how government spending may either be beneficial or detrimental to economic growth. This section highlights same basic theories that have been used to support the effects of government expenditure on economic growth. Such theories amongst others are:

**Musgrave Theory of Public Expenditure Growth:** This theory was propounded by Musgrave as he found changes in the income elasticity of demand for public services in three ranges of per capita income. He posits that at low levels of per capita income, demand for public services tends to be very low, this is so because according to him such income is devoted to satisfying primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health, education and transport starts to rise, thereby forcing government to increase expenditure on them. He observes that at the high levels of per capita income, typical of developed economies, the rate of public sector growth tends to fall as the more basic wants are being satisfied.

**The Keynesian Theory:** Of all economists who discussed the relation between public expenditures and economic growth, Keynes was among the most noted with his apparently contrasting viewpoint on this relation. Keynes regards public expenditures as an exogenous factor which can be utilized as a policy instruments promote economic growth.
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 multipliers.

Further more in Keynesian macroeconomics, many kinds of public expenditures, can contribute positively to economic growth through multiplier effects on aggregate demand. On the other hand, government consumption may crowd out private investment, dampen economic stimulus in the short run and reduce capital accumulation in the long run. Studies based on endogenous growth models distinguish between distortionary or non-distortionary taxation and productive or unproductive expenditures. Expenditures are categorized as productive if they are included as arguments in private production functions and unproductive if they are not (Barro and Sala-I-Martin, 1992).

Empirical Literature

Much empirical researches have been conducted to investigate the impact of government expenditure on economic growth in various countries. The results however have been mixed. While some observe that public expenditure favours growth, others argue that excessive government expenditure could be detrimental to growth. Many Nigerian authors have attempted to examine government-economic growth relationship. Fajingbesin and Odusola (1999) empirically investigated the relationship between government expenditure and economic growth in Nigeria. Their econometric results indicated that real government capital expenditure has a significant positive influences on real output. However, the results showed that real government recurrent expenditure affects growth only by little. Odedokun (1997) and Shioji (2001) obtain a similar result as they find that infrastructural public investment promotes economic growth. Odedokun concentrated on a sample of 48 developing countries during period 1970-1990, while the latter study focused on 48 states in United States over the period 1963-1967 and on 46 Japan’s prefectures during the 1955-1999 periods some researcher however believe the government spending has no or negative effects on economic growth.

The work of Abu and Abdullahi (2010) in their short-run analysis of recurrent and capital expenditures, as well as government spending on agriculture, education, defence, health and transport communication sectors of the Nigerian economy obtained results that revealed that government total capital expenditure, total recurrent expenditure, and government expenditure have negative effects on economic growth. On the contrary, the rising government expenditure on transport, communication, and health results to an increase in economic growth. Also Maku (2009) examined the link between government spending and economic growth in Nigeria over the last three decades using time series data to analyze the Ram (1986) model and regression real GDP on private investment, human capital investment. He tested for the presence of stationary in the variables using the Augmented Dicker Fuller (ADF) unit root test, and used the co-integration test to establish the long-run relationship among variable, the Error Correction Model (ECM) was used. Empirical results showed that public and private had insignificant effects economic growth during the review period.

Abu and Abdullahi (2010) in their paper observes that rising government expenditure has not translated to meaningful development as Nigeria still ranks among world’s poorest countries. In an attempt to investigate the effect of government expenditure on economic growth, we employed a disaggregated analysis. The results reveal that government total capital expenditure (TCAP), total recurrent expenditures (TREC), and government expenditure on education (EDU) have negative effect on economic growth. On the contrary, rising government expenditure on transport and communication (TRACO), and health (HEA) results to an increase in economic growth.

Research Methodology

Research Design

According to Nzelihe and Illogu (1996) “research design is a comprehensive overall plan or blue print showing that the research intends to solve the identified research problem”. It is of great importance for the researcher to specify the type of design or method suitable for the problem to be investigated. In this study, the ex-post facto research design was used. This is geared for the purpose of obtaining data to enable the researcher test hypothesis or answer research question. Based on the above statement, the study presents conceptual, empirical and theoretical analysis of the effects of government expenditure on economic growth of the country.
Sources of Data Collection

The sources used in collecting data in any study or investigation, depends on the type of data needed and the purpose of the investigation. The researcher used only secondary method of data collection in obtaining data for the study. It relied heavily on time series data from the Central Bank of Nigeria Statistical Bulletin and the Federal Government of Nigeria. The data collected are on annually basis from 1983-2016.

Techniques of Data Analysis

The ordinary least square (OLS) method was used. The following statistics will be used to test for the global statistical validation of the relationship between the variables of the study.

A priori Expectation and Model Specification

It is the initial presumption and deduction of the researcher that expenditure on General Administration, Defence, Education and Health would contribute significantly to the growth of the Nigeria Economy, which goes in addendum with the alternative hypothesis that was proposed in Chapter one of this study. In order to achieve the objective of the study, the linear regression model is adopted to estimate the impact of government expenditure on economic growth. The model that would be estimated in the course of this study is stated below:

\[ GDP = F(DFE, \text{GADM}, \text{EDUT}, \text{HTH}) \] ......................................................(1)

Where:

GDP = Gross Domestic Product
DFE = Defense Expenditure
GADM = General Administration
EDUT = Education expenditures.
HTH = Health expenditures

The above equation are expressed econometrically as

\[ GDP = C_0 + C_1 \text{DFE} + C_2 \text{GADM} + C_3 \text{EDUT} + C_4 \text{HTH} + U_t \] ...............(2)

Where:

GDP = Dependent variable
DFE, GADM, EDUT, HEA = Independent variables.

Taking the natural logarithm form of the model, which allows for easy interpretation of their coefficient as elasticity’s, we have:

\[ GDP = C_0 + C_1 \text{LDFE} + C_2 \text{LGADM} + C_3 \text{LEDUT} + C_4 \text{LHTH} + U_t \] ...............(3)

Where:

LDFE = Log of Defense Expenditure
LGADM = Log of General Administration
LEDUT = Log of Education expenditures.
LHTH = Log of Health expenditures
C_0 = Regression constant or the intercept
C_1-C_4 = Regression parameters or slope coefficient
Estimation and Validation

The ordinary least square (OLS) estimation technique used in the study is only valid as an efficient estimator based on the Gauss-market theory which states that OLS is the best linear estimator (BLUE) of all the unbiased and linear estimators. The Ordinary Least Square (OLS) estimation method would also be employed in obtaining the numerical estimates of the coefficients in the model using E-View 7.0 Output Statistical Software.

Data Presentation, Analysis and Discussion of Findings

Presentation and Analysis of Data

The following below are the relevant data collected from the Central Bank of Nigeria Statistical Bulletin (2016) from four(4) relevant government expenditures and GDP, for the relevant years of assessment (1983 – 2016). The analysis was done in the disaggregated approach in order to arrive at the objective of the study.

Table 4.1: Data

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<th>YEAR</th>
<th>GDP</th>
<th>GADM</th>
<th>DFC</th>
<th>EDCT</th>
<th>HTH</th>
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U = Stochastic or error term.
Disaggregated Approach

Ordinary Least Square (OLS) Output Result

Dependent Variable: GDP
Method: Least Squares
Date: 12/29/16   Time: 13:54
Sample: 1 34
Included observations: 33

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<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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R-squared: 0.955272
Adjusted R-squared: 0.948883
S.E. of regression: 4115.022
Akaike info criterion: 19.62140
Schwarz criterion: 19.84815
Log likelihood: -318.7532
Durbin-Watson stat: 2.046493
Prob(F-statistic): 0.000000

Source: E-view 7.0

Discussion of Findings

The Disaggregated Approach Analysis

The least square method tested the results into two folds:

1. The relative statistics and
2. The Global statistics.

The Ordinary Least Square test was adopted because the diagnostic test revealed that the assumptions of OLS were not violated by any of the variables.
The Relative Statistics

The relative statistics tested each variable separately from each other to ascertain the relationship and significance level of each variable to the dependent variable. Below is the discussion of results of each independent variable using the Coefficients and P-Value of the t-statistics.

General Administration: The result of a simple regression analysis involving GDP and General Administration in Nigeria under the period of study revealed that there is a positive and significant relationship between economic growth and General Administration. The result shows that a 1% increase in General Administration Expenditure, will result to 29.97355 increase in GDP. It has a significant relationship because the P-value of the statistics (0.0006) is less than 0.05 critical level.

Hypothesis One:

H_0: There is no significant relationship between government expenditure on General Administration and Gross Domestic Product.

H_1: There is significant relationship between government expenditure on General Administration and Gross Domestic Product.

Decision: We reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1) and conclude that General Administration has a positive impact and significant relationship on economic growth in Nigeria.

Defence: It can be seen from the regression result that expenditure on Defence has a negative impact but significant relationship with GDP. The coefficient of DFC has a value of -13.19837, which implies that a unit increase in Defence expenditure, will lead to about -13.19837 reduction in GDP. The Probability value of 0.7114 which is more than 0.05 critical value indicates that there is no significant relationship between the two variables.

Hypothesis Two:

H_0: There is no significant relationship between government expenditure on military expenditure and Gross Domestic Product.

H_1: There is significant relationship between government expenditure on military expenditure and Gross Domestic Product.

Decision: We accept the null hypothesis and reject the alternative hypothesis and conclude that expenditure on defence has a negative and insignificant impact on economic growth.

Education: The result of a simple regression analysis involving GDP and Expenditure on Education in Nigeria revealed that there is a positive and highly significant relationship between economic growth and expenditure in education. The result shows that a unit increase in education expenditure will lead to about 64.61979 increase in GDP. The Probability value of 0.0459 which is less than 0.05 critical value indicates that there is a high significant relationship between the two variables.

Hypothesis Three:

H_0: There is no significant relationship between government expenditure in Education and Gross Domestic Product.

H_1: There is significant relationship between government expenditure in Education and Gross Domestic Product.

Decision: We reject the null hypothesis and accept the alternative hypothesis and conclude that expenditure in education has a positive impact and highly significant relationship with economic growth in Nigeria.

Health: It can be seen from the regression result that expenditure on Health has a positive but insignificant impact on GDP. The coefficient of HTH has a value of 56.11874, which implies that a unit increase in Health expenditure, will lead to about 56.11874 increase in GDP. The Probability value of 0.2847 which is more than 0.05 critical value indicates that there is no significant relationship between the two variables.

Hypothesis Four:

H_0: There is no significant relationship between government expenditure on Health and Gross Domestic Product.
**H1:** There is significant relationship between government expenditure on Health and Gross Domestic Product.

**Decision:** The null hypothesis is accepted while the alternative hypothesis is rejected; thus, expenditure on health does not have a significant and positive impact on economic growth in Nigeria, though the result indicates non-significance.

**The Global Statistics**

The effect of the global statistics was tested in all the variables using the $R^2$, Adjusted $R^2$, F-statistics and Durbin Watson (DW).

**R-squared and Adjusted R-squared:** The value of the R-squared ($R^2$) for the model is very high, pegged at 95.5%. It implies that expenditure on General Administration, Defence, Education, Health and Real Gross Domestic Product explained about 95.5% systematic variations in the level of Economic Growth in Nigeria over the period under study, while 4.5% left unexplained, is due to changes in other variables not captured in the models but represented by the disturbance term. This is explain by the value of the coefficient of determination( Adjusted R-squared). More so, the Adjusted R-squared confirms the $R^2$ at 94.9%, taking into consideration the degree of freedom and the inclusion or exclusion of a variable. The high value of the R-squared shows that the estimated regression models have a good fit on the data.

**F-statistics:** Adopting the probability of the F-statistics which is a test for the overall significance of the models, it implies that at zero level of significance, the model is rightly specified. The Prob(F-stat) of 0.000000, which is less than 0.05 critical level, indicates that the overall regression is statistically significant. We would therefore reject the null hypothesis and conclude that the overall variables have significant relationship with the economic growth in Nigeria.

**Durbin Watson (DW):** The Durbin Watson Statistics in the model is 2.046493, which reveals to us that there is no serial correlation between expenditure on General Administration, Defense, Education, Health and the Real Gross Domestic Product viz-a-viz economic growth in Nigeria, and further shows that the model regression is not spurious and good/fit for regression.

**Summary of Findings**

The study portrays the impact of government expenditure on the growth of the Nigeria economy (1983-2016). The study among others revealed that:

General Administration as a positive and significant impact on economic growth in Nigeria. This shows that an increase in Expenditure on General Administration will likely result in increase in economic growth. This also will achieve its aim if every naira budgeted on this index is judiciously used.

Expenditure on defence as a negative and insignificant impact on the Real Gross Domestic Product. It shows that both the coefficient result and P-Value has negative relationship with the regression model. This shows that an increase in the defence expenditure will only lead to a decrease in economic growth.

Education Expenditure as a positive and significant impact on economic growth in Nigeria. This shows that an increase in Expenditure on Education will likely result in increase in economic growth. This also will achieve its aim if every naira budgeted on this index is judiciously used.

Expenditure on Health has a positive impact on Real Gross Domesatic Product and an insignificant relationship with the Real Gross Domestic Product. It shows that the coefficient result was positive while the P-Value has negative relationship because its greater than the standard 0.05 critical value. This shows that an increase in the health expenditure will has an impact but insignificant relationship with economic growth.

**Conclusion**

This study has examined the impact of government expenditure on economic growth in Nigeria for the 1983 - 2016 period. Existing literature shows that researchers are yet to reach a consensus about the impact of government expenditure on economic growth in Nigeria. Therefore, the effect is yet to be well established. This study has contributed to the research effort at empirical measure of the effect of government expenditure on economic growth. Data analysis revealed that a relationship exists between government expenditure and economic growth, and that while some...
components of government expenditure exerted negative effect on growth, others exerted positive effect. As disaggregated components. capital and recurrent expenditures on economic services like general administration and education exerts positive and significant impact on economic growth, which tally with the findings of Chude N.P. and Chude D.I. (2013) on Impact of government expenditure on economic growth in Nigeria and indicated that total expenditure on education is highly and statistically significant and have positive relationship on economic growth.

Capital expenditure on health exerts positive impact on Gross Domestic Product but has insignificant relationship with economic growth, and recurrent expenditures on safety of the lives of citizen social amenities (Defense) had insignificant and negative effect on economic growth, which goes in line with J. Paul Dunne & Nan Tian (2013) on Military Expenditure, economic growth and Heterogeneity, revealed that, Military expenditure has a negative effect on economic growth. However, the aggregated or overall effect of government expenditure on economic growth is statistically significant, which also goes in addendum with the findings of Ukpabi Nnamdi (2013) on the empirical analysis of the impact of government expenditure of economic growth, that reveals that Government expenditure has a positive relationship on economic growth.

This also supports the Keynesian (1936) view of government active intervention in the economy using various policy instruments. Also, as available CBN data on government expenditure and economic GDP exhibit increasing trend, the analysis equally supports the Wagner’s (1813) postulate of Ever Increasing State Activity.

Consequently, this analysis supports growing evidence that government expenditure has a relationship with and exerts significant effect on economic growth. The study further concludes that the components of government expenditure (General Administration, Defense, Education and Health) considered in this study are important variables in explaining economic growth in Nigeria and the style of government in Nigeria do not have any significant impact on its economic growth.

**Recommendations**

In the light of the researcher’s findings, the following recommendations are presented:

Government expenditure whether capital and recurrent should be managed and monitored at the implementation stage to enhance comparable achievement viz-a-viz on economic growth. They should ensure that capital and recurrent expenditure are properly managed in a manner that it will raise the nation’s international relations as it affects doing business with other countries. The long run effect of this is that it will help to raise the value of her currency and stabilize the economy which will lead to economic growth.

The government should also endeavor to increase her expenditure on Health, to be able to get to the citizen in the rural area. The aftermath effect in the increase of her health expenditure is that, the people living in the rural area will be in good health to meet up with their daily activity of fishing and farming. On the other hand, they should also assist in rendering free health service like, anti-natal care, maternal care, children between the age of 0-5, etc. It will boost the state of health of the rural citizens as well as attaining the welfare objective of the government.

Education should be adequately funded and the funds should be monitored and utilized efficiently. This is necessary considering the fact that education create positive externalities. The finding that it is negatively related to economic growth in Nigeria, does not follow economic postulations. This may be due to economic factors such as corruption. Moreover, government should also increased its investment in this sector since the proportion of federal government education budget to total budget is still very low as its falls below the UNESCO set bench mark of 26% for developing countries. Another reason why government should be advise to increase government funding on education is to curtail the level of strike in our education sector and as well increase funding on anti-graft or anti-corruption agencies like the Economic and Financial Crime Commission (EFCC), and the Independent Corrupt Practices Commission (ICPC) in order to arrest and penalize those who divert and embezzle public funds. Furthermore, expenditure on defense should be closely monitored, as it is one of the way government officials use in siphoning funds in the name of security votes.

Finally, capital and recurrent expenditures on economic services should be directed mainly to productive economic activities. This will stimulate activities in the economic sectors and, perhaps, reverse the negative effect on economic growth.
References


Hill, 748, 807.


