

THE IMPACT OF GOVERNMENT EXPENDITURE ON THE ECONOMIC GROWTH IN NIGERIA: AN EMPIRICAL ANALYSIS

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ABSTRACT

This study empirically analysed the impact of government expenditure on the economic growth in Nigeria. The specific objectives were to analyse how government expenditure on administration, economic service, social and community service and transfers impacted on the economic growth in Nigeria. To achieve the stated objectives, the study employed the statistical OLS multiple regression methods in testing and in the estimation of the relevant equations. The results showed that government expenditure on administration have a significant positive relationship with the economic growth in Nigeria. Surprisingly, government expenditure on economic service and social and community service though positive was insignificant respectively. The study recommended that expenditure policy on administration especially recurrent expenditure should be drastically reduced in a manner that capital expenditure can take the centre stage. Also, government should ensure that expenditure on social and communication service especially education, health, water resources, sanitation and other community development projects are put in place in order to boost the economy as a whole.

Keywords: Government, expenditure, economic growth, community, economic service

INTRODUCTION

According to Stern (1990), government expenditure is an important instrument for a government to control its economy through the provision of a economic stability during inflation or deflation and provision of employment etc. The involvement of government in the control of its economy is really important as the absence of government control will lead to anarchy and anarchy results in little wealth distribution. Government expenditure is aimed at proffering social and economic solutions which will lead to economic growth. The structure of Nigerian government expenditure is categorized into capital and recurrent expenditures. Capital expenditure is expenditure on the provision and upgrade of physical assets whose useful life extends beyond an accounting year, such as expenditures on lands, buildings, machineries and research, etc. On the other hand, recurrent expenditures refer to expenses on purchase and sale of goods and services, wages and salaries, operational expenses as well as transfers. These expenditures in Nigeria government are administratively classified under the heading of; expenditure on administration, economic services, social and community services and transfers.

Expenditures on administration include general expenses on national assembly, defense, salaries, internal security etc. Expenditures on both social and community services include expenses on education, health and other such services. Expenditures on economic services include expenses on agriculture, construction, transportation, electricity, communication, etc. while government transfers include public debt servicing, pensions and gratuity, subventions etc.

Over the years, the relationship between government expenditure and economic growth has continued to generate series of debate among scholars in economic literature. Some scholars hold

different views from others. While some are of the opinion that government expenditures on health and education will actually improve a country's productivity which will in turn improve the economic situation of a country, and the provision of infrastructures will encourage private sector investments as establishment costs will reduce, other scholars view government spending as an avenue that has the tendency to slow down the rate of activities as increased capital spending will encourage borrowings which will lead to increase in interest payments and further taxation on the masses. Government expenditure is an important instrument that plays an important role in the functionality of an economy whether developed or underdeveloped. It is borne out of revenue allocation which refers to the redistribution of fiscal capacity between the various levels of government.

Statement of the problem

The continuous increase in the cost of government expenditure cannot be appreciated in relation to the economic improvement of the country. This is so because even though there is an increase in the budgeted cost for expenditures, there has been no observed corresponding increase in the nation's welfare, the infrastructures in the country are not of good standards, the welfare of the citizens have not well been improved. These could be due to mismanagement and misappropriation of funds. The country still suffer poor roads, epileptic power supply, poor educational standards, collapse of industries and abandonment of many elephant projects, based on these observations, it is necessary to look into the impact of government expenditures, in the nation's economic welfare.

Objectives of the study

The general objective of this study is to examine the impact of government expenditure on economic growth.

The specific objectives are;

- i) To ascertain the relationship between total government expenditure on administration and the economic growth in Nigeria.
- ii) To find out if there is a significant relationship between government expenditure on economic service and Nigerian economic growth.
- iii) To examine the impact of government expenditure on social and community service and Nigeria economic growth.
- iv) To examine the effect of government expenditure on transfer and the growth of Nigerian economy.

Theoretical framework

This section highlights some basic theories that have been used to support the effects of public expenditure on economic growth, such theories amongst others are:

i) The Wagner's law of increasing state activities

Wagner's law is a principle named after the German economist Adolph Wagner (1835-1977). He postulated "law of increasing state activities, he stated that, as the economy develops over time the activities of the government increases, that the growth of a government is based on the industrialization and economic development. As a nation becomes industrialized social commercial and legal relationships within it becomes more complex and the government will be expected to set up running institutions and control this complexity, this will lead to government increase in expenditure budget, in defence, security, education etc. by analyzing trends in the growth of public expenditure and in the size of public sector. Wagner's law postulates that;

- i) The extension of the functions of the states leads to an increase in public expenditure on administration and regulation of the economy;
- ii) The rise in public expenditure will be more than proportionate to the increase in the national income;
- iii) He established the functional relationship between government activities and the growth of Nigerian economy;

- iv) As the economy's per capita income grows, the public expenditure grows also in relative size while the relative size of government will also grow along;
- v) The growth of the economy is the fundamental factor that determines the growth of the public sector.

ii) Musgrave theory

This theory was propounded by Dr. R. A. 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 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.

iii) The Keynesian theory

The Keynesian theory propounded by John Maynard Keynes regards public expenditures as an exogenous factor which can be utilized as a policy instrument that promotes 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.

Empirical studies

A critical examination was carried out by Diamond (1990) to establish the relationship that existed between public expenditure and the growth of the Nigerian economy from 1970 to 2009. A disaggregated public expenditure level was employed using Gregory-Hensen structural breaks co-integration and error correction techniques. The long run elasticity results showed that economic growth does not translate to growth in recurrent expenditures. In contrast, economic growth leads to growth in capital expenditure as well as in social and community service. The result of this study confirms the existence of Wagner's law in Nigeria.

Al-Yousif (2000) examined government spending on education and its impact on the growth of the Nigerian economy from 1977 to 2012 using disaggregated and sectoral analysis on expenditure. From the result, total expenditure on education and the growth of the Nigeria economy had a high positive and statistically significant relationship on the long run.

Aighokhan (2013) investigated the relationship between public spending and economic growth from 1950-1980 for about 116 nations. He employed both time series and cross sectional analysis and revealed that the growth of the economy is being influenced by government expenditure.

The study of Piana (2001) seeks to express the existing relationship between government composition and the growth level of the certain developing countries, a negative and significant linkage was observed between capital expenditure and per capita GDP real growth rate. Also, Ogigio (1995) investigated the linkage between government capital, recurrent and sectorial expenditures and the growth of Nigeria economy and submitted that there existed a positive effect among the variables. Longe (1984) carried out an empirical examination on how government spending relates with the growth of the Nigerian economy. From this econometric analysis, it was found that there existed a positive and significant effect on real output by government spending and further proved that recurrent government expenditure has little impact on real output.

Helms (1988) in his study engaged a disaggregated method of ascertaining the components of government spending that do influence growth. These components included expenditure on transfers, economic services, capital, social and community services, administrative and recurrent. He concluded in his study by suggesting that, there was no linkage between government spending components and the growth of the Nigerian economy.

Olugbenga and Owoeye in their study of the relationship between government expenditure and economic growth in a group of 30 OECD countries, between, 1970-2005, used a regression analysis and came up with a conclusion that there is a long run relationship between government expenditure and economic growth.

From the analysis of empirical literatures, there exists a different view as to the effect of government expenditure on economic growth. While some are of the opinion that there exists a

positive relationship, other scholars using different econometric techniques have come up with the opinion that there is no positive relationship between these variables.

Composition of government expenditure

Stern (1990), Eshag (1984) and Due (1968) carefully examined how the various components of public expenditure impacts on development. Again, the distinction between short and long run expenditure effects on development becomes necessary. Positive expenditure according to them was expected to impact the growth of the GDP directly since it entails direct productive activity, such as spending on industry, agriculture and various economic services. This is expected for growth to be positively influenced in the short run, because five years is expected to be sufficient for industrial and agricultural projects.

Social expenditure on the other hand involves expenses on education, housing and health. Human capacity investment contributes to the productive capacity enlargement via labour force quality improvement. It is hardly necessary to undermine the importance of the growth and development of a trained, educated and healthy labour force. Hence, social activities expenditure is expected to impact development positively via the most apparently long term relative effect. However, social spending on the short run may possibly reveal negative relationship in the growth. If government resources are employed for hospital and school building, it is likely not to be beneficial in the short run. Hence, in order to ensure adequate derivation of maximum economic benefit from social expenditure, it is of essence that training and educational policies being adopted should be considered for the country's economic and social requirements. Stern (1990), Eshag (1984) and Due (1968).

Infrastructural expenditure such as on transportation, electricity, road, irrigation, etc are productive. If these things are not adequately put in place, a substantial low productivity would set in as a result of the poor utilization of capital. Expenditure on infrastructure will make available a better investment related environment. Stern (1990) maintained that, most developing countries with low or absence of constant supply of power, poor road system, and poor telecommunication system will likely underutilized capital. As such, the effectiveness of infrastructure is essential when the critical level of provision has been made.

Ekpo (1993) revealed from his study of the public expenditure contribution to the growth of the Nigerian economy that, growth led by fiscal policy would crowd-in private investment as a result of public infrastructural expenditure. Murudeen and Usman (2010) in their opinion assessed the effect of public expenditure on the growth of the Nigerian economy and showed that, total recurrent expenditure, total capital expenditure and educational expenditure affected the growth of the Nigerian economy negatively while expenditure on communication, health and transportation would enhance growth.

Dauda (2010) also investigated how educational investment affects the Nigerian economy using thirty-one years period from 1977 to 2007. The result shows a significant and positive effect of expenditure on education on the growth of the Nigerian economy. Before the Barrow (1990) proposed endogenous growth theory, the relationship between the growth of the economy and public expenditure was predicted to be significantly non-existent. With reference to the Solow growth model in 1956, it revealed that government spending was the only link to equilibrium factor ratios and public investment was assumed to be unrelated to the growth of the economy in the long run according to the neoclassical assumptions.

Theoretical propositions on the relationship that exists between government expenditure composition and the growth of the economy differs ultimately in theories from other empirical investigation. According to Landau (1983), the vast empirical study primarily lies on the endogenous model hypothesis that resulted in public expenditure categorization into consumption and production items. The public production expenditure is expected to correlate positively with the growth of the economy while public consumption expenditure is expected to correlate negatively with growth.

Devarajan, Swaroop and Heng-fu-Zou (1996) proposed the theoretical model that is most comprehensive on the conditions by which the changes in public expenditure composition would drive a stable high growth rate of the economy. Their findings concluded that expenditure on production is assumed generally to become unproductive if excessive amount is allocated. However,

Musgrave (1997) opined that, there is no study to support the decomposition of public expenditure into unproductive and productive expenditure. The negative effect of the failures in the market operations is meant to be correlated by government. However, if the allocation of public expenditure is carried out without due consideration on the country's urgent needs, it may bring about economic distortions that is capable of retarding growth.

Classification of public expenditure

Bhatia (2008) opined that public expenditure is the incurred costs of the government for its maintenance; economy and society; and assisting other nations. Public expenditure refers broadly to expenditure made by local, state and national government agencies as distinct from those of private individuals.

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 departmental classification or classification according to heads of expenditure. Such a classification is good for auditing and for safeguarding against misappropriation 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.

According to Gerson (1998), government expenditure has been classified by economists accordingly:

1. Current expenditure of government on goods and services as government consumption.
2. Government infrastructural investment as government investment
3. Payments for debt services are classified as transfer's payment.

The classification of expenditure involves the division of government transaction into categories that would serve the purposes of government. Anyafo (1990) identifies five ways of classifying public expenditures; by levels of government, by ministries, extra-ministerial departments and parastatals, by economic lifespan, by object of expenditure and by sectoral economic functions. Public expenditures a functionally classified into transfers, social and community services, and economic services with recurrent and capital composition. Expenditure on administration deals with expenditure on internal security and defence, National Assembly and general administration.

Expenditure on economic services includes transpiration, agriculture, communication, construction and others. Expenditure on social and community services is made up of health, education and others. Expenditure on transfers includes external and internal debts, and charges on public debts. Such a functional classification helps in analyzing how much the government is allocating to different functions or purposes in accordance with the annual priorities (Ukwu, 2002).

Infrastructural expenditure has to do with funds disbursed for various constructive projects in the economy such as irrigation, ports, roads, water supply, airports and other capital investments which will be beneficial to the economy. Infrastructure expenditures are referred generally in the national budget as capital outlays of the ministries (Anyafo, 1996). Absorptive expenditure deals with government funds to the private sector for goods and services whereas payment on transfers do not have such quo pro status. In the Nigerian context transfer payments include debt service, pension and gratuities, external obligations and others; absorptive expenditures are those on administration, economic, social and community services. Partington (1989) opines that the popular classification comprises of recurrent and capital expenditures.

For proper economic understanding of the probable impact of public expenditures on the development process, it is necessary to classify public expenditure in some meaningful way. And since there are varieties of classification system, the most suitable for an analyst would depend on the objectives to be achieved. Aschauer (1989) further recognize classification of public expenditures in the context of productive and protective expenditures. Productive expenditure comprises economic services and social community services, while protective expenditures include administration and transfers.

According to Devaraja (1996), Swaroop (1996) noted the productive and unproductive public expenditures when they opined that, if excess productive expenditure is engaged it will become unproductive. Their findings suggested that there has been huge misallocation of capital expenditure

at the expense of what is allocated for recurrent expenditure. Productive and unproductive expenditures emphasize that while some expenditures are in the nature of consumption, others are in the nature of investments and help the economy in improving its productivity capacity.

Bhatia (2008) submits that under the laissez-faire philosophy, the only productive public expenditures are those which are incurred to create and maintain social overheads. Expenditure on administration, state maintenance, justice, defence, and law/order are unproductive (protective). It must be noted, however, that those protective expenditures would be really necessary for the productive efficiency of the economy.

Reel and Westerhout (2003) analytically viewed public expenditure classification in two main categories. Category one comprises of expenditure on consumption which is beneficial in the period of the expenses. The second category is investment which includes all items of public expenditure that are beneficial in the future. Expenditure on investment includes:

- i. Investments without financial returns but rather enhancing improved life quality in the future.
- ii. It must guarantee financial returns generation and increased revenue for the government in the future.

They seek to have the productive capacity strengthened and broader economic revenue base. The expenditure in itself has no effect on budget surpluses in the future. This is because productivity and wages would be increased via these investments. Reel and Westerhout (2003) opined that, both revenue and expenditure would also be increase via these investments.

Pigon (1989) opines that a distinction between obligatory (legally committed expenditure) and optional expenditure can only highlight the constraints under which the government's budgetary policy has to work. It cannot bring out fully the possible effects of different expenditure policies. There is an increasing need for useful classification and effective classification of public expenditure to enable the analysis of the economic effects and proper formulation of policies (Ashauer & Green Mood, 1985).

Administration expenditure comprises of general administration, national assembly, defence and internal security. Economic services include agriculture, construction, transport and communication and others; social and community services is made up of education, health and others transfer comprises of public debt charges, internal and external debts. Such functional classifications help in analyzing how much the government are allocating different functions or purposes in accordance with the annual priorities (Ukwu, 2002).

According to Omony (1988), an alternative characterization of expenditure divides total expenditure into the absorptive and transfers expenditure. Absorptive expenditure is those that involve the transfer of funds from government to the private sector in return for goods and services while transfer payments do not have such quid, pro quo status. In the Nigerian context transfer payments include debt service, pension and gratuities, external obligations and others; absorptive expenditures are those on administration, economic, social and community services. Partington (1989) opined that the popular classification comprises of recurrent and capital expenditures, and as far back as 1906, Ely and Wicker (1909) lend support to classification of public expenditure. They include:

- (i) Expenditure to provide protective functions for the state, especially on external security, internal security and social security expenditure.
- (ii) Expenditures for fulfilling the commercial functions.
- (iii) Expenditure for fulfilling the developmental function (i.e education) and
- (iv) Expenditures for maintenance of government.

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According to Reel and Westerhout (2003), the last category of investment is such that do not have expenditure increased but having the future balances of government budget improved. They include; investment that seek to have labour participation promoted; and generating financial returns directly from government facilities' users. Again, the classifications of the expenditure of government by Pigou (1989) were transfer expenditure and non-transfer expenditure. Transfer expenditure is payment without corresponding receipt by the state for goods and services. Examples are interest rate on pension and unemployment benefits. In these cases, the government is simply transferring the right or claim to use, the goods and services to certain sections of the society. In contrast, non-transfer expenditure is that by which the state pays for its purchases or use of goods and services. The use of resources by the state may be for consumption purposes or for investment purposes. Expenditure on defence and education are non-transfer or real expenditure (Dalton, 1954).

Sectors of public expenditure

Health sector

The revenue allocated to the (health sector in 1986 was N132.02 million) and it represents 1.6 percent of the annual budget while in 2008, N98,200 million represents 35.8 percent of the huge annual budget; this shows that despite the huge amount of money allocated to this sector, economic growth cannot be seen to have increased in the same proportion with government expenditure.

Going back to the literature as stated by Anyanwu (1997), the distribution, stabilization and allocation of resources is done via public expenditure. To him, the function of allocation is vital in order to provide both social goods and private in appropriate mix in the resources available. He also quoted that, public expenditure functions is high employment maintenance, acceptable level of price stability, and reasonable economic growth rate with effective balance of payment position. In other words, stabilization function is concerned with a per capita income growth rate that is satisfactory over a reasonable period of time.

Therefore, if the thrust of government expenditure is to achieve this as stated above; it becomes clear that, the aim is defeated because, such huge amounts especially in 2008 that represents 35.8 percent of the annual budget was either mismanaged, misappropriate or sunk into private pocket and most annoying may be dumped in a domiciliary account. Today, Nigerians still travel outside the country for medical treatment and those who cannot afford such bills, either die or depend on miracle for survival.

The expenditure of government on health is also meant to shape the cause of development which influences wealth and income distribution in the economy and with effect on consumers and producers behavior.

Education sector

In 1996 to be specific, recurrent expenditure exceeded the budgeted amount by N2billion (3 percent) while capital expenditure exceeded the budgeted amount by N3 billion (6 percent) (Anyanwu, 1997). This means that in 1996 many capital projects suffered, while many were not embarked upon existing or on-going educational projects were starved of funds. By implication, education which is not just being regarded as patent means of human development and stabilization but as an avenue for increase quality and self-actualization in the society by facilitating increase in the distribution of income traditional classes, availability of talent pool and equality in the society, it also enhances individual, group freedom and security (Aminu, 1989).

It is clearly manifested that government expenditure on education has continued to lack behind. Note that, the growth rates showed that the most consistent thing about the sector is inconsistency of improvement in the budgetary allocation. In 1988, it stood at 548.3 percent, 1990,

it went down to -20.2 percent and in 1996, it was 18 percent, 1998, it also dropped to -8.7 percent. Although in 2007 and 2008 it shows a remarkable improvement. But students have no lecture venue, dilapidated classrooms and in rural areas pupils receiving lesson under trees. A sector that its goal is bastardized to this point can never bring remarkable economic growth. Therefore, expenditure in educational sector is anti-economic growth and it does not qualify economic growth, for instance strike action in universities.

By implication, nations that neglect an effect formation of human capital are at its own peril. A formed educational system is judged as a vital mechanism for advancing and building human attitudes, skills and knowledge that contributes to economy growth of a country that is measured with Gross Domestic Product (GDP).

Defence sector

It has been observed that, the core thrust of government is to protect lives and property and defend her people from external sources of insecurity from the borders. The defence sector (security) usually receives more funds because of its importance. To be precise in 2008, the sector received N647,162.30m which represents 844.9 percent of the government expenditure for that year. With this huge budgetary allocation to defence, we are still facing with insecurity problems, theft, assassination and robbery etc. The budgetary allocation to the defence sector has no meaningful improvement on both economic growth and development. In view of that statement, one may ask; when lives are protected, how can people cultivate habit of improving economy growth?

Expenditure on defense has been experiencing high rate in absolute term for instance, from N4,206.07 million in 1994 to N649,126.30 million in 2008. While it represents 844.9 percent growth rates in 2006, and in 2007-26.2 percent. However, as a percentage of GDP defence expenditure fell from 56.9 percent in 1995 to 18.3 percent in 1999. Irrespective of the fall and rise in the budgetary allocation for defence, the aim has not been achieved.

Agricultural sector

The agricultural sector of developing countries plays a major part in the economy's physiology of the economy: but more importantly, the sector is required to critically facilitate the pattern and pace of the country's development. The paramount role of the agricultural sector relates to its dominant role in employment generation and share of GDP. In Nigeria, the sector currently accounts for 47 percent of gainful employment and 41 percent of the share of GDP, these figures being much higher in the 60s and early 70s prior to the oil boom. However, these current figures are appreciated as immensely high when compared with those of developed countries.

Expenditures on Agriculture was high in 1999 to the tune of ₦59,316.17m and represents 1951.3 percent after which it reduced drastically in 2000 to ₦6,335.78 and represents -89.3 percent. It continued to increase at a very slow rate until 2008, when it increased tremendously to ₦65,400.0 million at the growth rate of 208.5 percent. Hence, this decline clearly shows that the agricultural sector has been neglected and less concern is attributed to its maintenance despite the growing population. Government spends more on this sector by making it available to peasant farmers and mechanized farmers equipment and machines, loans, fertilizers and to boost economic growth of the country rather than encourage the importation of food from other countries.

Transports and communication sector

Transports and communication sector is very important for the growth and development of every economy. The movement of people, goods resources and farm products from place to place for efficient and timely supplies and exchange depends on effective communication and good transport network. But the government has not given due attention. From 1991 expenditure was low to the level of N238.8 which represented -17.1 percent growth after which, it increased steadily until 2001 when it records N33,933.40 million which represented 1018.2 percent growth rates. Consequently, in 2004 it recorded a decline to N8,071.88 which represented -64.4 percent. This therefore reveals that government expenditures in this sector have not appreciated as much as it ought to, due to the rise and fall of revenue allotted to it. Government should consider the importance of this sector, make available funds and supervision to ensure that funds are not mismanaged, diverted or misappropriated.

Research design

Based on the existing theoretical and empirical literature, this study adopts ex-post-facto design as a plan or guide to research questions. It is ex-post-facto because facts exist. This type of design is used to investigate the analysis of government expenditure on the growth of Nigeria economy.

Sources of data collection

Secondary sources of data were employed in this study. In line with the main focus in this study, the data involve on examination of already existing data such as CBN statistical bulletin.

Method of data collection

Desk survey method was used to gather relevant information from published materials, articles, libraries, journals etc. This study employs capital expenditure, recurrent expenditure and gross domestic product. The time series data for the period 1986-2014 on the amount of federal government expenditure on recurrent and capital expenditure.

Techniques of data analysis

Ordinary least square of multiple regression statistical technique was employed in establishing the relationship between dependent and independent variables.

Model specification

In order to ascertain the impact of government expenditure, the following model is shown in line with Wagner framework.

$$GDP = (ADM, ECS, SCS, TR)$$

Where:

GDP	=	Gross domestic product
ADM	=	Expenditure on administration
ECS	=	Expenditure on economic services
SCS	=	Social and community service
TR	=	Transfer

$$GDP = b_0 + b_1ADM + b_2ECS + b_3SCS + b_4TR + e$$

Where:

GDP	=	Dependent variable
ADM, ECS, SCS, TR	=	Independent variables
b_0	=	Regression constant
b_1 - b_4	=	Regression parameters
e	=	Stochastic error

Presentation of data

TABLE 4.1: Economic and government expenditure parameters for the study

YEAR	GDP	SCS	ADM	ECS	TR
1986	67,908.55	1,614.75	1,889.80	1,167.28	8,369.27
1987	69,146.99	1,123.48	1,717.74	1,378.85	12,003.63
1988	105,222.84	916.63	5,659.28	2,854.36	12,588.44
1989	139,085.30	3,840.20	7,676.40	3,349.90	12,883.00

1990	216,797.54	6,074.90	8,888.00	5,345.30	20,720.10
1991	267,549.99	5,492.00	9,460.10	5,099.40	40,216.70
1992	312,139.74	4,168.60	10,298.80	4,448.40	47,668.60
1993	532,613.83	3,468.75	13,803.01	5,416.81	70,108.84
1994	683,869.79	18,235.12	38,651.87	26,094.56	108,247.35
1995	899,863.22	15,079.82	29,320.74	31,012.67	85,479.97
1996	1,933,211.55	23,036.40	42,095.70	49,067.10	134,568.90
1997	2,702,719.13	24,645.38	61,410.88	122,582.06	128,779.27
1998	2,801,972.58	28,962.13	105,733.35	175,813.50	117,706.23
1999	2,708,430.86	44,807.03	85,949.19	212,436.62	143,920.57
2000	3,194,014.97	88,624.70	226,374.51	410,657.52	222,033.26
2001	4,582,127.29	112,750.25	197,809.61	140,100.53	250,390.51
2002	4,725,086.00	132,966.41	230,055.85	312,766.25	342,207.99
2003	6,912,381.25	184,652.68	340,087.16	268,284.84	225,153.41
2004	8,487,031.57	158,343.58	395,932.21	194,052.83	477,659.67
2005	11,411,066.91	164,423.18	444,533.31	226,503.53	626,433.57
2006	14,572,239.12	223,007.75	606,245.93	329,343.21	682,103.10
2007	18,564,594.73	272,850.40	707,422.44	341,894.45	620,320.41
2008	20,657,317.66	407,568.96	853,332.99	537,447.56	550,201.50
2009	24,296,329.29	485,100.62	1,018,126.38	818,038.10	756,987.00
2010	24,794,238.66	474,929.97	1,139,683.03	820,200.64	845,954.36
2011	29,205,782.96	698,339.84	1,531,649.30	825,241.28	938,018.08
2012	37,543,654.70	712,655.53	1,691,623.69	698,691.38	1,172,173.49
2013	40,544,099.94	737,500.00	1,392,000.00	551,140.00	1,411,500.00
2014	42,396,765.71	998,774.06	1,395,472.96	796,999.67	1,606,219.92
2015	48,979,302.90	1,078,824.11	2,093,846.82	923,847.34	2,193,764.17

Source: Central Bank of Nigeria Statistical Bulletin, 2015.

Table 4.2: Excerpts of the regression result of the model

Variables	Coefficients
C	1.9702
LADM	0.4044
LECS	0.1008
LSCS	0.0939
LTR	0.4995

$$R^2 = 0.9909 \quad R^2(\text{Adj.}) = 0.9895 \quad F\text{-Stat} = 683.2390 \quad \text{Prob.} = 0.0000 \quad DW = 1.67$$

Source: E-views 9.5 statistical/econometric software

Analysis of regression results

The results of the regression of various expressions of the impact of government expenditure on the economic growth in Nigeria are presented and discussed below. The estimation technique has been ordinary least squares (OLS) multiple regression method. In table 4.2, we regressed in log both the dependent and independent variables and the following facts emerged. From the regression result for our model, the interpretation of the result in table 4.2 as regard the coefficient of various repressors is stated as follows:

The value of the intercept which is 1.9702, it shows that the economic growth in Nigeria will experience a 1.9702 increase when all other variables are held constant. The estimate coefficients which are 0.4044 {LADM} shows that a unit change in LADM will cause a 40.44 per cent increase in LGDP, 0.1008 {LECS} shows that a unit change in LECS will cause a 10.08 per cent increase in LGDP, 0.0939 {LSCS} shows that a unit change in LSCS will cause a 9.39 per cent increase in LGDP and 0.4995 {LTR} shows that a unit change in LTR will cause a 49.95 per cent increase in LGDP.

The test result further revealed the sign of individual coefficient. The test is aimed at determining whether the signs and sizes of the results are in line with what economic theory postulates. Therefore, the variables under consideration and their parameter exhibition of *a priori* signs have been summarized in the table below. From the result in table 4.2 below, it is observed that the signs of all parameters actually conform to the economic theories. A positive relationship which exists between LADM, LECS, LSCS, LTR and LGDP indicates that an increase in either of LADM, LECS, LSCS and/or LTR will result in a positive change in the economic growth in Nigeria (LGDP) from our analysis. This conforms to the *a priori* criteria because an increased or high LADM, LECS, LSCS and LTR over the years will increase LGDP in Nigeria as a consequence.

The R² {R-Squared} which measures the overall goodness of fit of the entire regression, shows the value as 0.9909 = 99.09 per cent approximately 99 per cent. This indicates that the independent variables accounts for about 99 per cent of the variation in the dependent variable. However, the adjusted R² which is a compensation for the losses in degree of freedom as a result of the large sample size is 0.9895 = 98.95 per cent while the stochastic error term accounted for about 1.11 per cent.

The t-statistics is used to test for individual significance of the estimated parameters {b1, b2, b3, and b4}. From the table above, we can deduce that LADM {3.6642} and LTR {3.9611} are greater than 2.056 which represent the t-tabulated implying that LADM and LTR are statistically significant. On the other hand, it shows that, LECS {1.2676} and LSCS {0.7505} are less than the t-tabulated {2.056} signifying that LECS and LSCS are statistically insignificant.

From the result in table 4.2, f-calculated {683.2390} is greater than the f-tabulated {2.56}, that is, f-cal > f-tab. Hence, we reject the null hypothesis {H0} that the overall estimate has a good fit which implies that our independent variables are simultaneously significant.

The test for the existence of autocorrelation was performed using Durbin-Watson statistics. The test result indicates the strong existence of no autocorrelation in the model, since the calculated DW is 1.67. This is judged as a good fit, hence, the model is meaningful and implies that there is the absence of serial correlation.

TABLE 4.3: Summarized t-test result our model

The t-test is summarised in the below:		t-tab	Remark
Variables	{t-value}		
LADM	{3.6642}	± 2.056	Significant
LECS	{1.2676}	± 2.056	Insignificant
LSCS	{0.7505}	± 2.056	Insignificant

LTR	{3.9611}	± 2.056	Significant
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Source: Researcher's computation from E-views 9.5

Test of hypotheses

The hypotheses of the study were tested using the student's t-statistical test. The test is carried out to check for the individual significance of the variables. Statistically, the t-statistics of the variables under consideration is interpreted based on the following statement of hypothesis.

H₀: The individual parameter is not significant.

H₁: The individual parameter is significant.

Decision Rule:

If t-calculated > t-tabulated, we reject the null hypothesis {H₀} and accept the alternative hypothesis {H₁}, and if otherwise, we accept the null hypothesis {H₀} and reject the alternative hypothesis {H₁}.

Level of significance = α at 5 per cent

Degree of freedom: n-k

Where n: sample size.

K: Number of parameter.

The t-statistics is used to test for individual significance of the estimated parameters {b₁, b₂, b₃ and b₄}.

Test of hypothesis one

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: there is no significant relationship between government expenditure on administration and economic growth in Nigeria.

H₁: there is a significant relationship between government expenditure on administration and economic growth in Nigeria.

The decision rule is as follows:

If t-calculated is found to be greater than t-tabulated (t-cal > t-tab), we reject the null hypothesis {H₀} and accept the alternative hypothesis {H₁}, and if otherwise, we select the null hypothesis {H₀} and reject the alternative hypothesis {H₁}.

The t-statistics is used to test for individual significance of the estimated parameter {b₁}. From the table 4.3, we can deduce that LADM {3.6642} is greater than 2.056 {going by absolute values} which represent the t-tabulated implying that LADM is statistically significant.

Hence, we accepted the alternative hypothesis of the study and concluded that:

There is a significant relationship between government expenditure on administration and economic growth in Nigeria.

The implication here is that, the impact of government expenditure on administration in determining economic growth in Nigeria is statistically significant. This implies that the degree of government expenditure on administration was capable of boosting a significant growth in Nigerian economy.

Test of hypothesis two

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: there is no significant relationship between government expenditure on economic service and economic growth in Nigeria.

H₁: there is a significant relationship between government expenditure on economic service and economic growth in Nigeria.

The decision rule is as follows:

If t-calculated is found to be greater than t-tabulated (t-cal > t-tab), we reject the null hypothesis {H₀} and accept the alternative hypothesis {H₁}, and if otherwise, we select the null hypothesis {H₀} and reject the alternative hypothesis {H₁}.

The t-statistics is used to test for individual significance of the estimated parameter {b₂}. From the table 4.3, we can deduce that LECS {1.2676} is less than 2.056 {going by absolute values} which represent the t-tabulated implying that LECS is statistically insignificant.

Hence, we accepted the null hypothesis of the study and concluded that:

There is no significant relationship between government expenditure on economic service and economic growth in Nigeria. The implication here is that, the impact of government expenditure on economic service in determining economic growth in Nigeria is statistically insignificant. This implies that the degree of government expenditure on economic service was incapable of boosting a significant growth in Nigerian economy.

Test of hypothesis three

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: there is no significant relationship between government expenditure on social and community service and economic growth in Nigeria.

H₁: there is a significant relationship between government expenditure on social and community service and economic growth in Nigeria.

The decision rule is as follows:

If t-calculated is found to be greater than t-tabulated ($t_{cal} > t_{tab}$), we reject the null hypothesis $\{H_0\}$ and accept the alternative hypothesis $\{H_1\}$, and if otherwise, we select the null hypothesis $\{H_0\}$ and reject the alternative hypothesis $\{H_1\}$.

The t-statistics is used to test for individual significance of the estimated parameter $\{b_3\}$. From the table 4.3, we can deduce that LSCS $\{0.7505\}$ is less than 2.056 {going by absolute values} which represent the t-tabulated implying that LSCS is statistically insignificant.

Hence, we accepted the null hypothesis of the study and concluded that:

There is a significant relationship between government expenditure on social and community service and economic growth in Nigeria. The implication here is that, the impact of government expenditure on social and community service in determining economic growth in Nigeria is statistically insignificant. This implies that the degree of government expenditure on social and community service was incapable of boosting a significant growth in Nigerian economy.

Test of hypothesis four

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: there is no significant relationship between government expenditure on transfers and economic growth in Nigeria.

H₁: there is a significant relationship between government expenditure on transfers and economic growth in Nigeria.

The decision rule is as follows:

If t-calculated is found to be greater than t-tabulated ($t_{cal} > t_{tab}$), we reject the null hypothesis $\{H_0\}$ and accept the alternative hypothesis $\{H_1\}$, and if otherwise, we select the null hypothesis $\{H_0\}$ and reject the alternative hypothesis $\{H_1\}$.

The t-statistics is used to test for individual significance of the estimated parameter $\{b_4\}$. From the table 4.3, we can deduce that LTR $\{3.9611\}$ is greater than 2.056 {going by absolute values} which represent the t-tabulated implying that LTR is statistically significant.

Hence, we accepted the alternative hypothesis of the study and concluded that:

There is a significant relationship between government expenditure on transfers and economic growth in Nigeria. The implication here is that, the impact of government expenditure on transfers in determining economic growth in Nigeria is statistically significant. This implies that the degree of government expenditure on transfers was capable of boosting a significant growth in Nigerian economy.

Discussion of findings

This study was an attempt to empirically analyse the impact of government expenditure on the economic growth in Nigeria. In order to achieve the stated objectives and hypotheses, the study employed OLS multiple regression empirical tests and submitted the following findings.

The ordinary least squares estimation R-square is 0.9909 indicating that about 99.09 per cent of changes in economic growth in Nigeria (GDP) are caused by government expenditure variables (ADM, ECS, SCS, TR). The model is free from serial correlation, heteroscedasticity and problem of normality.

Further analysis of the OLS test estimates showed that, changes in government expenditure on administration have a significant impact on the economic growth in Nigeria. This finding does

not form to the works of Abu (2010) and Abdullahi (2003) who propounded that capital government expenditure and recurrent government expenditure influence the growth of the Nigeria economy negatively.

The result also revealed that changes in government expenditure on economic service have a positive but insignificant impact on the economic growth in Nigeria and is found to be in contrast with theoretical expectations.

Further investigation of the results showed that changes in government expenditure on social and community service have a positive but insignificant impact on the economic growth in Nigeria and is found to be in contrast with theoretical expectations. This is so because government investment in social services such as education, health, water resources, sanitation and other community development projects do require a fairly long gestation period before the projects are completed and for their effects to be felt. Thus, there is time lag between the commencement of the project and the completion period.

Finally, further findings showed that changes in government expenditure on transfers have a positive and a significant impact on the economic growth in Nigeria and is found to be in conformity with theoretical expectations. This finding does not agree with the works of Oyinlola (2013) who supported that government expenditure on transfers does not translate to GDP growth.

Summary of findings

The main thrust of this study was to empirically analyse the impact of government expenditure on economic growth in Nigeria. In order to achieve the objectives of this study, it employed the OLS multiple regression test. From the results of this analyse, the following findings are summarized:

The findings from the OLS test showed that, the overall level of economic growth in Nigeria will experience 1.9702 increases when all other variables are held constant. The hypotheses in this study were tested using the student's t-test statistics in testing the individual significance of each variable as specified in hypothesis one to four. The study showed not all null hypotheses were rejected at five per cent level of significance. On the whole, the findings from this study agree and also disagree with certain economic expectations and findings from different authors as the case may be. Generally, the overall fitness of the model has a good fit as shown by the high level of f-statistics test (683.2390) and summarized that, government expenditure impacted significantly on the economic growth in Nigeria.

5.2 Conclusion

This study set out to empirically analyse the impact of government expenditure on economic growth in Nigeria using annual data from 1986 to 2014 period. It is well known that government expenditure variables have exerted significant impacts on the economic growth in Nigeria. This is the motivation for the current study. Given the pattern of the relationships, a dynamic framework was devised for the study.

Hence, both statistical and econometric techniques were used for the analysis. Moreover, the study argued that it is government expenditure variables that affect the economic growth in Nigeria. Thus, the OLS test revealed that government expenditure variables (ADM, ECS, SCS, TR) are not jointly co-integrated with the dependent variable, GDP, hence, its suitability. In effect, the results lend empirical support to the fact that the government expenditure in Nigeria interact in a manner that is simultaneously consistent with the predictions of the fiscal policy fundamentals theories.

5.3 Recommendations

The following measures are recommended based on the findings from this study:

1. It is therefore recommended that expenditure policy on administration especially recurrent expenditure should be drastically reduced in a manner that capital expenditure can take the centre stage.
2. Moreso, for a significant growth, the focus of the policy of government regarding expenditure on economic services should be on measures to promote growth in the business infrastructures through sustained effort to stimulate productivity in both the public and private sectors.

3. The government should ensure that expenditure on social and community service especially education, health, water resources, sanitation and other community development projects are put in place in order to boost the economy as a whole.
4. Finally, large spending on debt servicing and little spending on other transfers such as pensions, gratuities, bursary, grants, etc which led to aggregate national income less than debt servicing should be drastically reduced.

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