

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The societies we are privilege to enjoy today unarguably depend on the reality of constituted authorities – governments. Without that, provision of public goods such as national defence, education, health, transport and communication, police and fire protection among others owing to market failure would be practically complicated. As such, the conduit to assuaging the needs of the citizens by governments is to embark on expenditure through allocation of funds to various sectors of the economy. Rhetorically and sedulously trusting the assertion of Mohammadi, Maleki and Gashti (2012), economists know that health and education are the most important tasks of governments as their inherent duties and also they believe that the governmental intervention in the area of market failure and economic balance is necessary. Heedlessly, for Iheanacho (2016), monetary economists trust on the functions of public sector expenditure as an instrument which the government can apply to resolve some economic problems such as reduction in inequality, inflation, fall in exchange rate, unemployment, dwindling oil price and the desire to restore the economy on the part of full employment, price stability, balance of payment equilibrium and above all, increase in economic growth. Grossman (1988) and Dalamagas (2000) as cited in Hamzah (2011) emphasised that government can facilitate economic growth through provider for defence, social security, judiciary, property rights, regulations, infrastructure development, workforce productivity, community services, economic infrastructure, regulation of externalities, and pleasure marketplace. The standard of living of people in economies that consistently experience economic growth is preferred to economies with volatility in growth rate consequent to coherent progress in basic infrastructures and development in human capital.

The nexus between government expenditure and economic growth has received considerable attention in recent years, especially for developing countries owing to the relevancy of government expenditure in accelerating growth and development, and the liquidity challenges befalling developing economies being a resultant effect of underdeveloped nature of the financial system. The expenditure pattern of the government tends to determine the pace of growth and development a country can attain at any point in time. Government expenditure on critical areas such as real sector, health, infrastructures and education among others will cause upsurge in a country's aggregate productive capacity. Nwakoby, Okaro and Ananwude (2016) note that government expenditure in agriculture would in the long run improve the foreign exchange earnings from non-oil exports. If it is incurred to improved education and healthcare, productivity and employment is enhanced, while wasteful spending such as excessive government expenditure on official travels and conferences might not contribute much to economic growth and development (Lwanga & Maweje, 2014), hence governments are faced with the task of appropriately allocating expenditure to different segments of the economy to sustain growth. Tamoya (2011) vividly stated that decision makers risk doing more harm than good to their economies over the long-run if the appropriate level and composition of government expenditure is not maintained. However, the sources of fund to financing government expenditure should not be ignored too as this would also affect growth. Government relying substantially on tax from citizens' income to finance expenditure may deter the culture of savings which ultimately affects investments, shifting to fiscal deficit results in higher debt burden and crowding out of private investments.

Theoretically, promoting economic growth and development through government expenditure is mainly viewed from two distinctive perspectives. The first

is the Keynesian and endogenous theories proponents which posited that planned sectorial government expenditure is a veritable tool to achieving sustained growth. The classical together with neoclassical theories is the second aspect which according to Ocran (2009) as cited in Twumasi (2012), view governments as inherently bureaucratic and less efficient, and as a result they tend to hinder rather than facilitate economic growth. Beyond the Keynesian and Neoclassical arguments, there is also the Ricardian economists who are of the opinion that a country could experience growth and development without government expenditure. In other words, changing the consumption pattern of citizens is cumbersome notwithstanding the amount of money the government injects in the economy via expenditure. Nevertheless, the validity of these theories have been upheld and refuted in different countries of the world. Carter, Craigwell and Lowe (2013) validated the Keynesian assumption in Barbados. Koeda and Kramarenko (2008) upheld the neoclassical postulation in Azerbaijan. Arpaia and Turrini (2008) credited the hypothesis of a common long-term elasticity between cyclically-adjusted primary expenditure and potential output close to unity for fifteen (15) European Union countries.

Government expenditure in Nigeria has witnessed a tremendous rise in recent years. The Central Bank of Nigeria statistical bulletin of 2015 reveals that from 2011 to 2015, government total expenditure increased by only 5.55%. It was ₦4, 712.06 billion in 2011, ₦4, 605.39 billion in 2012, ₦5, 185.32 billion in 2013, ₦4, 587.39 billion in 2014 and ₦4, 988.86 billion in 2015. On recurrent and capital expenditure analysis, recurrent expenditure grew by 13.50% from ₦3, 314.51 billion in 2011 to ₦3, 831.95 billion in 2015, however, it is sad that capital expenditure which is supposed to increase productive economic activities declined by 12.24% from ₦918.55 billion in 2011 to ₦818.37 billion in 2015. The expenditure style of Nigeria

has shown preference to recurrent expenditure compared to capital expenditure. Recurrent expenditure constitutes an average of 73.04% of total expenditure while capital expenditure received a trifling 18.66%. Comparing the growth in total government expenditure and economic development indices via industrial development, inflation and unemployment rate, it is crystal clear that industrial production index declined from 132 points in 2011 to 120.24 points in 2015, inflation rate increasing from 10.4% to 10.6% while the level of unemployment surged to 10.4% as against 6.0% in 2011. The failure of government expenditure to propel growth and development in Nigeria remains a misery to the citizens, policy makers and those in the economic cycle. The mismatch between the performance of Nigeria's economy and massive increase in government expenditure over the years raises a critical question on its role in promoting economic growth and development (Onakoya, Somoye & Russell, 2013).

The priority of governments is to achieve a sustained economic growth which according to Mulugeta (2012), is the most important macroeconomic variable reflecting the overall performance of a society that results from producing more goods and services, which require improvement in productivity and growth in the labour supply. If government expenditure acts as a complementary effect for private investment, it is expected that an increase in government expenditure will make a growth in production and employment (Fouladi, 2010). Nonetheless, this would depend on how the expenditure is financed. In Nigeria, government expenditure are substantially financed from revenue from crude oil sales while the remaining fraction are through domestic and external borrowings. The retained revenue amounted to ₦3, 431.07 billion in 2015 while total expenditure was ₦4, 988.86 billion thus ₦1, 557.79 billion financed through borrowing. Following the Central Bank of Nigeria report of

2015, increased government expenditure has escalated the fiscal deficit from ₦47.38 billion in 2008 to ₦1557.79 in 2015. Domestic debt outstanding rose by 36.37% from ₦5, 622.84 billion in 2011 to ₦8, 837 billion in 2015 with federal government bond constituting the largest instrument of domestic borrowing. On the other hand, external debt jettied to 57.53% from ₦896.85 billion in 2011 to ₦2, 111.53 billion in 2015. For the past five years, servicing of public debt averaged 21.25% of the total government annual expenditure leading to questions by different stakeholders on the sincerity of the government in curtailing external borrowing and maintaining an expenditure style that will consistently spur development and growth in the economy.

1.2 Statement of the Problem

The National Assembly on 11th May, 2017 passed the Nigeria's 2017 Appropriation Bill of ₦7.28 trillion which by law and convention permits the execution and implementation of the government expenditure for the year 2017. Recurrent expenditure gulped 70.74% of the total expenditure while capital expenditure took 29.26%. Prior to this, government expenditure has been on the rise over the years (from ₦4.85 billion in 1981 to ₦5, 160.74 billion in 2016) without a corresponding increase in the level of development and growth, and this has been a source of worry to the citizens. Following Udoka and Anyingang (2015), it appears that either these funds are not released or they are released to finance an inappropriate expenditure item or maybe the funds are mismanaged or not duly utilized. Epileptic power supply, depleted/abandon projects, poor health and decayed/outdated educational/laboratory equipment (political elites go abroad for medication/send their children and wards for quality education), bad and fragmented road network, rising inflation, exchange rate depreciation, industries shutdown operation due to power failure, rising unemployment just to mention a few are the order of the day despite

huge government spending. This research work is motivated by two major contentious concerns in empirical literature on the linkage between government expenditure and economic growth.

At first, within the theoretical claim, Keynesian school of thoughts asserted the presence of positive linkage between government expenditure and economic growth and development, while neoclassical economists refuted this assertion and posited a negative association between government expenditure and economic growth and development. Identifying the side of these two arguments that is akin to all economies remains a puzzle among scholars as validation of either theories across the globe is still in vain. The empirical results of Hamzah (2011), Alshahrani and Alsadiq (2014) and Carter, Craigwell and Lowe (2013) report mixed results on the relationship between government expenditure and economic growth in Malaysia, Saudi Arabia and Barbados respectively. There is a conflict as Mallick (2008) and Chamorro-Narvaez (2012) argue that government expenditure has no role in determining economic growth and development in India and Bolivia respectively laying credence to the Ricardian economist. On the effect of government expenditure on economic growth and development, Alexious (2009), Mushtaq, Nasir, Bashir, Ahmed and Nadeem (2014) and Al-Bataineh (2012) empirically unveiled that government expenditure has positive effect on growth and growth of South Eastern Europe, Pakistan and Jordan economies, while Fouladi (2010), Mulugeta (2012), Koeda and Kramarenko (2008), Kweka and Morrissey (2000) refuted this claim in Iran, Ethiopia, Azerbaijan, Tanzania respectively. In Nigeria, Onakoya, Somoye and Russel (2013), Udoka and Anyingang (2015), Oni, Aninkan and Akinsanya (2014), Agbonkhese and Asekome (2014) and Muritala and Abayomi (2011) report that government expenditure has stimulated economic growth and development but this

assertion was countered by Nworji, Okwu, Obiwuru and Nworji (2012), Abu and Abdullahi (2010), Nwaeze, Njoku and Nwaeze (2014), Egbetunde and Fasanya (2013) and Iheanacho (2016) who claim that Nigeria economic growth and development has not been positively influenced by the increasing government expenditure.

Secondly, the direction of relationship/causality between government expenditure and economic growth and development over the years is still not clear, especially for developing countries. Jiranyakul (2007) and Carter, Craigwell and Lowe (2013) empirically established that government expenditure affects economic growth in Thailand and Barbados while on the contrary, Loizides and Vamvoukas (2004) showed that it is growth and development of the economy that affects government expenditure in European Union countries. In Nigeria, Adamu and Hajara (2015) and Nasiru (2012) claimed that economic growth is affected by government expenditure but Nasiru (2012) conflictingly stated that government expenditure and economic growth are not related both in short and long run. With these inconsistencies in both theoretical and empirical literatures on the nexus between government expenditure and economic growth and development, it is ideal to re-examine this subject matter in Nigeria which is an emerging economy and depends wholly on imports for her consumptions.

In addition, it was discovered from the empirical literature reviewed that virtually all the researchers focused only on one sector/section of the economy and neglected the others. Larger fraction of the scholars centred on government expenditure as it relates only to the growth of the real sector using real gross domestic product, industrial production index and manufacturing sector output as surrogates of economic growth e.g. Muritala and Taiwo (2011), Okoro (2013), Adamu and Hajara

(2012), Nworji, Okwu, Obiwuru and Nworji (2011), Nasiru (2012) applied real GDP; Adebayo, Adebuseyi and Ishola (2014) utilized index of industrial production, whereas Falade and Olagbaju (2015) employed manufacturing sector output. With regards to the social sector performance, few scholars applied per capita income e.g. Alimi (2014) and Dogan (2006); educational output e.g. Dauda (2011) and Oriakhi (2014) and health output indicators e.g. Novignon, Olakojo and Nonvignon (2012) and Kim and Lane (2013). This study improved on existing study by up-to-date data to captured government expenditure in relation to two sectors/sections of the economy: real sector and social sector as against previous studies that were hinged to one sector/section of the economy.

1.3 Objectives of the Study

The broad objective of this study is to ascertain the effect of government expenditure on economic growth and development in Nigeria. The specific objectives are as follows:

1. To ascertain the effect of government expenditure on Nigeria's real gross domestic product growth rate.
2. To determine the effect of government expenditure on Nigeria's industrial development.
3. To evaluate the effect of government expenditure on standard of living in Nigeria.
4. To assess the effect of government expenditure on quality of education in Nigeria.
5. To examine the effect of government expenditure on the quality of healthcare in Nigeria.

1.4 Research Questions

To realize the objectives of this research work, the following research questions were raised:

1. To what extent does government expenditure significantly affects Nigeria's real gross domestic product growth rate?
2. How has government expenditure affected industrial development in Nigeria?
3. To what extent does government expenditure significantly affects standard of living in Nigeria?
4. To what degree does government expenditure significantly affects quality of education in Nigeria?
5. To what height does government expenditure significantly affects quality of healthcare in Nigeria?

1.5 Research Hypotheses

The following hypotheses, stated in null format, were tested in the course of this study:

1. H₀: Government expenditure has no significant effect on Nigeria's real gross domestic product growth rate.
2. H₀: Government expenditure has no significant effect on industrial development in Nigeria.
3. H₀: Government expenditure has no significant effect on standard of living in Nigeria.
4. H₀: Government expenditure has no significant effect on quality of education in Nigeria.
5. H₀: Government expenditure has no significant effect on quality of healthcare in Nigeria.

1.6 Scope of the Study

This study reviewed the recurrent and capital components of government expenditure with the aim of ascertaining the effect of total government expenditure on economic growth in Nigeria. The study covered a period of thirty six years from 1981 to 2016. The reasoning for covering this time frame is that Nigeria has initiated and executed various fiscal policies through public expenditure among others aimed at accelerating economic growth. Furthermore, there is available and detailed data about government expenditure within this period as documented by the Central Bank of Nigeria and Nigeria Bureau of Statistics. This study does not intend to compare the level of development achieved in Nigeria with other countries of the world. This is because the macroeconomic fundamentals affecting economic growth differs among countries even though the goal of government expenditure is virtually the same across countries.

1.7 Limitations of the Study

The result of the analysis may be affected by nature of the secondary data that were sourced from Central Bank of Nigeria (CBN) and Nigeria Bureau of Statistics (NBS) annual reports as relevant. The interpretation of the results of the analysis were based on the Keynesian theory assumption given the increased support for this theory in empirical studies, hence no other theory was used to interpret the relationship between government expenditure and economic growth and development. The proxies for measuring standard of living, quality of education and health should be not adjudged as perfect replica of standard of living, health and education quality in Nigeria as different measurement criteria vary among countries.

1.7 Significance of the Study

This study will be of great value to the following stakeholders

Policy Makers: Understanding the effect of government expenditure on economic growth is a veritable tool that will inform and enable decision makers to carefully initiate and implement policies that will ensure that government expenditure are properly implemented to achieve the aim with which the expenditure was embarked upon. Again, policy makers will empirically know how the increasing government expenditure has affected various economic growth indices in the country.

General Public: The result of this study would make individuals apprehend and appreciate the growth effect of government expenditure on economic growth over the years and possibly suggest areas for improvement based on empirical result.

Researchers/Students/Scholars: The findings of this study will add to existing literature on the nexus between government expenditure and economic growth for a developing economy like Nigeria. Students/researchers/scholars who wish to carry out a study in this subject area will find this research work useful.

1.8 Operational Definition of Terms

Economic Growth: This is the rate at which the real gross domestic product appreciate or decline over time. When the economy is growing through increase in real output, the change/growth rate of real gross domestic product will be positively signed while it will be negatively signed when there is decline in real gross domestic product.

Industrial Development: Industrial development connotes the industrial activities in the economy over a specified period of time. It shows how the industrial sector has performed relative to funds made available by the financial system. A high industrial

production index is a reflection of high industrial activities which translates to real output of the economy.

Standard of Living: Standard of living is the quality of life *visa viz*: wealth level, availability and ability of the people residing in a country to get their basic needs at ease or without difficult. It is measurable in terms of real gross domestic product per capita.

Quality of Education: This is ability of the residents of country to acquire the necessary educational knowledge to be productive economically, improve livelihood and individual well-being and contribute towards the development of the country.

Quality of healthcare: The quality of healthcare in this context is the provision of necessary healthcare services and delivery to citizens as at when due to improve human capital development.

Government Expenditure: Government expenditure refers to the total expenditure of the government from one period to another. The structure or the size of government normally determines the magnitude of government expenditure.

Recurrent Expenditure: Recurrent expenditure is the expenditure the government incurs in day to day running of the government through payment of staff salaries and wages, overheads, food and entertainments and travelling among others.

Capital Expenditure: Capital expenditure is government expenditure in long term economic productive assets, infrastructures, etc. that will be beneficial to residents of the country. Capital expenditure in productive assets leads to employment generation, poverty alleviation, better standard of living and improvement in real output.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

2.1.1 The Concept of Government Expenditure

Government expenditure is the expenditure of the government on amenities and services for the growth and development of the economy usually on annual basis. Government expenditure has been on the forefront of macroeconomic policies in Nigeria owing to the increasing public needs of the increasing population. The term “government expenditure” was born out of revenue allocation which refers to the redistribution of fiscal capacity between the various levels of government or the disposition of responsibilities between tiers of the government (Okoro, 2013). In Nigeria, government expenditure is broken down into two components: recurrent and capital expenditure. Recurrent expenditures are normally on day to day running of government functionaries while capital expenditures are productive economic activities capable of creating employment, reducing poverty level and increasing labour productivity, etc. The nature of the impact of public expenditure on growth will depend on its form (Kweka & Morrissey, 2000). Following Alshahrani and Alsadiq (2014), government expenditure on education and health care would raise labour productivity whereas government expenditure on such infrastructure as roads and communications would also boost the rate of private domestic investment, which in turn fosters economic growth. If the changes in government expenditure can affect economic growth, the size of government expenditure can be a potentially important factor for explaining the observed disparity in long term growth rates among different countries (Hsieh & Lai, 2001).

Carter, Craigwell and Lowe (2013) who acknowledged Monadjemi (1993) and Buiter (1977) and trusting on economic theory, noted that high levels of government spending can spur economic growth but over consumption by government can crowd out private investment and hence place a drag on economic output. Extemporizing on Muritala and Abayomi (2011), government expenditure, notably on social and economic infrastructure can be growth-enhancing although the financing of such expenditure to provide essential infrastructural facilities-including transport, electricity, telecommunications, water and sanitation, waste disposal, education and health-can be growth-retarding (for example, the negative effect associated with taxation and excessive debt). The total government expenditure rose from ₦11.41 billion in 1981 to ₦4, 988.86 billion in 2015, an increase of about 43, 723.56% to better the standard of living of the populace. Not minding the upsurge in government total expenditure, the country is bedevilled with high unemployment rate, high level of inflation and poor standard of living among others. Besides the recurrent and capital expenditures being the major components of public expenditure, government expenditure in Nigeria are functionally classified into: administration, social and community services, economic services and transfers. These functional classification are discussed in subsequent sub-headings.

Administration expenditure are divided into general administration, defence, internal security and national assembly. The general administration expenditure are expenditures of the government in day to day running of government functionaries, that is, general and administrative expenses required for basic operation of the government. Administrative expenditures are usually fixed and non-technical in nature. They include payment of salaries and wages of all government employees, utilities (electricity, water supply, fuelling of generating sets, etc.), office equipment,

subscriptions, insurances and rents among others. The defence expenditures are government spending on protection of the country against external attacks. Defence expenditure are mostly incurred in purchase as well as maintenance of army, navy and air force equipment and facilities. Internal security expenditures are government spending to ensuring peace and security of citizens in the country. The major internal security spending of the government is government expenditure on police affairs. The national assembly expenditure revolves on the government legislative spending via the senate and House of Representatives. The administration expenditure of Nigeria have drastically increased over the years. From ₦0.91 billion in 1981 to ₦1, 228.99 billion in 2015, a suggestion of more than 100% appreciation within a period of thirty five years.

Education, health and other social and community services are the three parapets of government social and community services in Nigeria. Education expenditure refers to government spending on education amenities while that of healthcare services reflects health expenditure. Government expenditure on education and health are vital for the survival of the labour force. Annabi, Harvey and Lan (2007) envisage that higher education incentives may increase the rate of human capital accumulation which in turn could mitigate the negative effects of population ageing. The positive impact of education on development, with positive effect on healthy conditions of life and assistance to illness, has also a positive effect on the indicators of quality of life (Guisan & Exposito, 2010). The result of the study conducted by Memarian (2015) reveals that life expectancy and health care expenditure have a significant positive impact on GDP both in the short-term and in the long-term, that is, an increase in life expectancy and health care expenditure causes an increase in economic growth. Government expenditure on welfare and other

related education and health services are classified under other community and social service expenditure of the government.

Economic service appears to be the focal point of government expenditure owing to its contribution to national output. Without the necessary economic infrastructure, growth and development would be difficult to attain. Economic services expenditure in Nigeria are surrogated into agriculture, construction, transportation/communication and other economic services. The economic services expenditure of the government centres on the acquisition of productive long term assets for the betterment of the citizens such as road construction, building, machineries, etc. With the fall in crude oil price in international market, reduction in government revenue resulted thus various government policies on agricultural revitalization to argument the short fall in revenue arising drop in crude oil price.

Transfers as a functional classification of government expenditure in Nigeria's centres on reallocation of funds to other sectors of the economy within and outside the country such as interest and servicing of debt, pension and gratuities, contingencies/subvention by way of business subsidies and then other CFR charges. According to the Central Bank of Nigeria report of 2015, public debt servicing has significantly rose from ₦1.03 billion to ₦1, 060.38 billion in 2015. Pension and gratuities was not left behind as it surged to ₦996.8 billion in 2015 compared to ₦0.21 billion in 1981. In the same manner, contingencies/subventions increased to ₦63.59 billion as against ₦0.01 billion in 1981.

2.1.2 Economic Development

Economic development is a multivariate concept; hence there is no single satisfactory definition of it. Economic development is a process where low income national economies are transformed into modern industrial economies. It involves

qualitative and quantitative improvements in a country's economy. Political and social transformations are also included in the concept of economic development in addition to economic changes. Economic development is generally defined to include improvements in material welfare especially for persons with the lowest incomes, the eradication of mass poverty with its correlates of illiteracy, disease and early death, changes in the composition of inputs and output that generally include shifts in the underlying structure of production away from agricultural towards industrial activities, the organization of the economy in such a way that productive employment is general among working age population rather than the situation of a privileged minority, and the correspondingly greater participation of broad based groups in making decision about the direction, economic and otherwise, in which they should move their welfare".

Economic development being a multivariate concept having many dimensions, there is no single measure of development that completely captures the process. Clearly these indicators or measures of development should be valid and amenable to measurement and comparison. Per capita income has been one of the earliest and also a popular measure of economic development. Some economists have emphasized on certain social indicators as a measure of development such as levels of literacy, health and employment, while others have emphasized on reduction in poverty as an important indicator of development. It has now become a common practice to measure development in terms of composite indices such as human development index, gender development index, human poverty index etc. but per capita income has been a widely used indicator for measuring economic development. It is a primary indicator which measures economic performance of a country. Further, for measuring the rate of economic development national and international agencies mostly use per

capita income indicator and it has tremendous conceptual and statistical merits. Per capita income is the best single index which is readily available and an easily assumed measure for classifying countries into developed and less developed and may be used as a relevant starting point.

2.1.3 Economic Growth

The concept of economic growth is seen from different angles based majorly on the level of development experience in the country at that particular point in time. Economic growth is the monetary value of goods and services produced in a country over a particular period of time. Todaro and Smith (2003) as cited in Twumasi (2012) described economic growth as the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income. The growth of the economy is usually measured using various criteria and yardsticks. The gross domestic product is the traditional measure of economic growth, however, some scholars measured economic growth with per capita income. In the perspective of Nworji, Okwu, Obiwuru and Nworji (2012), the increase in a country's potential Gross Domestic Product (GDP), although this differs depending on how national product has been measured, is referred to as economic growth and must be sustained for a developing economy to break the circle of poverty. Economic growth is the increase in output of an economy's capacity to produce goods and services needed to improve the welfare of the citizens of the country, growth is seen as a steady process which involves rising of output of goods and services in the economy (Adamu & Hajara, 2015). The possibility of linkage between the size of government and economic growth is a major contribution of endogenous growth models which treat public services as input to production (Ghali, 1997). Economic growth brings about a better standard of living of the people and this is brought about by

improvement in infrastructure, health, housing, education and improvement in agricultural productivity (Nwaeze, Njoku & Nwaeze, 2014). However, in this study the growth rate of real gross domestic product was used to measure economic growth.

2.1.4 Industrial Development

Industrial development is simply put as strategies by government in planning and setting up industries for employment creation, poverty alleviation, income equality, etc. which in turn results in growth in national output. Industrial development could be regarded as the heartbeat of every successful economy; this is due to the fact that it involves production and manufacturing of output in a large scale which simply opens up the economy to the outside world (Ayeyemi, 2013). Governments in most developing countries centres industrial development in special areas where have comparative advantage relative to other nations especially, trading partners. Government is expected-to provide extension and services and infrastructural facilities, which will stimulate investment and augment the productive capacity of the economy (Adebisi, Adebuseyi & Ishola, 2014). It is hard, if not impossible for any country to witness significant growth in its economy without a well-developed and dynamic manufacturing sector (Falade & Olagbaju, 2015). The focus on industrial development aspects of government spending in modern structures of economic development derives from the fact that the industrial sector is the vehicle for sustained growth in the long run due to the fact that industrial sector provides the necessary leverage for a competitive participation in foreign trade, expansion of domestic capacity and the generation of quality employment opportunities (Iweriebor, Egharevba & Adegboye, 2015). As the production of the output of the economy increases as a result of mass production of goods and services with the use of better utilization of technologies, materials and good labour capabilities, there is incidence

of capital formation which invariably increases the economic performance of the country; foreign investor are wooed into the economy and job opportunities are created which in the long run reduces the rate of unemployment to the lowest minimum and also increase the foreign earning of the country as a result of huge receipts from goods export abroad (Ayeyemi, 2013).

2.1.5 Standard of Living

Standard of living is the financial condition of the citizens translating to their ability to access basic need of life otherwise termed “consumption”. Government across have initiated and implemented economic policies geared towards improving the standard of living of the populace. Cvrlje and Coroc (2010) defined standard of living as the level of welfare available to individual or to the group of people, that is, it concerns goods and services people are able to consume and the resources they have access to. Taking one of the proposition of Wagner’s law of public expenditure, Dogan (2006) envisages that standard of living measured by per capita income increases demand for the services mentioned above, which are usually provided by the government increases rapidly, raising the share of public sector expenditure in GDP. The standard of living of the citizens by way of reduction in level of poverty can be directly or indirectly influenced by the expenditure pattern of the government. Dahmardeh & Tabar (2013) stated that the direct effects arise in the form of benefits the poor receive from expenditures on employment and welfare programs whereas the indirect effects arise when government investments in rural infrastructure, agricultural research, and the health and education of rural people, stimulate agricultural and non-agricultural growth, leading to greater employment and income earning opportunities for the poor, and to cheaper food.

2.1.6 Quality of Education

The quality of education is extent to which citizens learns and translating the knowledge obtained into personal, social, development and economic value. Quality of education in the view of Chapman and Adam (2002) apparently may refers to inputs (numbers of teachers, amount of teacher training, number of textbooks), processes (amount of direct instructional time, extent of active learning), outputs (test scores, graduation rates), and outcomes (performance in subsequent employment). The quality of education is partly seen as part of government human capital development. Human capital development is recognized as a major factor of national development in all countries of the world and providing quality education is a major way of improving the quality of human resources (Oriakhi & Ameh, 2014). Human capital theory emphasizes how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability which is a product of innate abilities and investment in human beings (Odior, 2011). Education as private good benefits directly those who receive it, which in turn affects the individual's future income stream whereas at the aggregate level, a better educated workforce is thought to increase the stock of human capital in the economy and increase its productivity (Dauda, 2011). Guisan and Exposito (2010) observe that education has also positive effects on the indexes of quality of government, which also contribute to increase real GDP per capita and budgets addressed to health assistance.

2.1.7 Quality of Health

The quality of health is the extent to which basic health facilities and services are available to the citizens at any point in time when needed. The World Health Organization (2006) suggests that a health system should seek to make improvements

in six areas or dimensions of quality: effectiveness, efficient, accessibility, acceptability/patient centred, equitable and safe. Institute of Medicine (IOM), Washington according to Kapoor (2011) defines quality of health as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. The emphasis on increasing government expenditure on health is generally justified on the basis that such expenditure reduces the effect of diseases on the productive life years of the population (Gupta, Verhoeven & Tiongson, 1999). Increased budgetary funding of the health sector has the spiral effect of ultimately leading to subsidizing the cost of provision of health care services in every economy, and where health care services are not subsidized, the dependent poor population are caused to accommodate the over bearing cost of utilizing health care services (Riman, Bassey & Edu, 2010). Better health improves the efficiency and the productivity of the labour force, ultimately contributes the economic growth and leads to human welfare (Akram & Khan, 2007).

2.1.8 Relationship between Government Expenditure and Economic Development

2.1.8.1 Relationship between Government Expenditure and Economic Growth

Economic growth as mostly represented by the growth in real gross domestic product is an indicator of the health of a country over a given period of time. A significant change in pattern of government expenditure ultimately affects national output for an emerging economy like Nigeria thus a positive relationship between government expenditure and economic growth. Barro (1990) as cited in Dereje (2012) noted that there is a possible relationship between the share of government spending to GDP and the growth rate of per capita real GDP, and also there is a constant return to capital that broadly includes private capital and public services. Following the Keynesian school of thought, government expenditure stimulates economic growth

increase in government expenditure raises aggregate demand which results in more productive economic activities to meet demands of population.

When considering the appropriate policy measures that stimulate growth, policymakers are usually interested in demand management policies which concentrate on the management of money supply and government expenditures and supply side policies (Jiranyakul, 2007). However, the mismatch between the performance of Nigeria's economy and massive increase in government capital expenditure over the years raises a critical question on its role in promoting economic growth and development (Onakoya, Somoye &, Russell, 2013). Government expenditure as part of the macro-economy is the provision of necessary government services to the public, and provision of these services have a relationship with the growth of the economy (Udoka & Anyingang, 2015).

2.1.8.2 Relationship between Government Expenditure and Industrial Development

The development of the industrial sector is critical in achieving a desired/target level of economic growth and development. This is owing to the fact that according to Iweriebor, Egharevba and Adegboye (2015), the industrial sector provides the necessary leverage for a competitive participation in foreign trade, expansion of domestic capacity and the generation of quality employment opportunities thus focus of government should be how to nourish and make this sector viable. Given the importance of manufacturing sector as the bedrock of economic growth and development, Nigeria, over the years, has employed several strategies which were aimed at enhancing the productivity of this vital sector as a means of achieving sustainable growth (Falade & Olagbaju, 2015). The nature of relationship between government expenditure and industrial sector performance has stimulated series of theoretical and empirical studies (Tawose, 2012). For an economy to attain

industrial development there is need for its manufacturing production output to have a positive effect on its gross domestic product (Ayeyemi, 2013).

Barro (1990) has established a non-linear relationship between government expenditure which are complementary inputs to private production and a negative relationship between government consumption and growth of the economy. For Enu, Hagan and Attah-Obeng (2013), economic growth and development go with industrialization, and experience has shown that over the past 4 to 5 decades industrialisation has played crucial role in transforming many low-income countries to middle income countries, like South Korea, Malaysia, and Singapore. In the study of Nwanne (2015), it is posited that capital expenditure on road infrastructure and telecommunication affect the industrial sector output in Nigeria significantly while government capital expenditure on power has insignificant effect on manufacturing industrial and by implication, industrial sector output is clearly affected by factors both exogenous and endogenous to the government capital expenditure in Nigeria.

2.1.8.3 Relationship between Government Expenditure and Standard of Living

The standard of living of the population will in no small measure influence national output at any given point in time. Following the Wagner's law of public expenditure, the standard of living of the citizen via per capita income in a country witnessing industrialization will improve which ultimately results in an increase in government expenditure. In this situation, standard of living improves consequent to any rise in government expenditure, hence a positive relationship between government expenditure and standard of living of the populace. At the macro level, Ahmad and Batul (2013) note that countries having a low level expenditure in education or uneducated majority of total population find it difficult, and at times, almost impossible to progress and considerably increase their GDP hence,

deterioration and declining standards of living. According to Tiwari (2012), government expenditure increases the livelihoods of the individuals and their increased incomes is likely to create equitable distributive effects on overall income distribution of the economy thus the provision of social services constitutes the most important means of promoting greater equality of opportunities to the disadvantaged sections of the population.

Alimi (2014) has empirically prove that improvement in standard of living of citizens bring about increasing government expenditure in Nigeria and South Africa. Similarly, the study of Raghbendra, Bagala and Urvashi (2002) has shown that government expenditure in education, health and development help in improving standard of living in India by reducing poverty level. The study went further and emphasised that government expenditure on higher, university, technical, adult and vocational educations as opposed to elementary and secondary education is more effective in enhancing standard of living of the populace.

2.1.8.4 Relationship between Government Expenditure and Quality of Education

The quality of education influences the capacity of the citizens to translate knowledge acquired to personal, social and productive economic benefit that would lead to growth and development in the economy. It is widely accepted that education creates improved citizens and helps to upgrade the general standard of living in a society thus positive social change is likely to be associated with the production of qualitative citizenry (Obi & Obi, 2014). Sylwester (2000) empirically asserted that government expenditure in education is a good weapon to decrease income inequality. Ensuring equitable distribution of educational opportunities to the entire population is imperative to accelerating economic growth and development particularly, in

developing countries such as Nigeria that suffer from high levels of poverty, inequality and market imperfections (Dauda, 2011).

Churchill1, Yew and Ugur (2015) while recognizing Hanushek and Woessmann (2008) argue that education can affect growth through many different mechanisms, for instance, education can affect growth by increasing the efficiency of the workforce, by reducing inequality, by promoting health, by reducing fertility levels, by creating better conditions for good governance, and by increasing the knowledge and the innovative capacity of an economy. Hidalgo-Hidalgo and Iturbe-Ormaetxe (2013) have realistically affirm that government expenditure in primary education has a strong effect on raising individuals above the poverty line, on reducing the probability of suffering health problems when adults and on increasing school attendance beyond compulsory education.

2.1.8.5 Relationship between Government Expenditure and Quality of Health

The growth in gross domestic product is dependent on the health of the workforce. Output from a healthy workforce is greater and cannot be compared with that of unhealthy labour force. One direct channel through which health can affect economic growth is by increasing workforce productivity (Churchill1, Yew and Ugur, 2015). Both health care expenditure and improved health status are means to an end; the end is increased productivity and national development (Eneji, Juliana & Onabe, 2013). Kim and Lane (2013) pragmatically elucidated that higher government spending on medical goods and services can be shown to provide better overall health results for individuals. In regard to this, improve government expenditure on health sector in Nigeria would possibly, if not completely, eliminate capital flights by way of medical tourism by government officials, political elite and the few privileged and wealthy individuals. The current Nigeria's president: Muhammadu Buhari have been plying

the city of London for medical treatment. The latest being his return on 16th August from London where he spent more than one hundred days in a London hospital. A considerably upsurge in government health expenditure will vehemently improve labour force whose activities lead to greater national output hence, a positive relationship exists between government expenditure on health and economic growth. Razmi (2012) indicated the presence of a positive and significant relationship between government health expenditure and human development index in Iran.

2.1.9 Growth of Government Expenditure in Nigeria

Government expenditure in Nigeria has with a steady rise over the past few years. Following the Central Bank of Nigeria economic report of 2015, the rise in total government expenditure is attributed greatly to persistent escalation in redistribution of income owing to increasing population hence, the need to meet the citizens' requirements for better and improve standard of living. The functional breakdown of government recurrent expenditure reveals that transfers is most favoured compared to administration, economic services and social and community services. For instance, in the 2015 fiscal years, ₦1, 520.01 billion was allocated to transfers compared to ₦1, 228.99 billion, ₦807.62 billion and ₦275.36 billion for administration, community and social services and economic services respectively. On the capital expenditure facet, economic services is greatly adored as it amounted to 42.62 % of the total capital expenditure in 2015 relative to 27.71% for administration, 19.53% for transfers and 10.14% for community and social services. The financing of government expenditure is tremendously based on revenue from crude oil sale and fiscal deficit via domestic and external borrowing. Following the discovery of oil in the 1970s, agriculture which was the mainstay of the economy was neglected. Revenue from oil has been on the high side, from ₦8.56 billion in 1981 to

₦6, 793.86 billion in 2014. Subsequent to depreciation in crude oil price, revenue from oil drastically declined by 77.38% to ₦3, 830.10 billion in 2015.

2.1.10 Determinants of Government Expenditure

Government expenditures are determined by the interplay of several factors ranging from growth in per capita income to population size. The determinants of public expenditure as succinctly discussed in subsequent sub-headings.

2.1.10.1 Rise in Per Capita Income

The per capita income translates to the fund available to citizens in accessing basic needs. A higher per capita income entails an improvement in standard of living of the populace. The rise in per capita income, seen in historical context, records the development of the economy from agricultural and low-income state to an industrial and high income state (Ukwueze, 2014), and as the economy grows and income rises based on Wagner's law of public expenditure, the demand for goods, including public goods will rise, which as a consequence pushes the public expenditure (government purchases) up. Though Wagner's theory of public expenditure did not measure the magnitude of this relationship, there was evidence from his analysis that political and economic factors were the major determining factors that explained the persistent and upward shift in government expenditure (Okafor & Eiya, 2011). Per capita income has been identified as a very important factor for explaining differences across countries in the level and growth of total health care expenditures (Kea, Saksenaa & Holly, 2011). The relationship between public expenditure and national income has been debated quite extensively in the literature, yet the direction of the causality relationship remains unresolved (Akinlo, 2013). The findings of Awawoyi, Ugur and Yew (2015) indicated that the relationship between government expenditure and per-capita GDP growth is context-specific and likely to be biased due to endogeneity

between the level of per-capita income and government expenditures. Nevertheless, Akinlo (2013) established a unidirectional causality running from per capita income to government expenditure, an implication that expenditure rationalization policies may not necessarily have adverse effect economic growth.

2.1.10.2 Growth in Population

The nature of the relationship between population size and the public expenditure depends upon the nature of the good or service that is being supplied. Thus, in the case of a pure public good, the marginal social cost of an additional member to the population is by definition zero; and there is no reason to expect, for pure public good case, that an increase in population will result in an increase in expenditure (Ukwueze, 2014). Growth in population equivalently results in increase demand for public goods and services which only the government can effectively and efficiently provide thus need for higher government spending. The population of Nigeria have been surging upward leading to too much pressure on available public infrastructures. Amidst the poor maintenance of public infrastructures in Nigeria, the expanding population has led to decay and dilapidated of available infrastructures. According to Abu and Abdullahi (2010), asides huge receipts from production and sales of crude oil, Nigeria government expenditure has continued to rise due to increased demand for public (utilities) goods like roads, communication, power, education and health by population. Alesina and Wacziarg (1998) as quoted in Shelton (2007) offered two deductions in favour of the fact that government expenditure increase due to size of the country. First, sharing non-rivalrous public goods over large populations result in lower per capita income cost of production. Secondly, large populations tend to exhibit greater heterogeneity in preferences over public goods provision. Equilibrium country emerges as a result of the trade-off between the costs

of increasingly heterogeneous preferences and the benefits of sharing non-rivalrous public goods large populations. Akinlo (2013) significant affirmed that expansion in Nigeria population has led to persistent appreciation in government expenditure as he found a significant effect of population on government spending in Nigeria.

2.1.10.3 Technological Change

Conventionally, with advances in technology, process of production would change thus requiring more expenditure to align with contemporary trend in technology to sustain performance in real output. From the point of view of Ukwueze (2014), these changes in technology may be such that they increase or decrease the relative importance of goods whose benefits are largely external, and which must therefore be provided by the government. In a discussion paper of the Congressional Budget Office of United States of America in 2008, technological advances are likely to yield new, desirable medical services in the future, fuelling further spending and imposing difficult choices between spending on healthcare and spending on other priorities. While precise estimates of its contribution to the improvement in longevity and health status are still lacking, recent studies tend to attach to it an ever more crucial role in the explanation of health expenditure (Dybczak & Przywara, 2010). Since the work by Newhouse (Newhouse 1992), technological progress has been seen as an important driver of government health care expenditure (Kea, Saksenaa & Holly, 2011) but in a study conducted in Tunisia by Sghari and Hammami (2014) observe that technology does have a significant role in health care expenditures. Experiences of economic development of countries following Ibrahim (2013), indicate that acquisition and application of technology depends largely on economic circumstances and natural endowments of countries, and for economies to inspire

economic transformation that springs into high sustainable growth and prosperity, it is imperative for all economies to adapt to technological change.

2.1.10.4 Public Debt

The debt profile of any country may influence the magnitude of expenditure. A government with high debt profile may end transferring huge money to services debt while a little fraction is left for productive and economic expenditure that would influence growth and development. Krugman (1988) as quoted by Shonchoy (2012) discloses that public debt burden may directly impact government expenditure because an increase in the burden of debt beyond a specific threshold level could generate disincentives for the public sector and investment or productive and adjustment efforts, which is known as the ‘debt-overhang’ hypothesis. When government incurs a larger and larger debt through continual net borrowing, assuming the interest is not falling, the interest charges on the public debt naturally grow thus subsequent rise in government expenditure (Okafor & Eiya, 2011). Aregbeyen and Akpan (2013) empirical established that an increase in debt service in Nigeria was shown to be associated with an insignificant reduction in government expenditures, except its capital component which was is not surprising since increase in debt servicing obligation leaves the government with limited amount of resources for expenditure. Another study by Ukwueze (2015) reveal that as Nigeria’s domestic and external debts increase, the size of government expenditure also rises.

2.1.10.5 Inflation

Inflation is the steady rise in the prices of goods and services which reduces the purchasing power of money. High government expenditure has the tendency of increasing the level of money supply, and high level of money supply is bound to cause inflation as demands will outweigh supplies. Inflation as a determinant of

government expenditure was studied by Tayeh and Mustafa (2011). The study also employed a specific methodology to assess the nature of the relationship between Jordanian public spending and its determinants. The finding reveals that inflation rate is negatively related to government expenditure growth, so that if the inflation rate increases the government expenditure growth decreases. The result of Tayeh and Mustafa (2011) was in consistent with previous study by Ezirim and Ofurum (2013) that inflation is a significant factor that determines the magnitude of government expenditure in Nigeria and emerging economies in the world.

2.1.10.6 Revenue

Revenue is the amount of money the government earns during a specified period of time. The revenue base of the government is an important determinant of public expenditure. Governments with high revenue realization from taxes, exports, etc. may engage in high expenditure pattern compared to countries with small revenue base. The revenue base of Nigeria has significantly improved following the discovery of oil in the 1970s thus persistent rise in expenditure profile. On analysis of public expenditure growth on infrastructure in Nigeria, Edame, Udude and Ugwu (2014) affirm that government revenue coupled with population density, external reserves and type of government jointly or individually influence public expenditure on infrastructure.

2.1.10.7 Trade Openness

Macroeconomic factors, for instance, trade openness can also be important determinants of government spending, especially in developing countries that are subject to various internal and external disturbances (Alm & Embaye, 2011). The openness to trade revolves around a country's economic policies that keep a tight rein on trade or allow for easy trade with outside world. Trade openness has the potential

of increasing economic growth and development via the attraction of foreign exchange. In measurement, openness to trade is usually measured as the ratio of total trade (exports and imports) to gross domestic product. A country with strict trade relation may not really spend much on actualization of economic policies of trade whereas reverse is the case for countries with liberal trade policies owing to the risks associated with such trading agreement via exchange risk fluctuation, changes in demand and supply in the international market. Consequently, for a developed country, with proper administrative capacity, such risk is mitigated through spending on social protection, while developing countries, lacking the administrative capacity, mitigate such risk through simpler solutions such as public employment, in-kind transfers or public work programs (Shonchoy, 2010). However, a contradictory result was provoked by the empirical finding of Aregbeyen & Akpan (2013) that trade openness is significantly associated with a reduction in government expenditure in Nigeria.

2.1.10.8 Fragmentation

Fragmentation is the division of government into units in an area. Government units in Nigeria are fragmented into three: federal, state and local governments with different ethnicity, culture and preferences thus different pattern of expenditure across the various geopolitical zones. The main rationale for this argument is that an economy with a more ethnically fragmented population may find it difficult to agree on public expenditure and effective policies, which may lead to political instability (Shonchoy, 2010). Other demographic factors may also lead to greater heterogeneity of preferences thus lower level of government expenditure (Shelton, 2007). Easterly and Levine (1997) as cited in Shelton (2007), there is a strong negative correlation between indices of fragmentation and measures of public goods due to the fact that

different ethnic group have different preferences over set of public goods to be provided and so fail to agree on expenditure or because an ethnic group's utility from public goods declines when the public goods are shared among other ethnic groups.

2.1.10.9 Demographic Pattern

Demographic pattern refers to the trends in population as envisage by number of young, old, deaths, births, diseases, etc. in a place at any point in time. Conventionally, the demographic pattern of the population influences government expenditure. Government will spend more on transfers to pension and gratuities, unemployment benefits where the large fraction of the total population is 65 years and above. Similarly, will spend more on economic services to generate employment where the working age forms substantial part of the population. It is well understood that elderly populations require more health services which could result in higher health expenditure thus a positive correlation between an aging population and health expenditure particularly for upper middle and high income countries where population aging is advancing fast (Kea, Saksenaa & Holly, 2011). Constantly growing life expectancy together with permanently low fertility rates have resulted in the gradual evolution of the demographic structure of populations that began with the last baby-boom period in the 1950's and 1960's and is not expect to shift sharply over the next decades (Dybczak & Przywara, 2010).

2.2 Theoretical Framework

In theoretical literature, many theories have been modelled in discussing the linkage between government expenditure and economic growth and development. These theories as reviewed in the context of government expenditure and economic growth and development nexus include Keynesian theory of public expenditure,

Baumol's model of public expenditure, Wagner's law of public expenditure, Peacock and Wiseman's hypothesis and Musgrave theory of public expenditure growth.

2.2.1 Adolph Wagner's Law of Public Expenditure

Wagner's law of government expenditure was named after Adolph Wagner, a German political economist that published a book titled "law of increasing state activity" following his research in Western Europe at the end of the 19th century. Adolph Wagner analysed the linear relationship between government expenditure and economic growth and empirically envisaged a fundamental cause and effect relationship between government expenditure and economic growth. From Adolph Wagner hypothesis, there is a positive and direct relationship between government expenditure and economic growth, that is, government responsibility/function are raised by virtue of higher spending. Wagner's law of increasing state activity suggests that as per capita income and output increases, the public sector will grow in proportion to total economic activity on his belief that the cause of relative growth of government is social progress and the resulting changes in the relative spheres of private and public economy (Aggarwal, 2017). From Wagner's assumption, a country in an era of industrialization will witness rise in per capita income which results in government spending to rise in total expenditure of the population.

Scharmer (2002) pointed out three criticisms of Adolph Wagner's law of government expenditure. Firstly, due to the fact that the theory was developed in Germany at the end of the 19th century, it is only applicable in economies similar to Germany where rising income was observed as a result of industrialisation. Secondly, instead of providing a positive theory, the "law" only includes Wagner's own, subjective and normative assumptions. Although Wagner claims his "law" being a positive theory, he implicitly employs a normative approach using simple statements which

weakens the arguments of his theory if analysed critically (Bird, 1971 as cited Scharmer, 2002). Thirdly, Scharmer (2002) while quoting Gemmell (1993), Wagner did not include the impact of wars on public expenditure. This lack of war-related expenses can be excused due to the fact that Wagner developed this theory at the end of the 19th century under the optimistic assumption that fewer wars would occur in the future which unfortunately was not the case during the following 20th century (Bird, 1971 as cited Scharmer, 2002). In addition, the “organic”, self-determining view of the state, which is not the dominating theory in most Western nations has been criticised a lot (Herber, 1979 as cited Scharmer, 2002). According to Wagner, the state represents a superior individual who makes decisions without paying attention to the individual human beings that actually form the state (Scharmer, 2002).

2.2.2 Peacock and Wiseman’s Hypothesis

Following the criticism that greeted the Wagner’s law of government expenditure with respect to its universal application, the Peacock and Wiseman’s Hypothesis was developed by T. Peacock and Jack Wiseman in their 1961 following an empirical study of the British economy for the period 1890-1955 to affirm the validity of the Wagner’s assertion. According to Neog, Phukan and Barthakur (2014) and Aggarwal (2017), Peacock and Wiseman upheld the validity of Wagner’s law but empirically stated that the British public sector has grown on a “step-like” rather than a “continuous growth” basis. Following Neog, Phukan and Barthakur (2014), Peacock and Wiseman hypothesis has three major concepts: displacement, inspection and concentration effect. In terms of the displacement effect, during the time of war, the government further increases the tax rates and enlarges the tax structure to generate more funds to meet the increase in the defence expenditure. After the war the new tax rate or tax structures may remain the same, as the people get used

to them hence, the increase in revenue results in rise in govt. expenditure. According to Aladejare (2013), when Peacock and Wiseman observed that expenditure over time appeared to outline a series of plateaus separated by peaks, and that these peaks coincided with periods of war and preparation for war they were led to expound the “displacement effect” hypothesis.. For the inspection effect, in the situation of kinky movement of public expenditure, the government’s existing revenue earning falls much short and so this requires an upward revision of revenue mobilization and a review of the situation is made both by the government and the tax paying public. Such review is referred to as inspection effect. Finally, for the concentration effect, with the kinky rise in the public expenditure it is the central government that comes to fulfil larger and larger state activities leaving lesser responsibilities to the regional and local public authorities thus concentration effect of increasing state activities.

2.2.3 Musgrave Theory of Public Expenditure

Musgrave hypothesis follows from the Adolph Wagner’s postulation on government expenditure and economic growth. Based on Musgrave hypothesis, economies at early stage of development requires capital formation to put in place necessary infrastructural facilities to facilitate productive economic activities. This scenario will stimulate private capital formation whereby at later stage of development, government expenditure may not be a *sin qua non* to achieving economic growth. From the assumption of Musgrave, the theory appears to be reasonable or have a wider acceptability but it has one major drawback which according to Neog, Phukan and Barthakur (2014), Musgrave himself admitted to this limitation. While the stages-of-development approach is indubitably applicable in early development phases, the size of public expenditure cannot be clearly predicted in later stages; it need not always be the case that the share of the public sector further

decreases during later stages (Neog, Phukan and Barthakur, 2014). Furthermore, it is also often impossible to define one single stage of development for a particular economy especially, in developing countries, several stages can be observed simultaneously whereas in urban centres the economy might be placed in a later stage of development, rural areas are still often far behind and are situated in early stages (Black et al. 1999 as was cited in Neog, Phukan & Barthakur, 2014). Ogbuagu and Ekpenyong (2015) stated that Musgrave posited 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.

2.2.4 Baumol's of Public Expenditure

From the Baumol's model of government expenditure, economic activities in any economy is structured into technologically driven activities and technologically not driven. According to Baumol, with dynamics in economic environment, growth of government expenditure will tend to be faster than the economy as a whole. Put differently, public sector is less productive than the rest of the economy owing to the fact that it cannot make use of technological advances but the wage rate remains the same in the two sectors (Aggarwal, 2017) thus unless labour markets are sealed off, cost in the less productive have to rise. Explicitly, in the words of Kaplanoglou (2016), assuming a low price elasticity for government services, improvements in productivity as more likely in the private than public sector and relatively uniform wage rates between the public and private sectors, then, it would be reasonable to expect that cost would rise in the public sector relative to the private sector and that

governmental expenditures would rise at a faster rate than the GDP. If market demand is inelastic or if there is a strong political demand for the goods in the less productive sector then labour will shift to this sector and the level of expenditures in this sector will rise hence, the cost in public sector relative to private sector would increase and governmental expenditure would rise at a faster rate than national income. (Kaplanoglou, 2016).

Having reviewed some theories in relation to government expenditure and economic growth, this research work is anchored on Keynesian theory of public expenditure. The assumption of Keynesian theory of public expenditure was succinctly discussed relative to public expenditure variables.

2.2.5 Keynesian Theory of Public Expenditure

John Maynard Keynes: a British economist propounded the Keynesian theory of public expenditure during the 1930s. The theory believes that money is all that matter in economic growth and development and as such, it is the government that can effectively and efficiently provides such magnitude of money via public expenditure. Keynes believed the role of the government to be crucial as it can avoid depression by increasing aggregate demand and thus, switching on the economy again by the multiplier effect. Besides, it is a tool that bring stability in the short run but this need to be done cautiously as too much of public expenditure lead to inflationary situations while too little of it leads to unemployment (Essays UK, 2013). The Keynesian school of thought are on the tent that market failures exist thus needed government interventions. The view of the Keynesian theory is against the classical economists which are of the opinion that government intervention is not beneficial to

the economic growth and development as private sector can articulate and manage the activities of the state to attain a desired level of growth.

Government expenditure according to John Maynard Keynes is an exogenous variable and not endogenous factor that can spur economic growth and development. 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 the multiplier effects on aggregate demand (Ogbuagu & Ekpenyong, 2015). Following Essays UK (2013), Keynes believed depression needed government intervention as a short term cure, increasing saving will not help but spending. Moreover, government will increase public spending giving individuals, purchasing power and producers will produce more, creating more employment.

2.2.6 Justification of Keynesian of Public Expenditure as the Theoretical Framework of this Study

The Keynesian theory of public expenditure emphasized that during industrialization stage in an economy, government expenditure is needed to spur growth and development. Nigeria is a developing country and virtually depends on importation for consumption. Consequently, Nigeria is at its developing/industrialization stage, thus government expenditure is needed to provide the basic infrastructure to facilitate growth and development. In one hand, at the current level of development in Nigeria, rise in government recurrent expenditure would result in more money in the hands of individuals which will rise consumption and aid in mobilization of savings for productive economic activities. The rise in consumption results in more production to meet demand thus improving gross domestic product. On the other hand, rise in capital expenditure has the potential of

vividly generating employment and improving welfare of citizen hence, reduction in poverty. With this argument, the adoption of Keynesian theory of public expenditure as the theoretical basis for which this study is pursued is justified.

2.3 Empirical Review

2.3.1 Government Expenditure and Economic Growth

Adigwe, Anyanwu and Udeh (2016) examined the long run relationship between government expenditure and economic growth, short run and long run adjustment and the effect of government expenditure on Nigeria's economic growth for a period of forty five (45) years from 1970 to 2015. The result of the long run test reveals the existence of a long run relationship between government expenditure and economic growth in Nigeria, VECM analysis suggests that Nigeria would achieve a steady level of growth if preference is giving to capital expenditure over recurrent expenditure, and the granger causality effect result envisages that recurrent and capital expenditure which are the two components of government expenditure have significant effect on Nigeria's economic growth thus, supporting the Adolph Wagner's hypothesis on public expenditure. Findings also indicates that government application of fiscal policy via increasing expenditure as the sole tool for economic growth as currently the case will not spur economic growth in the long run. Alshahrani and Alsadiq (2014) ascertained the effects of different types of government expenditures, on economic growth in Saudi Arabia. The study used different econometric techniques to estimate the short- and long-run effects of these expenditures on growth and employ annual data over the period 1969-2010. Findings indicated that while private domestic and public investments, as well as healthcare expenditure, stimulate growth in the long-run, openness to trade and spending in the housing sector can also boost short-run production. Muritala and Abayomi (2011) empirically examined the trends as well as effects of government spending on the

growth rates of real GDP in Nigeria over the last decades (1970-2008) using econometrics model with Ordinary Least Square (OLS) technique. The paper test for presence of stationary between the variables using Durbin Watson unit root test. In an attempt to establish long-run relationship between public expenditure and economic growth, the result revealed that the variables are co integrated at 5% and 10% critical level. The findings showed that there that there is a positive relationship between real GDP as against the recurrent and capital expenditure. Nworji, Okwu, Obiwuru and Nworji (2012) determined the effect of public expenditure on economic in Nigeria for the period 1970 – 2009. The tool of analysis was the OLS multiple regression model specified on perceived causal relationship between government expenditure and economic growth. Results of the analysis showed that capital and recurrent expenditure on economic services had insignificant negative effect on economic growth during the study period. Also, capital expenditure on transfers had insignificant positive effect on growth. But capital and recurrent expenditures on social and community services and recurrent expenditure on transfers had significant positive effect on economic growth.

Loizides and Vamvoukas (2005) assessed if the relative size of government (measured as the share of total expenditure in GNP can be determined to Granger cause the rate of economic growth, or if the rate of economic growth can be determined to Granger cause the relative size of government. For this purpose, they first used a bivariate error correction model within a Granger causality framework, as well as adding unemployment and inflation (separately) as explanatory variables, creating a simple ‘trivariate’ analysis for each of these two variables. The combined analysis of bivariate and trivariate tests using data on Greece, UK and Ireland revealed that government size Granger causes economic growth in all countries of the

sample in the short run and in the long run for Ireland and the UK; economic growth Granger causes increases in the relative size of government in Greece, and, when inflation is included, in the UK. Carter, Craigwell and Lowe (2013) provided empirical evidence on the relationship between the components of government expenditure and economic growth in Barbados. Both the Dynamic Ordinary Least Squares and the Unrestricted Error Correction Model were employed to analyse time series data spanning from 1976-2011. Generally the findings suggested that total government spending produces a drag on economic growth, particularly in the short-run, with a much smaller impact over time. More specifically the results indicated that while outlays on health and social security have little influences on per capita economic growth; government expenditure on education typically has a significant and negative impact on growth, both in the long and short runs. Nasiru (2012) investigated the relationship between government expenditure (disaggregated into capital and recurrent) and economic growth in Nigeria over the period (1961-2010). It employs the Bounds Test approach to co-integration based on unrestricted Error Correction Model and Pair wise Granger Causality tests. The results from the Bounds Test indicated that there exists no long-run relationship between government expenditure and economic growth in Nigeria only when real GDP is taken as dependent variable. In addition, the causality results revealed that government capital expenditure granger causes economic growth. While no causal relationship was observed between government recurrent expenditure and economic growth.

Abu and Abdullahi (2010) evaluated the effect of government expenditure on economic growth. The study employed a disaggregated analysis. The results revealed 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. Arpaia and Turrini (2008) analysed both the long and the short-run relation between government expenditure and potential output in EU countries by means of pooled mean group estimation. Results showed that, over a sample comprising EU-15 countries over the 1970-2003 period, it cannot be rejected the hypothesis of a common long-term elasticity between cyclically-adjusted primary expenditure and potential output close to unity. However, the long-run elasticity decreased considerably over the decades and is significantly higher than unity in catching-up countries, in fast-ageing countries, in low-debt countries, and in countries with weak numerical rules for the control of government spending. Adamu and Hajara (2015) explored the impact of public expenditure on economic growth in Nigeria using time series data for the period 1970-2012. The tools of analysis were the ADF unit root test and ordinary least square multiple regression accompanied by pairwise Granger causality test. Empirical findings from the study showed that there is positive and insignificant relationship between capital expenditure and economic growth while recurrent expenditure had a significant positive impact on economic growth. Also, Granger causality test demonstrated a unidirectional causality running from the fiscal variables to economic growth in validation of the Keynesian theory.

Alexiou (2009) provided further evidence on the relationship between economic growth and government spending. For the first time two different panel data methodologies have been applied to seven transition economies in the South Eastern Europe (SEE), generating significant results which, if considered, may enhance the economic performance of the countries in the region. More specifically, the evidence generated indicated that four out of the five variables used in the estimation i.e.

government spending on capital formation, development assistance, private investment and trade-openness all have positive and significant effect on economic growth. Population growth in contrast, is found to be statistically insignificant. Using time series data of 32 years period (1980 - 2011), Okoro (2013) investigated the impact of government spending on the Nigerian economic growth. Employing the ordinary least square multiple regression analysis to estimate the model specified. Real Gross Domestic Product was adopted as the dependent variable while government capital expenditure and government recurrent expenditure represented the independent variables. With the application of Granger Causality test, Johansen co-integration Test and Error Correction Mechanism, the result showed that there exists a long-run equilibrium relationship between government spending and economic growth in Nigeria. The short-run dynamics adjusts to the long-run equilibrium at the rate of 60% per annum. Building on Barro's (1990) endogenous growth model, Ghali (1997) untangled the nature of the relationship between government expenditure and economic growth in Saudi Arabia by examining the intertemporal interactions among the growth rate in per capita real GDP and the share of government spending in GDP. Using vector autoregressive (VAR) analysis, particular attention was given to testing for the existence and direction of Granger-causality among the variables. The empirical analysis found no consistent evidence that government spending can increase Saudi Arabia's per capita output growth.

Kweka and Morrissey (2000) studied the impact of public expenditures on economic growth using time series data on Tanzania (for 32 years). We formulate a simple growth accounting model, adapting Ram (1986) in which total government expenditure is disaggregated into expenditure on (physical) investment, consumption spending and human capital investment. Increased productive expenditure (physical

investment) appears to have a negative impact on growth. Consumption expenditure relates positively to growth, and in particular appears to be associated with increased private consumption. Expenditure on human capital investment was insignificant in the regressions, probably because any effects would have very long lags. The results confirmed the view that public investment in Tanzania has not been productive, but counter the widely held view that government consumption spending is growth reducing. Ebong, Ogwumike, Udongwo and Ayodele (2016) examined the impact of government capital expenditures on economic growth in Nigeria during 1970 and 2012. A multiple regression model based on a modified endogenous growth framework was utilized to capture the interrelationships among capital expenditures on agriculture, education, health economic infrastructure and economic growth. Drawing on error correction and co-integration specifications, an OLS technique was used to analyse annual time series. Government capital expenditures had differential effects on economic growth. Capital expenditures on Agriculture did not exert any significant influence on growth both in the long and short runs. Koeda and Kramarenko (2008) determined the fiscal scenario based on the assumption of the rapid scaling-up of expenditure to be followed with its rapid scaling-down in the context of Azerbaijan's current temporary oil production boom. To this end, the paper reviewed the relevant experience of Nigeria and Saudi Arabia, and simulated the neo-classical growth model tailored to the Azeri conditions. Both strands of analysis suggest that the evaluated fiscal scenario poses significant risks to growth sustainability. The historical experience indicated that the initial growth performance largely depends on the efficiency of scaled-up expenditure. It also sheds light on the risks associated with a sudden scaling-down of expenditure, including the political difficulties to undertake an orderly expenditure reduction strategy without

undermining economic growth and the crowding-out effects of large government domestic borrowing.

Nwaeze, Njoku and Nwaeze (2014) assessed the nature and impact of Federal Government Expenditure on Nigeria's economic growth for the period 1992 – 2011. Time series data for the twenty year period were sourced from secondary sources and Ordinary Least Square (OLS) multiple regression technique was used to estimate the hypothesis formulated. Real Gross Domestic Product, proxy for economic growth was adopted as the dependent variable while Total Recurrent Expenditure and Total Capital Expenditure constitute the independent variables. The results of the study showed that the Federal Government Expenditure has a positive and insignificant impact on the economic growth of Nigeria for the period under study. Ebiringa and Charles-Anyaogu (2012) adopted A Cochrane-Orcutt and ECM method to measure the long run effect of selected macroeconomic variables economic growth. The result shows that expenditure on telecommunication, Defence and security, Education and Health Sector have made positive impact on Nigeria's economic growth. But transportation and agricultural expenditures have impacted negatively in the economic growth in Nigeria. Asghar, Azim and Rehman (2011) observed empirically the effect of government spending in social sectors on economic growth during the period 1974-2008 in Pakistan. The results of the study revealed the existence of positive relationship between government expenditure on human capital and economic and community services and economic growth. The government expenditure on law and order and subsidies appear to be negatively related to economic growth.

Agbonkhese and Asekome (2014) evaluated the impact of public expenditure on the growth of the Nigerian economy, and to ascertain whether there is a relationship between gross domestic product (GDP) and government expenditure in

Nigeria. It covered the period of 1981 – 2011 and the Ordinary Least Square (OLS) method of econometric technique was used. The econometric analysis indicated that although there is a positive relationship between the dependent and independent variables, the adjustment of economic growth or gross domestic product was a fair one which made it difficult to reject the null hypothesis. Oni, Aninkan and Akinsanya (2014) looked into the joint effects of capital and recurrent expenditures of government on the economic growth of Nigeria using the ordinary least square method for estimating multiple regression models covering 1980-2011 time period. The regression results showed that both capital and recurrent expenditures impacted positively on economic growth during the period of study. The recurrent expenditure has a stronger and more accelerating effect on growth than capital expenditure. Ayinde, Kuranga and Lukman (2015) modelled and investigated the impact of capital expenditure, recurrent expenditure and various sources of Government revenue on Nigeria's economic growth using secondary data gathered from 1981 to 2011. The statistical and econometric tools used for the study include the unit root test, co-integration, error correction mechanism and combined estimators' analysis. Results from the analysis disclosed the positive impact of capital expenditure, oil revenue, federation account and federal retained revenue on economic growth.

Mushtaq, Nazir, Bashir, Ahmed and Nadeem (2014) explored association among government spending, exports of country, imports of country and its economic growth over the period 1995 to 2011 using a panel of eight countries. Stationarity of variables was tested by using IPS test for unit root whereas co-integration was tested by applying Pedroni panel co-integration test. Fixed effects model was used for estimation of model as suggested by results of Hausman test. Results of Pedroni cointegration test implied the presence of co-integration between variables. Results of

fixed effects model showed that government spending, exports and domestic private investment affect economic growth positively and significantly. However, imports affect economic growth negatively and significantly. Mallick (2008) studied the impact of aggregate government expenditure and its two broader components such as revenue expenditure and capital expenditure on the growth rate of output in the Indian context along with other key potential determinants of economic growth such as trade openness and private investment. The study utilized structural vector autoregression (SVAR) methodology for examining the dynamic response of output growth to the shocks in major macro-economic variables wherein public expenditure was considered to be an important fiscal policy instrument. From the empirical analysis, the study found that neither aggregate expenditure nor the capital expenditure does have significant influence on the growth rate of the economy. Rather, surprisingly, it is the revenue expenditure, to some extent, explains the variation in growth rate and in positive direction. Besides such relationship between public expenditure and output growth, it was mainly taxes, openness measure and private investment do influence growth rate. Contrary to the expectation, the taxes which should have a negative influence on the growth rate of output, surprisingly had a positive influence but openness measure and private investment have positive impacts in line with general expectation of the theory. Egbetunde and Fasanya (2013) examined the impact of public expenditure on economic growth in Nigeria during the period 1970 to 2010. The study employed the bounds testing (ARDL) approach to examine the long run and short run relationships between public expenditure and economic growth in Nigeria. The bounds test suggested that the variables of interest put in the framework are bound together in the long-run. The associated equilibrium correction was also significant confirming the existence of long-run relationships. Their findings indicated

the impact of total public spending on growth to be negative which is consistent with other past studies. Recurrent expenditure however was found to have little significant positive impact on growth.

Hamzah (2011) ascertained the association between government expenditure and economic growth in Malaysia from 1970 to 2007. The study employed OLS regression for the empirical analysis. Surprisingly, the study found that the rising of the total government development expenditure has a significant and negative relationship with economic growth. Similar results apply to the total government development expenditure in economic services. However, there is no relationship between total governmental development expenditure in social services and economic growth. In addition, the study revealed a mix of results for the association between government development expenditure by sectors and economic growth. Out of eleven sectors, only three sectors which are transport, public utilities and health have a positive and significant relationship towards economic growth. Bojanic (2013) addressed the relationship between economic growth and productivity to budget share ratios of government expenditures in Bolivia since 1940. Government expenditures were classified according to their functional and economic characteristics and place of origin. The results indicated that defence expenditures, decentralized expenditures (local or regional), and expenditures in Santa Cruz Department represent the best ways for government to boost the country's growth. Expenditures on additional areas, such as education, and in other promising departments, such as Beni and Oruro, have the potential for generating significant growth and should be considered areas for possible government intervention. Chamorro-Narvaez (2012) identified the effects of the two economic components of government spending, namely, capital and current spending, on the per capita economic growth rate in a set of Latin American countries

over the period 1975 – 2000. In line with recent growth literature, the study used a generalized method of moments as suggested by Arellano and Bond (1991) in order to obtain consistent and efficient estimates for a dynamic model, such as an economic growth model. The results emanating from the analysis suggested that neither government capital nor current expenditures have any impact on the per capita economic growth rate.

Iheanacho (2016) looked into the long and short run relationship between public expenditure and economic growth in Nigeria over the period of 1986-2014, using Johansen co-integration and error correction approach. The result showed recurrent expenditure is the major driver of economic growth in Nigeria. Controlling for the influence of non-oil revenue, the study showed a negative and significant long run relationship between economic growth and recurrent expenditure coexists with a positive short run relationship, highlighting the dual effects of recurrent expenditure on economic growth in Nigeria. For the capital expenditure, the study documented a negative and significant long run effect of capital expenditure on economic growth in Nigeria. Mohammadi, Maleki and Gashti (2012) determined the effect of governmental expenditure composition on the economic development of Economic Cooperation Organization Countries (ECO) in the period 1995-2009. The used method was dynamic panel data method and generalized method of moments (GMM). The findings showed that the health expenditure by governmental statistically has significant and negative effect on growth, educational expenditure by governmental statistically has Significant and positive effect also the governmental defence expenditure has significant & statistically has positive effect on the economic development of ECO countries. Akpokerere and Ighoroje (2013) assessed effect of government expenditure on economic growth in Nigeria using a disaggregated

approach for the period 1977 – 2009. The results of the estimation entailed that Government total capital expenditure, total recurrent expenditures, government expenditure on education and power have negative effect on economic growth and are significant in explaining this relationship. On the contrary, rising government expenditure on transport and communication and health results to an increase in economic growth.

Udoka and Anyingang (2015) evaluated the effect of public expenditure on the growth and development of Nigerian economy (1980-2012). Ex-post facto research design was adopted and data were analysed using Ordinary least square multiple regression statistical technique. Result of the findings revealed that aggregate expenditure had a positive impact on economic growth and development of the Nigerian economy, recurrent expenditure had a significant relationship on the growth and development of the Nigerian economy. The result also indicated that capital expenditure also had a significant effect on the growth and development of the Nigerian economy. Dereje (2012) analysed the relationship between the components of government expenditure and economic growth in Ethiopia from 1970 to 2011. Both descriptive and econometric techniques were employed for the purpose of analysis. The long run estimation result revealed that real government spending on human capital formation is growth promoting; real government consumption is growth retarding and real government physical investment becomes insignificant in explaining growth of real per capita income. Real Private investment and real openness affect the growth of real per capita income positively and significantly. The result of VECM revealed that all components of government expenditure do not have significant effect in explaining growth of real per capita income in the short run. Fouladi (2010) studied government expenditure effects on GDP and employment by a

CGE model. The results confirmed that government expenditure influences on economy in different ways, depends on types of costs. Increasing the government consumption expenditure causes reduction in production, employment and investment. Government investment expenditure has different effects on economy that depends on which area they will be spent.

Al-Bataineh (2012) analysed the impact of public expenditures on economic growth using a time series data on Jordan for the period 1990-2010 using for these purposes the different regression model, and Dicky- fuller and Phillips- perron unit root tests were examine the integration order of the variables, Johansson co-integration test was also used. The study found that the government expenditure at the aggregate level has positive impact on the growth of GDP which is compatible with the Keynesians theory. It was also found that the payment is proven to have no influence on GDP growth. Onakoya, Somoye and Russell (2013) investigated the impact of public capital expenditure on economic growth in Nigeria in the context of macro-econometric framework at sectorial levels. The research adopts a three-stage least squares (3SLS) technique and macro-econometric model of simultaneous equations to capture the disaggregated impact of public capital expenditure on the different sectors of the economy. The study showed that public capital expenditure contributes positively to economic growth in Nigeria. The results also indicated that public capital expenditure directly promotes the output of oil and infrastructure but is directly deleterious to the output of manufacturing and agriculture. The results suggested a positive but insignificant relationship to the services sector. The results however confirmed that public capital spending indirectly enhances economic growth by encouraging private sector investments due to the facilitating role of government in the provision of public goods. The causation between government expenditures and

economic growth in Thailand was explored by Jiranyakul (2007) using the Granger causality test. The findings depicted that there is no co-integration between government expenditures and economic growth. A unidirectional causality from government expenditures to economic growth existed. However, the causality from economic growth to government expenditures is not observed. Additionally, estimation results from the least square method with lagged variables of economic growth, government expenditures and money supply showed the strong positive impact of government spending on economic growth during the period of investigation.

2.3.2 Government Expenditure and Industrial Development

Adebayo, Adebusi and Ishola (2014) empirically examined the relationship between all public expenditures and industrial growth in Nigeria between the periods of 1970–2012. The dependent variables used was index of industrial productivity which serves as a proxy for industrial growth while the explanatory variables are government expenditure on Administration, economic services, social and community services, and transfers. The findings of the co-integration result revealed a long run relationship between industrial growth and government expenditure components. However, the estimated results revealed that government expenditure on administration, economic services, and transfers maintain a negative long run relationship with industrial growth in Nigeria while government expenditure on social and community services maintain a positive long run relationship. The Granger causality test shows that there exist no directional causality between government expenditure components and industrial growth in Nigeria in two lag periods. Falade and Olagbaju (2015) ascertained the relationship between government expenditure and manufacturing sector output in Nigeria. Government expenditure was

disaggregated into capital and recurrent with a view to analyse the relative effect of these categories of government expenditure with emphasis on the capital component. The study employed time series data from 1970 to 2013. Data on manufacturing sector output, capital and recurrent expenditure, nominal and real Gross Domestic Product (GDP), exchange rate and interest rate were collected from Statistical Bulletin and Annual Report and Statement of Accounts published by the Central Bank of Nigeria (CBN). Econometric evidence revealed stationarity of the variables of interest at their first difference while the Johansen co-integration approach also confirms the existence of one co-integrating relationship. The error correction estimates revealed that while government capital expenditure has positive relationship with manufacturing sector output in Nigeria, recurrent expenditure exerts negative effect on manufacturing sector output.

Tawose (2012) determined the effect of public expenditure on industrial sector productivity in Nigeria. Ordinary least square multiple regression was adopted to carry out analysis on the relationship that exist between public expenditure and industrial sector productivity. In the model adopted, index of industrial production serves as proxy for industrial productivity, while total government expenditure, government expenditure on administration, government expenditure on economic services, and government expenditure on social and community services and government expenditure on transfer were proxies for government expenditure. The regression results showed that both government expenditure on administration and government expenditure on economic services have negative relationships with industrial productivity. The impact of each independent variable either negative or positive on industrial productivity is insignificant. Iweriebor, Egharevba and Adegboye (2015) assessed the effect of public spending on the industrial sector in

Nigeria using data covering the period 1980 to 2013. It was found in the study that that public spending has no significant effect on industrial production in the short run. Moreover, government spending has a relatively weak effect on industrial production even in the long run, suggesting a disconnection between public spending and the real sector of the economy.

Anwar and Zheng (2004) evaluated the impact of government-funded Research and Development in fostering the development of Singapore's industrial production in the 1990s. The study explicitly considered the performance of three industries within the manufacturing sector: the machinery and equipment industry, the electrical machinery industry, and the transport equipment industry. It was shown that the fluctuations in real government spending on Research and Development had a significant positive impact on the performance of the selected manufacturing industries. Enu, Hagan and Attah-Obeng (2013) analysed impact of macroeconomic indicators on industrial production in Ghana. The ordinary least squares estimation technique was utilized given the sample size of 21 due to the unavailability of data. The study identified real petroleum prices, real exchange rate, import of goods and services and government spending as the key macroeconomic factors that influence industrial production in Ghana. Nwanne (2015) used quantitative time series data and multiple regression techniques in the analysis to investigate the effect of government capital expenditure on the manufacturing sector output in Nigeria. The result of the co-integration test indicates long run relationship between dependent and independent variables. It was also revealed that capital expenditure on road infrastructure and telecommunication affects the manufacturing sector output in Nigeria significantly while government capital expenditure on power has insignificant effect on manufacturing sector in Nigeria.

Nekarda and Ramey (2010) investigated industry-level effects of government purchases in order to shed light on the transmission mechanism for government spending on the aggregate economy. They began by highlighting the different theoretical predictions concerning the effects of government spending on industry labour market equilibrium and thereafter create a panel data set that matches output and labour variables to shifts in industry-specific government demand. The empirical results indicated that increases in government demand raise output and hours, but lower real product wages and productivity. Mark ups do not change as a result of government demand increases. The results were consistent with the neoclassical model of government spending, but they are not consistent with the New Keynesian model of the effects of government spending. Njoku, Okezie and Idika (2014) addressed the relationship between Nigeria's capital expenditure and the growth of the manufacturing sector from 1971-2012. The ordinal least square method was used to show the relationship between capital expenditure and manufacturing output. Manufacturing Gross domestic product was taken as dependent variable while exchange rate, interest rate, political stability, recurrent expenditure, money supply, interest rate, index of energy consumption, credit to private sector, degree of openness and rate of growth of GDP as independent variables. The results suggested that there is a positive relation between rate of growth of GDP, capital expenditure, money supply, openness of the economy, recurrent expenditure and manufacturing output in the country. Isaksson (2010) sheds light on how important public capital is for countries trying to industrialize and achieve faster economic growth. To this end, a small empirical model of industrial development was formulated and applied to manufacturing level and growth data for 57 advanced and developing countries for the time period of 1970 to 2000. In estimating the impact of public capital on industry

special care was taken to deal with country-specific effects, reverse causality and endogeneity bias. The findings was clear: public capital has important explanatory power for why some countries have managed to industrialize, while others have not. Stages of development influence how strongly public capital matters, but there is evidence of impact at all income levels. Moreover, it seems that the returns to public investment are, largely, diminishing as income increases.

2.3.3 Government Expenditure and Economic Development

Alimi (2014) examined the causal relationship between government spending and national income in panel of three African countries – Nigeria, Ghana and South Africa - during the period 1970 to 2012 using Johansen Fisher Panel co-integration test and then on a country by country basis using time series Johansen-Juselius co-integration techniques. The panel co-integration results indicated a long run relationship between government spending and national income in the whole panel. The Johansen-Juselius co-integration test suggests an existence of long run relationship between government spending and national income only for Ghana as predicted by Wagner, thus suggesting government spending is not an important factor in economic growth in the long run in Nigeria and South Africa. They found an evidence of bi-directional causality granger causality tests for the whole panel. Furthermore, the result from the causality test shows that there is a bi-directional causality that runs from national income to government expenditure and vice versa for Nigeria and South Africa. However, for Ghana, there was a uni-directional causality that runs from government expenditure to national income and there is no feed-back mechanism. Raghbendra, Bagala and Urvashi (2002) tested whether public expenditures on education, health and other development activities have been effective in reducing poverty in India. To ensure sensitivity and robustness of the

results, three different measures of poverty belonging to the Foster-Greer-Thorbecke group of poverty measures are used. Data for fourteen Indian states from 13th to 53rd rounds of National Sample Survey of India were used for estimating poverty. Using unbalanced panel data techniques, they tested fixed effects, random effects and OLS models, and concluded that education, health and development expenditures help reduce poverty. In particular, expenditure on higher, university, technical, adult and vocational educations as opposed to elementary and secondary education is more effective in poverty reduction.

Dogan (2006) examined the direction of causality between national income and government expenditures for Indonesia, Malaysia, Philippines, Singapore, and Thailand. Granger causality tests were used to investigate the causal links between the two variables. Times series data covering last four decades were used. Support for the hypothesis that causality runs from government expenditures to national income has been found only in the case of Philippines. There is no evidence for this hypothesis and its reverse for the other countries. Nwosa (2014) ascertained the impact of government expenditure on unemployment and poverty rates in Nigeria for the period 1981 to 2011. Using an Ordinary Least square (OLS) estimation technique, the study observed that government expenditure has positive and significant impact on unemployment rate while it has a negative and insignificant impact on poverty rate. Dahmardeh and Tabar (2013) explored the relationship between government spending and poverty rate in Sistan and Baluchestan Province of Iran by examining effects of the budget expenditure in 1978 to 2008 years on poverty reduction. Furthermore, the study has investigated income distribution of 420 household in Sistan and Baluchestan region in 2010 and estimated government expenditure impacts on poverty reduction by using of Autoregressive Distributed Lag (ARDL) technique.

As shown in the results, constructive expenditures have positive effect on poverty reduction.

Grullón (2012) determined Wagner's Law and the Keynesian hypothesis on the relationship between national income and government spending in the Dominican Republic during the periods of 1960-1984 and 1985-2005. Using the 'bounds' testing approach to the analysis of level relationships and a method developed by Bårdsen (1989) to derive long-run coefficients, the results showed the existence of a co-integrated relationship between gross domestic product and government consumption expenditure during the period 1960-1984. The estimate of the long run coefficient shows that a one percent increase in gross domestic product produced a 1.39 percent increase in government consumption spending. Moreover, Granger Pairwise causality tests showed causal linkages running from gross domestic product to government consumption expenditure. The findings for the 1985-2005 period also confirm the presence of co-integration between gross domestic product and government consumption spending. However, the elasticity is below unity (+0.78). There is also evidence of causality from gross domestic product to government consumption spending. Combined, all these results show that Keynes's hypothesis is found not to be valid for the case of the Dominican Republic. Ahmad and Batul (2013) assessed the long run relation between poverty, education expenditure and education status. The research utilized the Johanson Cointegration Test, Vector Error Correction Model (VECM), Wald Test and Granger causality test to investigate the causal direction and long run relationship between poverty, education expenditure and education status in the country. With the help of Percentage of population below national poverty line, Adult Literacy rate over 15 years of age, Government expenditure on education as a percentage of total expenditures and Total School life Expectancy the authors

concluded that there exists a strong causal bi-directional relationship running between poverty rate and education status in the region. The research did not find a significant long run relationship existing between poverty rate and education expenditure. The research concluded that, increasing budgetary allocation to funding education sector alone without reducing poverty level, would not be sufficient to improve the education status of the country.

Birowo (2011) the relationship between government expenditure and poverty rate in Indonesia, by examining effects of the budget expenditure groups before and after budget reform in 2004. The study employed Ordinary Least Square regression to analyse the relationship. The data collection involved the use of both quantitative and qualitative research methodology. The research found that the government expenditure in overall did not have a negative relationship with poverty rate; this result was opposite to the previous studies on the similar field. Prior to budget reform, out of 8 sectors, the government expenditure in education and in industry sectors had significant negative relationships with poverty rate. Post budget reform, none of expenditure functions had a negative relationship with poverty rate. Post reclassification, out of 9 functions, the government expenditure in general service and in order and security functions showed significant negative relationships with poverty rate. Tiwari (2012) analysed the trends in combined Plan Expenditures on Social Services by the Centre, State and UTs as well as the impact of the Plan expenditures on Social Services during the plan period on the Per Capita income of people in India. Using simple correlation analysis, the study inferred that the rising levels of the income of the per capita income of the people has been positively associated with social sector expenditures which in turn has been correlated with a declining incidence of poverty in India during the plan period. However the trickledown effect

does not seem to show concrete results as it points to the necessity of targeted public expenditures programme to be developed for those living in destitute poverty. Mapfumo, Mushunje and Chidoko (2012) studied the impact of government agricultural expenditure on poverty in Zimbabwe for the period 1980 to 2009. The study used growth poverty and growth expenditure elasticities to estimate the financial resources required to meet the MDGs. The result of the analysis revealed that Zimbabwe will need 54 percent annual growth rate in spending towards agriculture. The estimated spending towards agriculture for poverty reduction in tandem with first MDG was found to be very high which make it almost impossible for the Zimbabwe government to meet the first MDG indicating that the country needs to accelerate their economic growth, particularly in the agricultural sector. Hidalgo-Hidalgo and Iturbe-Ormaetxe (2013) studied whether public expenditure in education may have an effect in reducing the probability of being poor when adult, and to what extent. The main finding was that, public expenditure in primary education has a strong effect on raising individuals above the poverty line, on reducing the probability of suffering health problems when adults and on increasing school attendance beyond compulsory education.

2.3.4 Government Expenditure and Quality of Education

Dauda (2011) examined the effect of government educational spending and macroeconomic uncertainty on schooling outcomes in Nigeria using the econometric methods of co-integration and error correction mechanism together with the vector autoregression methodology. The results indicated that schooling outcome co-integrated with all the identified explanatory variables. The study found that public educational spending impacts positively on schooling outcome while macroeconomic instability impacts negatively. The variance decomposition analysis showed that “own

shocks” constitute the predominant source of variation in schooling outcome. The impulse response analysis shows that any unanticipated increase in the macroeconomic uncertainty rate will have a contractionary impact on literacy rate. Using a cross section of countries, Sylwester (2002) empirically examined whether devoting more resources to education can positively affect the distribution of income (as measured by the Gini coefficient) within a country. From the findings, public education expenditures appeared to be associated with a subsequent decrease in the level of income inequality. The finding was robust to the inclusion of various control variables and appears to be larger in high income nations. The findings suggested that devoting more resources to education may be one way to reduce the level of income inequality within a country. Churchill, Yew and Ugur (2015) used a sample of 306 estimates drawn from 31 primary studies and conducted an empirical synthesis of the link between economic growth and government expenditure on education or health using meta-analysis. They found that the effect of government education expenditure on growth is positive, whereas the growth effect of government health expenditure is negative.

Oriakhi and Ameh (2014) ascertained the influence of government expenditure on the education sector in Nigeria. Using a time series linear forecasting model, the study evaluated the effects of the allocation to the education sector by the government and its development. The use of co-integration in the work showed there is a long-run relationship between the variables and they are statistically significant. The Granger Causality test shows that the various variables granger causes literacy rate in Nigeria. Odior (2011) determined the dynamic (direct and indirect) effects of government policy on education and its relation to the cyclical economic growth in the long run. The basic objective is to simulate if government expenditure on

education would help to improve economic performance in Nigeria in the long run-2015. The paper used an integrated sequential dynamic computable general equilibrium (CGE) model to examine the potential impact of increase in government expenditure on education in Nigeria. The result showed that the re-allocation of government expenditure to education sector is significant in explaining economic growth in Nigeria. Guisan and Exposito (2010) assessed the relationships between health expenditure, education and several indicators of human well-being in Africa and Asia. Applying various econometric tools, result showed that the main way to improve health expenditure is to increase expenditure on education. The beneficial effects of education on health include both preventive measures addressed to avoid malnutrition, water contamination and other negative circumstances, and curative measures through more quantity and quality of health services.

Obi and Obi (2014) evaluated the impact of education expenditure on economic growth as a means of achieving the desired socio-economic change needed in Nigeria. The study used time series data from 1981 to 2012. The Johansen's co-integration analysis and ordinary least square (OLS) econometric techniques were used to analyse the relationship between gross domestic product (GDP) and recurrent education expenditure. Findings indicated that though a positive relationship subsists between education expenditure and economic growth, but a long run relationship does not exist over the period under study. Annabi, Harvey and Lan (2007) used a computable overlapping-generations model (OLG) and investigated the dynamic effects of public investment in human capital in the Canadian context of population ageing. It was discovered that learning time and public expenditures on education both improve human capital accumulation and effective labour supply. The simulation results indicated that a tax-financed increase in public spending on education may

have significant crowding-out effects in the short run. In the long run, however, higher education incentives may increase the rate of human capital accumulation which in turn could mitigate the negative effects of population ageing. Lustig (2015) examined the level, redistributive impact and pro-poorness of government spending on education and health for thirteen developing countries from the Commitment to Equity project. Social spending as a share of total income is high by historical standards, and it rises with income per capita and income inequality. Spending on education and health lowers inequality and its marginal contribution to the overall decline in inequality is, on average, 69 percent. There appears to be no “Robin Hood Paradox:” redistribution increases with income inequality, even if one controls for per capita income. Concentration coefficients indicated that spending on pre-school, primary and secondary education is pro-poor in twelve countries. Spending on tertiary education is regressive and unequalizing in three countries, and progressive and equalizing (but not pro-poor) in ten. Health spending is pro-poor in five countries. Of the remaining eight, health spending per capita is roughly equal across the income distribution in three, and progressive and equalizing (but not pro-poor) in five.

2.3.5 Government Expenditure and Quality of Health

Gupta, Verhoeven and Tiongson (1999) examined whether higher government spending results in better performance in education and health. The study used data for 50 cross sectional countries and transition economies showed that expenditure allocations within the two sectors improve both access and attainment in schools and reduce mortality rate for infants and children. Novignon, Olakojo and Nonvignon (2012) ascertained the effects of public and private healthcare expenditure on health status in sub-Saharan Africa using panel data from 1995 to 2010 covering 44 countries in Africa. The panel fixed effect results revealed that healthcare expenditure

significantly influenced health status through improving life expectancy at birth, reducing death and infant mortality rates. Both public and private healthcare spending showed strong positive association with health status even though public healthcare spending has relatively higher impact. Kim and Lane (2013) empirically evaluated the relationship between public health expenditure and national health outcomes among developed countries. The data were collected from 17 OECD countries between 1973 and 2000. Two public health outcome indicators, infant mortality rate and life expectancy at birth, were used as dependent variables. A statistically significant association was found between government health expenditure and public health outcomes. Particularly, the findings showed a negative relationship between government health expenditure and infant mortality rate, and a positive relationship between government health expenditure and life expectancy at birth. The results suggested that higher government spending on medical goods and services can be shown to provide better overall health results for individuals.

Somoye, Olayiwola, Bidmoz, Oke and Odubunmi (2014) investigated the technical efficiency of government spending on health care and education in Nigeria for the period 1988-2007, applying Data Envelopment Analysis (DEA). Inputs adopted were public expenditure on education and health while primary school and secondary school enrolment, infant mortality and life expectancy were the outputs, respectively. The results showed evidence of technical inefficiency in government spending on health care and education in Nigeria. On the average, technical efficiency in the educational sector was 0.986 and that of health sector was 0.970 over the period which deviated from 1.0 as an indicator of efficiency in DEA methodology. This reflected evidence of an indirect relationship between high spending and efficiency, implying that higher spending does not necessarily bring about efficiency. The

findings suggested that increasing budgetary allocations for education and health may not be an effective way of increasing education and health sector output and that more attention needs to be given to increasing efficiency of public expenditure in these two sectors. Riman, Bassey and Edu (2010) determined the relationship between levels of government health care expenditure and health status in Nigeria. The paper utilized several estimation techniques (Cobb–Douglas production function, Semi–logarithmic function, exponential and semi –logarithmic function) using data from 1980 – 2003. The result of the research revealed that life expectancy and literacy rate were negatively correlated with health care expenditure both in the short and long-run, income elasticity of health care expenditure was below low unity both in the short-run and long-run. Eneji, Juliana and Onabe (2013) tried to establish the relationship between healthcare expenditure, the health status and national productivity in Nigeria from 1999-2012. Public health care expenditure was considered as the explanatory variable for health status, productivity and poverty reduction. The study depicted a weak causal relationship thus if people are a country’s principal asset, then their health status defines the course of development, and their health characteristics determine the nature and direction of sustainable human development.

Akram and Khan (2007) measured the incidence of government spending on health in Pakistan at provincial, both rural and urban level; using the primary data of the Pakistan Social Standard Living Measures Survey (PSLM), 2004-05, and by employing the three-step Benefit Incidence Approach (BIA) methodology. The paper reviewed the national policies emphasising health services as well as the trend in access to and public sector spending on health care facilities in Pakistan. The study explored the inequalities in resource distribution and service provision against the government health expenditures. The rural areas of Pakistan are the more

disadvantaged in the provision of the health care facilities. The expenditures in health sectors are overall regressive in rural Pakistan as well as at provincial and regional levels. Mother and Child subhead is regressive in Punjab and General Hospitals and Clinics are regressive in all provinces. Only the Preventive Measures and health facilities sub-sector is progressive in Pakistan. Public health expenditures are pro-rich in Pakistan. Day and Tousignant (2005) estimated a dynamic model of the relationship between three variables: real per capita GDP, real per capita spending on health and an indicator of health outcomes. Unit root and co-integration tests, with and without allowances for structural break(s), are used to help identify the appropriate dynamic model. Generalized impulse response analysis is then used to explore the dynamic relationships between the three variables. Several different indicators of health outcomes are employed in the analysis: the infant mortality rate, the age-standardized mortality rate, and a single composite index. The analysis presented evidence of a weak statistically significant relationship between per capita health spending, health outcomes, and per capita GDP.

Razmi and Mohammadi (2012) assessed the effect of government health expenditure on human development index by using the ordinary least squares method (OLS) over the period 1990-2009 in Iran. The results showed a positive and significant relationship between government health expenditure and human development index. Also, Granger Causality Test indicates that there is no bilateral relationship between the government health expenditure and human development index in Iran. Ogungbenle, Olawumi and Obasuyi (2013) explored the relationship existing among life expectancy, public health spending and economic growth in Nigeria. A vector Autoregressive (VAR) model approach was employed in analysing the data. The results of the study revealed that there is no bidirectional causality

between life expectancy and public health spending in Nigeria. In the same vein, the study also revealed that there is no bidirectional causality between life expectancy and economic growth in Nigeria over the years. However, the study confirmed that there is bidirectional causality between public health spending and economic growth in Nigeria. Matthew, Adegboye and Fasina (2014) looked at government spending on health and its effect on health outcomes in Nigeria between 1979 and 2012. The study made use of the Johansen co-integration and the Vector Error Correction Model (VECM) econometric technique to determine the long-run relationship between public spending on health and health outcomes in Nigeria. The study found out that public spending on health has a significant relationship with health outcomes in Nigeria. It was also discovered that environmental factors such as carbon dioxide emissions which was used in this study affects individuals' health.

Ahmad and Hasan (2016) studied the impact of public health expenditure and governance on health outcomes in Malaysia. An Autoregressive Distributed Lag (ARDL) co-integration framework was used to analyse data from 1984 to 2009. The results based on the bounds testing procedure showed that a stable, long-run relationship exists between health outcomes and their determinants; namely income level, public health expenditure, corruption and government stability. The results also revealed that public health expenditure and corruption affect long- and short run health outcomes in Malaysia. Olarinde and Bello (2014) used the concept of co-integration in an empirical analysis of the long-run relationship of Nigeria's public healthcare expenditure, institutions and health sector performance outcome from 1970 to 2011. The autoregressive distributed lag (ARDL) and VECM granger non-causality techniques were used for estimating the long-run and short run coefficients of the health sector model as well as to confirm direction of causality between the variables.

The empirical results from ARDL bound testing approach provided strong evidence of the existence of a long-run and short-run stable relationship among the variables included in both models. In addition, both models estimated offered empirical results, which supported the hypothesis that good institutions are germane to positive health sector outcome, and that causality runs from all the variables in the model to infant mortality rate. Deshpande, Kumar and Ramaswami (2015) identified whether or not there is a relationship between healthcare expenditure and national life expectancy in order to gain perspective on how to efficiently increase the quality of health in a state. In addition to healthcare expenditure, the study also used percent government expenditure, concentration of doctors in an area, and literacy rate as independent variables. The data showed that there is no significant correlation between healthcare spending and life expectancy in developing countries, but it does exist in developed countries. They speculated that in developing countries, it is not the quantity spent but the quality of expenditure that impacts healthcare but in developed countries, spending may be more efficient and thus more effective.

Craigwell, Bynoe and Lowe (2012) assessed the efficacy of public spending on health care and education by evaluating the life expectancy and school enrolment rates of Caribbean countries. Using a data set containing 19 Caribbean countries over the period 1995 to 2007 for health care and 1980 to 2009 for education, a Panel Ordinary Least Squares model was employed. The results revealed that health expenditure has a significant positive effect on health status, while spending on education has no appreciable influence on either primary or secondary school enrolment. Memarian (2015) analysed the relationship between health care expenditure, life expectancy and economic growth in Iran. The study relied on annual statistical data recorded over a 23-year period (from 1989 to 2011) and deploys the

ARDL econometric technique. The results indicated that life expectancy and health care expenditure have a significant positive impact on GDP both in the short-term and in the long-term, that is, an increase in life expectancy and health care expenditure causes an increase in economic growth. Grigoli and Kapsoli (2013) quantified the inefficiency of public health expenditure and the associated potential gains for emerging and developing economies using a stochastic frontier model that controls for the socioeconomic determinants of health, and provides country-specific estimates. The results suggested that African economies have the lowest efficiency. At current spending levels, they could boost life expectancy up to about five years if they followed best practices.

2.4 Summary of Literature Reviewed

The nexus between government expenditure and economic growth has received considerable attention in recent years owing to relevant of capital formation in accelerating economic growth, especially, in developing countries. Theories have been modelled in discussing the connection between government expenditure and economic growth and empirical studies have validated and refuted the assumptions of these theories in different countries thus no theory has universal application. The majority of the empirical studies reviewed especially for developing show that economic growth is driven by public expenditure while few negates such assertion. Therefore, it is ideal to test the validation of the Adolph Wagner's postulation in Nigeria which is trying to attain the height of a developed economy.

SUMMARY OF RELATED EMPIRICAL STUDIES REVIEWED

AUTHORS	EMPIRICAL STUDIES	SAMPLE SIZE&PERIOD	ESTIMATION METHOD	MAIN FINDINGS
Adigwe, P. K., Anyanwu, F. A. & Udeh, F. (2016)	Dynamic Effect of Government Expenditure on Nigeria Economic Growth: Long Run Propensity and Short Run Adjustments	Nigeria, 1970 to 2015	ADF test, Johansen cointegration, Granger Causality test, Variance Decomposition and error correction	Recurrent and capital expenditure which are the two components of government expenditure have significant effect on Nigeria's economic growth thus, supporting the Adolph Wagner's hypothesis on public expenditure.
Iheanacho, E. (2016)	The Contribution of Government Expenditure on Economic Growth of Nigeria Disaggregated Approach	Nigeria, 1986-2014	Johansen cointegration and error correction approach	Negative and significant long run effect of capital expenditure on economic growth in Nigeria.
Ebong, F., Ogwumike, F., Udongwo, U. & Ayodele, O. (2016)	Impact of Government Expenditure on Economic Growth in Nigeria: A Disaggregated Analysis	Nigeria during 1970 and 2012	OLS technique , Error Correction and Cointegration	Government capital expenditures had differential effects on economic growth. Capital expenditures on Agriculture did not exert any significant influence on growth both in the long and short runs
Udoka, C. O. & Anyingang, R. A. (2015)	The Effect of Public Expenditure on the Growth and Development of Nigerian Economy	Nigeria, 1980-2012	OLS regression	Aggregate expenditure had a positive impact on economic growth and development of the Nigerian economy, recurrent expenditure had a significant relationship on the growth and development of the Nigerian economy.
Adamu, J. & Hajara, B. (2015)	Government Expenditure and Economic Growth Nexus: Empirical Evidence from Nigeria	Nigeria, 1970-2012	ADF unit root test, ordinary least square multiple regression and pairwise Granger causality test	Positive and insignificant relationship between capital expenditure and economic growth, recurrent expenditure had a significant positive impact on economic growth.
Ayinde, K., Kuranga, J. & Lukman, A. F. (2015)	Modeling Nigerian Government Expenditure, Revenue and Economic Growth: Co-Integration, Error Correction Mechanism and Combined Estimators Analysis Approach	Nigeria, 1981 to 2011	Co-Integration, Error Correction Mechanism and Combined Estimators	Positive impact of capital expenditure, oil revenue, federation account and federal retained revenue on economic growth.
Mushtaq, M., Nazir, R., Bashir, I., Ahmed, S. & Nadeem, M. (2014)	Panel Cointegration Analysis of Government Spending, Exports, Imports and Economic Growth	Eight countries, 1995 to 2011	IPS test for unit root, Pedroni panel cointegration test and Fixed Effects Model Estimation	Government spending, exports and domestic private investment affect economic growth positively and significantly.
Alshahrani, S. A. & Alsadiq, A. J. (2014)	Economic Growth and Government Spending in Saudi Arabia: an Empirical Investigation	Saudi Arabia using annual data over the period 1969-201	Unit Root Test (ADF), Johansen Co-integration, ECM) and Granger Causality test	Findings indicate that while private domestic and public investments, as well as healthcare expenditure, stimulate growth in the long-run.

Oni Lawrence B., Aninkan O. O. & Akinsanya, T. A. (2014)	Joint Effects of Capital and Recurrent Expenditures in Nigeria's Economic Growth	Nigeria, 1980-2011	ADF unit root and Ordinary Least Square (OLS)	The recurrent expenditure has a stronger and more accelerating effect on growth than capital expenditure.
Nwaeze, C., Njoku, R. and Nwaeze, O. P. (2014)	Impact of Government Expenditure on Nigeria's Economic Growth	Nigeria, 1992 – 2011	Ordinary Least Square (OLS)	Federal Government Expenditure has a positive and insignificant impact on the economic growth of Nigeria
Agbonkhese, A. O. & Asekome, M. O. (2014)	Impact of Public Expenditure on the Growth of Nigerian Economy	Nigeria, 1981 – 2011	Ordinary Least Square (OLS)	A positive relationship between government expenditure and economic growth in Nigeria.
Onakoya, A. B. & Somoye, R. O. C. (2013)	The Impact of Public Capital Expenditure and Economic Growth in Nigeria	Nigeria, 1970 to 2010	Three-Stage Least Squares (3SLS)	Public capital expenditure contributes positively to economic growth in Nigeria.
Carter, J., Craigwell, R. & Lowe, S. (2013)	Government Expenditure and Economic Growth in a Small Open Economy: A Disaggregated Approach	Barbados, 1976-2011	Dynamic Ordinary Least Squares and the Unrestricted Error Correction Model	Government spending produces a drag on economic growth, particularly in the short-run, with a much smaller impact over time
Egbetunde, T. & Fasanya, I. O. (2013)	Public Expenditure and Economic Growth in Nigeria: Evidence from Auto-Regressive Distributed Lag Specification	Nigeria, 1970 to 2010	bounds testing (ARDL)	Impact of total public spending on growth to be negative which is consistent with other past studies. Recurrent expenditure however was found to have little significant positive impact on growth
Bojanic, A. N. (2013).	The Composition of Government Expenditures and Economic Growth in Bolivia	Bolivia, 1988-2010	generalized method of moments (GMM)	Defence expenditures, decentralized expenditures (local or regional), and expenditures in Santa Cruz Department represent the best ways for government to boost the country's growth.
Okoro, A. S. (2013)	Government Spending and Economic Growth in Nigeria	Nigeria, 1980-2011	Granger Causality, Johansen Cointegration and Error Correction Mechanism	There exists a long-run equilibrium relationship between government spending and economic growth in Nigeria.
Al Bataineh, I. M. (2012)	The impact of government expenditures on economic growth in Jordan	Jordan for the period 1990 – 2010	OLS regression	Government expenditure at the aggregate level has positive impact on the growth of GDP which is compatible with the Keynesians theory.
Nworji, F. D., Okwu, A. T., Obiwuru, T. C. & Nworji, L. O (2012)	Effects of Public Expenditure on Economic Growth in Nigeria: A Disaggregated Time Series Analysis	Nigeria, Time series data 1970 – 2009	Ordinary Least Square (OLS)	Capital and recurrent expenditure on economic services had insignificant negative effect on economic growth.
Nasiru, I. (2012)	Government Expenditure and Economic Growth in Nigeria: Cointegration Analysis and Causality Testing	Nigeria, 1961-2010	Unit Root Test (ADF), unrestricted Error Correction Model and Pair wise Granger Causality tests.	Government capital expenditure causes economic growth. While no causal relationship was observed between government recurrent expenditure and economic growth.

Ebiringa, O. T. & Charles-Anyaogu, N. B. (2012)	Impact of Government Sectorial Expenditure on the Economic Growth of Nigeria	Nigeria, 1977 – 2011	A Cochrane-Orcutt and ECM	Expenditure on telecommunication, Defence and security, Education and Health Sector have made positive impact on Nigeria's economic growth.
Chamorro-Narvaez, R. A. (2012)	The Composition of Government Spending and Economic Growth in Developing Countries: The Case of Latin America	Latin America, 1975 – 2000	generalized method of moments (GMM)	Government expenditure cannot affect growth in the long term.
Muritala, T. & Abayomi, T. (2011)	Government Expenditure and Economic Development: Empirical Evidence from Nigeria	Nigeria, Time series data 1970-2008	Ordinary Least Square (OLS)	The findings show that there that there is a positive relationship between real GDP as against the recurrent and capital expenditure.
Mohammadi, T., Maleki, B. & Gashti, P. H. (2012)	The effect of government expenditure composition on economic growth: Evidence on ECO countries	Economic Cooperation Organization countries, 1995-2009	Dynamic Panel Data Method & generalized method of moments (GMM)	Health expenditure has significant and negative effect on the economic development of ECO countries.
Dereje, M. (2012)	Impact of Government Expenditure on Economic Growth on Ethiopia: An Empirical Analysis using Johansen Co-integration Approach	Ethiopia, 1970 to 2011,	DF and ADF test, Johansen cointegration and error correction	The result revealed that all components of government expenditure do not have significant effect in explaining growth of real per capita income in the short run.
Asghar, N., Azim, P. & Rehman, H. (2011)	Impact of Government Spending in Social Sectors on Economic Growth: A Case Study of Pakistan	Pakistan, 1974-2008	Unit root: ADF, PP, KPS, Ng-Perron, Johansen Cointegration and VECM.	The government expenditure on law and order and subsidies appear to be negatively related to economic growth.
Hamzah, K. S. B. (2011)	The Association between Government Expenditure and Economic Growth in Malaysia	Malaysia from 1970 to 2007	OLS regression	Total government development expenditure has a significant and negative relationship with economic growth.
Akpokerere, O. E. & Ighoroje, E. J. (2011)	The Effect of Government Expenditure on Economic Growth in Nigeria: A Disaggregated Analysis	Nigeria, 1977 to 2009	OLS regression	Government total capital expenditure (TCAP), total recurrent expenditures (TREC), Government expenditure on education (EDU) and power (POW) have negative effect on economic growth and are significant in explaining this relationship.
Fouladi, M. (2010)	The Impact of Government Expenditure on GDP, Employment and Private Investment a CGE Model Approach	Iran, 1970 to 2008,	Computable General Equilibrium Models (CGE)	Expenditure influences on economy in different ways, depends on types of costs. Increasing the government consumption expenditure causes reduction in production, employment and investment.

Abu, N. & Abdullahi, U. (2010)	Government Expenditure And Economic Growth In Nigeria, 1970-2008: A Disaggregated Analysis	Nigeria, 1970-2008	Unit Root Test (ADF) and Error Correction Model	Government total capital expenditure (TCAP), total recurrent expenditures (TREC), and government expenditure on education (EDU) have negative effect on economic growth.
Loizides, J. & Vamvoukas, G. (2004)	Government Expenditure and Economic Growth: Evidence from Trivariate Causality Testing	Using data on Greece, UK and Ireland, 1960 to 1995	Error Correlation Model (ECM) and Trivariate Causality	Government size Granger causes economic growth in all countries of the sample in the short run and in the long run for Ireland and the UK.
Alexiou, C. (2009)	Government Spending and Economic Growth: Econometric Evidence from the South Eastern Europe	Seven countries in South Eastern Europe from 1995 to 2005	Error Correction Model and Pair wise Granger Causality tests.	Government spending on capital formation, development assistance, private investment and trade-openness all have positive and significant effect on economic growth
Koeda, J. & Kramarenko, V. (2008)	Impact of Government Expenditure on Growth: The Case of Azerbaijan	Azerbaijan, 1990 and 2006	Simulations Technique	Assuming moderate effectiveness of public capital expenditure, the initially robust non-oil growth performance is followed by a prolonged stagnation period.
Mallick, H. (2008)	Openness and Economic Growth in India: A Time Series Analysis	Indian, 1995 to 2004	structural vector autoregression (SVAR)	Neither aggregate expenditure nor the capital expenditure does have significant influence on the growth rate of the economy.
Arpaia, A. & Turrini, A. (2008)	Government expenditure and economic growth in the EU: long-run tendencies and short-term adjustment	EU-15 countries, 1970-2003	Panel Unit Root, Error Correction Model and Pair wise Granger Causality tests.	Common long-term elasticity between cyclically-adjusted primary expenditure and potential output close to unity.
Jiranyakul, K. (2007)	The Relation between Government Expenditures and Economic Growth in Thailand	Thailand, 1993 to 2004	ADF test, Johansen cointegration, Granger Causality test and error correction	Government expenditures and money supply show the strong positive impact of government spending on economic growth during the period of investigation.
Kweka, J. P. & Oliver, M. (2000)	Government Spending and Economic Growth in Tanzania	Tanzania, 1965-1996	ADF unit root test, Johansen Cointegration and Engle-Granger Cointegration Tests	Increased productive expenditure has a negative impact on growth. Consumption expenditure relates positively to growth, and in particular appears to be associated with increased private consumption
Ghali, K. H. (1997)	Government Spending and Economic Growth in Saudi Arabia	Saudi Arabia, 1960 - 1996	Vector Autoregressive (VAR) and Granger-causality	no consistent evidence that government spending can increase Saudi Arabia's per capita output growth

2.5 Critique and Gap Literature

Muritala and Abayomi (2011) examined the trends as well as effects of government spending on the growth rates of real GDP in Nigeria over the last decades (1970-2008) using econometrics model with Ordinary Least Square (OLS) technique. The real GDP was used to measure economic growth. The findings showed that there is a positive relationship between real GDP as against the recurrent and capital expenditure. The authors' use of GDP to measure economic growth as against the use of the growth rate of GDP is a source of criticism. The growth rate of GDP captures the changes in GDP over time, if the economy grows, it will be positive but if it does not, then it will be negative which implies recession. The studies of Nworji, Okwu, Obiwuru and Nworji (2011), Nasiru (2012), Abu and Abdullahi (2010), Adamu and Hajara (2012) and Okoro (2013) among others. In fact, virtually all the studies in the context of Nigeria are criticised for their use of raw values of GDP as indicator of economic growth instead of the growth rate of GDP.

From the empirical studies reviewed, all the researchers focused only on one sector/section of the economy and neglected the others. Larger fraction of the scholars centred on government expenditure as it relates only to the growth of the real sector using real gross domestic product, industrial production index and manufacturing sector output as surrogates of economic growth e.g. Muritala and Taiwo (2011), Okoro (2013), Adamu and Hajara (2012), Nworji, Okwu, Obiwuru and Nworji (2011), Nasiru (2012) applied real GDP; Adebayo, Adebuseyi and Ishola (2014) utilized index of industrial production whereas Falade and Olagbaju (2015) employed manufacturing sector output. With regards to the social sector performance, few scholars applied per capita income e.g. Alimi (2014) and Dogan (2006); educational

output e.g. Dauda (2011) and Oriakhi (2014) and health output indicators e.g. Novignon, Olakojo and Nonvignon (2012) and Kim and Lane (2013).

This study improved on existing study by up-to-date data to captured government expenditure in relation to two sectors/sections of the economy: real sector and social sector as against previous studies that were hinged to one sector/section of the economy. Growth rate of real GDP and index of industrial production were the variables used to assess real sector performance relative to government expenditure. Social/community sector development was reflected with per capita income as a gauge of standard of living, adult literacy rate for educational development and average life expectancy at birth (male and female population) for quality of healthcare service in the country.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

This study adopted a hypothetico – deductive research design to ascertain the effect of government expenditure economic growth, industrial development, standard of living, quality of education and healthcare in Nigeria over a period of thirty six (36) years from 1981 to 2016. The choice of hypothetico-deductive method is because of its relevancy in validating the postulations/assumptions of theories. The hypothetico-deductive research design is suitable for a study of this nature as this research work seeks to test the validity of the assumptions of the Keynesian theory in Nigeria by employing various econometric tools, which provides a base to either accept or reject the Keynesian postulation.

3.2 Sources and Nature of Data

The data utilized in this study were secondary in nature. The secondary data for the variables concerned were sourced and extracted from the Central Bank of Nigeria (CBN) statistical bulletins, National Bureau of Statistic (NBS) reports and publications, United Nations Educational, Scientific and Cultural Organization (UNESCO) and www.worldbank.org. All the data were on annual or yearly basis as contained in the annual reports and publications of the above mentioned data sources.

3.3 Variables Appearing in the Models

There are five dependent variables which were used to measure economic growth and development. These variables are Real Gross Domestic Product Growth Rate (RGDPGR) and Industrial Production Index (IPI) were used to measure economic growth, Real Gross Domestic Product per Capita (RGDPPC), Quality of Education (QEDU) and Quality of Healthcare (QHEA) were used to measure economic development. The independent variables are the two components of government

expenditure: Recurrent Expenditure (GREXP) and Capital Expenditure (GCEXP). Government expenditure was segregated into recurrent expenditure and capital expenditure to assuage how each component propel or influences the dependent variables over the period reviewed.

3.4 Empirical Model Specification

The equational nexus between the dependent variable and independent/predictor variable are appeased through empirically specifying a model. This study adopted and modify the model of Alshahrani and Alsadiq (2014) for a study in Saudi Arabia. Saudi Arabia been an oil producing country like Nigeria influenced my decision to adopting their model. The original model of Alshahrani and Alsadiq (2014) is stated as:

$$y_t = \beta_0 + \beta_1 \left(\frac{IP}{Y}\right)_t + \beta_2 \left(\frac{IG}{Y}\right)_t + \beta_3 Open_t + \sum_{i \in \xi} \beta_i \Delta EXP_t^i + \varepsilon_t \text{-----} 3.1$$

where y is the growth rate of the real non-oil per capita GDP in period t , IP is real private domestic investment, IG is real government investment, Y is real non-oil GDP, ($Open$) is openness to trade calculated as the sum of real exports and imports over real non-oil GDP, (EXP^i) represents various components of government expenditure in the subset, β s are unknown parameters to be estimated, and ε is the usual random disturbance term. To incorporate the specific objectives, the following models stated in functional form will be estimated:

$$RGDPGR = f(GREXP, GCEXP) \text{-----} 3.2$$

$$IPI = f(GREXP, GCEXP) \text{-----} 3.3$$

$$STDL = f(GREXP, GCEXP) \text{-----} 3.4$$

$$QEDU = f(GREXPED, GCEXPED) \text{-----} 3.5$$

$$QHEA = f(GREXPHE, GCEXPHE) \text{-----} 3.6$$

To normalise the models to avoid the possible effect of any outlier, the models were transformed in a log-linear econometric format as follows:

Model 1

$$\text{LogGDPGR}_{it} = a_0 + a_1 \text{LogGREXP}_{it} + a_2 \text{LogGCEXP}_{it} + \varepsilon_{it} \text{-----} 3.7$$

Model 2

$$\text{LogIPI}_{it} = a_0 + a_1 \text{LogGREXP}_{it} + a_2 \text{LogGCEXP}_{it} + \varepsilon_{it} \text{-----} 3.8$$

Model 3

$$\text{LogSTDL}_{it} = a_0 + a_1 \text{LogGREXP}_{it} + a_2 \text{LogGCEXP}_{it} + \varepsilon_{it} \text{-----} 3.9$$

Model 4

$$\text{LogQEDU}_{it} = a_0 + a_1 \text{LogGREXPED}_{it} + a_2 \text{LogGCEXPED}_{it} + \varepsilon_{it} \text{-----} 3.10$$

Model 5

$$\text{LogQHEA}_{it} = a_0 + a_1 \text{LogGREXPHE}_{it} + a_2 \text{LogGCEXPHE}_{it} + \varepsilon_{it} \text{-----} 3.11$$

Where:

RGDPGR is real gross domestic product growth rate: This is the change in real gross domestic product over the period reviewed. It is the proxy for economic growth and preferred against the traditional real gross domestic product value as a measure of growth in an economy. Researchers like Adgiwe, Anyanwu and Udeh (2016), Alshadrani and Alsadiq (2014), Loizides and Vamvoukas (2005), Carter, Craigwell and Lowe (2013), Abu and Nurudeen (2010), Jibir and Babayo (2015), Alexiou (2009), Kweka and Morrissey (2000), Koeda and Kramarenko (2008) and Asghar, Azim and Rehman (2011) have applied this measurement of economic growth.

IPI is industrial production index: Industrial production index gives an idea of the industrial activities in an economy over a specified period of time. A high industrial production index is a reflection of high industrial activities which translates to real output of the economy. Industrial development was proxied with industrial production index. Adebayo, Adebuseyi and Ishola (2014), Falade and Olagbaju (2015), Tawose (2012), Iweriebor, Egharevba and Adegboye (2015), Anwar and Zheng (2004), Nwane (2015), Uzoka and Eze (2014), Nekarda and Raney (2010) and Njoku, Okezie Idika (2014) applied this proxy to measure industrial development.

STDL is standard of living: The standard of living entails how the citizens have been able to access basic requirements for well-being. Planned sectorial government expenditure improves human capital development and enhances citizens' contribution to economic development. Standard of living was measured using real GDP per capita. Studies such as Nwosa (2014), Dojan (2006), Darmar deh (2013), Santiago (2012), Grigoli and Ley (2012), Ahmad and Batul (2013) and Birowo (2011) have used per capita GDP to reflect standard of living.

QEDU is quality of education: The meaning of quality of education differs across countries. However, the quality of education in this work shows how residents are able to access and acquire the educational knowledge to enlighten, empower and help them to maximally contribute to socio economic and development of the different societies there are residing. Gross secondary school enrolment rate (male and female) was applied to measure the quality of education in Nigeria. Sylwester (2014), Dauda (2011), Churchill, Yew and Ugur (2015), Oriakhi and Ameh (2014), Odior (2011), Guisan and Exposito (2010) and Obi and Obi (2014) have measured the quality of education through the application of this indicator.

QHEA is quality of healthcare: The quality of healthcare is an insight to the availability of healthcare facilities to citizens at the appropriate time in the way that suits individual needs. Average life expectancy at birth (male and female population) was used to ascertain the quality of health. The studies of Churchill, Yew and Ugur (2015), Guisan and Exposito (2010), Hidalgo-Hidalgo and Iturbe-Ormaetxe (2013), Annabi, Harvey and Lan (2007), Eneji, Juliana and Onabe (2013), Akram and Khan (2007) Day and Tousignant (2005) employed this proxy to measure health status.

GREXP is government recurrent expenditure: Recurrent expenditure of the government dwelt on government spending on interest payment, transfers to statutory

bodies or for debt servicing, subsidies and goods and services via salaries and wages of employees, training and research, etc. Recurrent expenditure of the government has been assuaged in the researches of Nworji, Okwu, Obiwuru and Nworji (2012), Taiwo and Abayomi (2011), Nasiru (2012), Abu and Abdullahi (2010), Jibir and Babayo (2015), Okoro (2013), Oni, Aninkan and Akinsanya (2014), Ayinde, Kuranga and Lukman (2015) and Hamzah (2011).

GCEXP is government capital expenditure: Government capital expenditure is government spending on economic productive assets capable of improving the welfare of citizens such as road construction, hospitals, schools and industries among others. Okoro (2013), Ebong, Ogwumike, Udongwo and Ayodele (2016), Nwaeze, Njoku and Nwaeze (2014), Ebiringa and Charles-Anyago (2012), Agbonkhese and Asekome (2014) and Egbetunde and Fasanya (2013) have vividly applied capital expenditure in their works.

GREXPED is government recurrent expenditure on education: Recurrent expenditure on education is the government's operating expenditure on education, wages and salaries of staff involved in educational activities via various educational ministries and parastatals inclusive. This index is available in the works of Raghbendra, Bagadu and Biswal (2000), Ahmad and Batul (2013), Saraswati (2012), Lustig (2015), Sylwester (2002), Dauda (2011), Churchill, Yew and Ugur (2015) and Guisan and Exposito (2010).

GCEXPED is government capital expenditure on education: This refers to government spending on building of schools and tertiary institutions, laboratories and purchase of learning equipment that will increase human capacity learning. Raghbendra, Bagadu and Biswal (2000), Ahmad and Batul (2013), Odior (2011) and Obi and Obi (2014) obliged this indicator in their studies.

GREXPHE is government recurrent expenditure on health: Recurrent expenditure refers to government spending on day to day running of healthcare facilities across the country. Staff wages and salaries, fuelling of power generating sets in healthcare sectors, etc. are classified as recurrent expenditure on health. Gupta, Verheoeven and Tionson (1999), Novignon, Olakojo and Nonvignon (2012), Kim and Lane (2013), Riman, Bassey and Edu (2016), Raghbendra, Bagadu and Biswal (2000) and Churchill, Yew and Ugur (2015) used this index.

GCEXPHE is government capital expenditure on health: Government spending on building of new hospitals, healthcare centres, drugs and all other healthcare facilities for the well-being of the citizens are included as capital expenditure on health. Memmariam (2015), Olarinde and Bello (2014), Jha, Biswal and Biswal (2000), Razmi, Abbasian and Mohammadi (2012), Oluwatoyin, Folasade and Fagbeminiyi (2014) and Ahmad and Hasan (2016) applied this index in their studies.

α_0 is a constant term, ε is a random error/disturbance term and it is the time trend; which are modelled alongside the dependent and independent variables to account for variables omitted and unexplained random effects in the model.

3.5 Method of Data Analysis

The models were estimated using the Ordinary Least Square (OLS) technique of data analysis as the period of the study conveniently met Gujarati (2004) twenty five (25) minimum number of observation for OLS application to be valid. The Vector Autoregression (VAR) Model was employed to perform structural analysis (variance decomposition, granger causality, impulse response function, etc.) of the models.

Stationarity Test

The variables were subjected to stationarity test through Augmented Dickey-Fuller (ADF), Philip Peron (PP) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) tests. There is the need to determine whether a given time series data is consistent with a unit root process. This is in line with econometric assumption that time series data are encumbered by stationarity defect which may make result to be spurious. The Augmented Dickey-Fuller (ADF), Phillips-Perron (PP) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) were the stationarity test employed. Determining the appropriate lags for ADF began with a maximum lag, while PP and began with few lags.

Auto-Regressive Distributed Lag (ARDL) Bound Test

The Auto-Regressive Distributed Lag (ARDL) bound test was employed in ascertaining the co-integrating equation (s) between the variables. The ARDL methodology is structured in such a way that it takes into consideration mixed order of integration of the variables which is against Johansen co-integration that applies if all variables are stationary at the same level.

Granger Causality Test

The Granger causality indicates the ability of one variable to predict the current values of another variable. In other words, it ascertains capacity of one variable to cause another to move. For instance, y is said to be granger-caused by x if x helps in predicting the value of y . If, the lagged values of x are statistically significant, then x is said to be granger cause by y . The same principles was applied to evaluate the predicting power of y .

Vector Error Correction Model (VECM)

If the variables in the models are found to be co-integrated through ARDL methodology, the speed of adjustment in the short run as well as the long run

coefficient was determined with the aid of the Vector Error Correction Mechanism (VECM). A negative and significant error correction coefficient suggest that a significant error is taking place and this ascertains the percentage/magnitude of error that is ben corrected. The long run dynamics and the short run effects of the explanatory variables on the dependent variables were simultaneously ascertained with the error correction model.

3.6 Yardstick for Analysis and Interpretation of Results

The results of the models estimation were interpreted based on global statistics through Adjusted R-Squared, F-Statistic and Durbin Watson test, and the relative statistics of the models which deals on the coefficients of the individual variable.

Adjusted R-Square (R^2): The magnitude of change in the dependent variables attributed to the explanatory variables is judged by the adjusted R-square. An adjusted R-square value that is close to one shows a greater explanatory power of the independent variables. Similarly, a low adjusted R-square suggests a lower explanatory power of the independent variable (s).

F* Statistic: The F-statistic determines whether or not the variation attributed to the independent variable (s) is significant. In a situation where the p-value of F- statistic is less than 0.05, then changes in the dependent variables as a result of fluctuation in the independent variable (s) is significant while the opposite is the case where the F-statistic is found to be greater than 0.05.

Durbin Watson Statistic: The Durbin-Watson test is the traditional test for checking autocorrelation in a regression model. However, Durbin-Watson test has some weaknesses which made Ezirim (2016) to suggest that performing a serial correlation LM test in addition to the Durbin Watson to detect the presence of autocorrelation in a model.

3.7 A Priori Expectation

The theoretical relationship between the dependent and independent variables was adjudged by the a priori expectation. On the assumption of the Keynesian theory, government expenditure surrogated into recurrent and capital expenditure is supposed to have a positive relationship with real gross domestic product growth rate, industrial development, standard of living, quality of education and health. The supposed signs of the independent variables are summarized in Table 1.

Table 1: A Priori Expectation

Symbol	Variable	Substitution	Supposed Signs
GREXP	Recurrent Expenditure	Government Expenditure	+
GCEXP	Capital Expenditure	Government Expenditure	+
GREXPED	Recurrent Expenditure on Education	Government Expenditure	+
GCEXPEDU	Capital Expenditure on Education	Government Expenditure	+
GREXPHE	Recurrent Expenditure on Health	Government Expenditure	+
GCEXPHE	Capital Expenditure on Health	Government Expenditure	+

Source: Researcher's Assumption from Keynesian Theory of Government Expenditure

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Data Presentation

In the data presentation section, the data that were used in estimating the models developed in chapter three were detailed. Table 2 shows the data for real GDP growth rate, per capita income, index of industrial production, secondary school enrolment ratio and life expectancy at birth from 1981 to 2016 as sourced from Central Bank of Nigeria (CBN) statistical bulletins, World Bank and United Nation Educational, Scientific and Cultural Organization (UNESCO) reports.

Table 2: Real GDP Growth Rate, Per Capita Income, Index of Industrial Production, Secondary School Enrolment Ratio and Life Expectancy at Birth from 1981 to 2016

Year	Real GDP Growth Rate (%)	Per Capita Income (Naira)	Index of Industrial Production (Points)	Secondary School Enrolment Ratio (%)	Life Expectancy at Birth (%)
1981	-13.13	1,245.22	115.60	16.83	46.00
1982	-1.05	1,299.37	122.90	20.63	46.00
1983	-5.05	1,380.92	96.40	24.69	46.00
1984	-2.02	1,422.19	91.60	28.33	46.00
1985	8.32	1,604.26	100.00	28.90	46.00
1986	-8.75	1,548.88	103.50	26.92	46.00
1987	-10.75	2,184.07	122.10	26.88	46.00
1988	7.54	2,900.62	108.80	26.50	46.00
1989	6.47	4,102.82	125.00	23.88	46.00
1990	10.42	3,436.61	130.60	24.31	46.00
1991	-0.56	5,563.52	138.80	25.90	46.00
1992	2.15	8,701.47	136.20	28.90	45.00
1993	1.54	10,564.76	131.70	31.20	45.00
1994	0.26	13,235.58	129.20	33.20	45.00
1995	1.84	26,814.89	128.80	33.20	45.00
1996	3.89	36,272.71	132.50	34.00	45.00
1997	2.80	36,753.98	140.60	31.03	45.00
1998	2.43	34,136.99	133.90	30.48	45.00
1999	0.52	39,048.04	129.10	23.25	45.00
2000	5.23	54,636.87	138.90	24.28	46.00
2001	6.25	54,721.64	144.10	26.65	47.00
2002	12.74	60,327.50	145.20	29.16	47.00
2003	8.68	74,790.56	147.00	31.87	48.00
2004	9.45	89,905.61	151.20	34.44	48.00
2005	6.55	104,673.19	158.80	34.44	49.00
2006	6.30	129,537.12	158.90	34.01	50.00
2007	6.82	140,346.98	124.80	31.52	50.00
2008	6.72	160,681.23	117.60	35.09	50.00
2009	7.71	159,570.33	118.20	38.99	51.00
2010	8.71	339,399.84	121.50	44.05	51.00
2011	5.04	385,269.95	132.00	45.15	51.00
2012	4.04	421,637.20	136.70	46.76	51.00
2013	5.20	462,068.03	138.24	55.48	52.00
2014	5.86	378,376.79	139.11	58.55	52.00
2015	2.71	378,831.98	120.24	61.79	52.00
2016	-1.53	358,643.06	109.60	65.21	52.00

Source: Central Bank of Nigeria Statistical Bulletin, 2016, worldbank.org and uis.unesco.org

The corresponding data for total recurrent expenditure, total capital expenditure, recurrent expenditure on education, capital expenditure on education, recurrent expenditure and capital expenditure on health from 1981 to 2016 are summarized in Table 3.

Table 3: Total Recurrent Expenditure, Total Capital Expenditure, Recurrent Expenditure on Education, Capital Expenditure on Education, Recurrent Expenditure on Health and Capital Expenditure on Health from 1981 to 2016

Year	Total Recurrent Expenditure (₦'Million)	Total Capital Expenditure (₦'Million)	Recurrent Expenditure on Education (₦'Million)	Capital Expenditure on Education (₦'Million)	Recurrent Expenditure on Health (₦'Million)	Capital Expenditure on Health (₦'Million)
1981	4,850.00	6,570.00	543.70	440.90	119.80	128.40
1982	5,510.00	6,420.00	646.70	488.00	155.80	130.20
1983	4,750.00	4,890.00	620.80	346.60	143.60	136.00
1984	5,830.00	4,100.00	716.30	144.90	139.10	51.10
1985	7,580.00	5,460.00	669.50	180.70	167.70	56.20
1986	7,700.00	8,530.00	652.80	442.70	279.20	81.20
1987	15,650.00	6,370.00	514.40	139.10	166.90	69.50
1988	19,410.00	8,340.00	802.30	281.80	260.00	183.20
1989	25,990.00	15,030.00	1,719.90	221.90	326.00	126.00
1990	36,220.00	24,050.00	1,962.60	331.70	401.10	257.00
1991	38,240.00	28,340.00	1,265.10	289.10	619.40	137.60
1992	53,030.00	39,760.00	1,676.30	384.10	837.40	188.60
1993	136,730.00	54,500.00	6,436.10	1,563.00	2,331.60	352.90
1994	89,970.00	70,920.00	7,878.10	2,405.70	2,066.80	961.00
1995	127,630.00	121,140.00	9,421.30	3,307.40	3,335.70	1,725.20
1996	124,290.00	212,930.00	12,136.00	3,215.80	3,192.00	1,659.50
1997	158,560.00	269,650.00	14,850.00	3,808.20	3,890.00	2,623.80
1998	178,100.00	309,020.00	13,590.00	10,579.30	4,740.00	8,307.20
1999	449,660.00	498,030.00	43,610.00	8,516.60	16,640.00	7,386.80
2000	461,600.00	239,450.00	57,960.00	10,529.20	15,220.00	8,865.60
2001	579,300.00	438,700.00	39,880.00	19,860.00	24,520.00	20,128.00
2002	696,800.00	321,380.00	80,530.00	9,215.00	40,620.00	12,608.00
2003	984,300.00	241,690.00	64,780.00	14,680.00	33,270.00	6,431.00
2004	1,032,700.00	351,300.00	76,530.00	35,900.00	34,200.00	21,200.00
2005	1,223,700.00	514,500.00	82,800.00	44,700.00	55,660.00	26,400.00
2006	1,290,200.00	552,390.00	119,020.00	32,700.00	62,250.00	32,200.00
2007	1,589,270.00	759,320.00	150,780.00	46,800.00	81,910.00	96,900.00
2008	2,117,360.00	960,890.00	163,980.00	48,800.00	98,220.00	97,200.00
2009	2,127,970.00	1,152,800.00	137,120.00	43,400.00	90,200.00	52,500.00
2010	3,109,380.00	883,870.00	170,800.00	47,600.00	99,100.00	53,800.00
2011	3,314,510.00	918,550.00	335,800.00	35,400.00	231,800.00	39,500.00
2012	3,325,160.00	874,830.00	348,400.00	47,600.00	197,900.00	45,000.00
2013	3,689,060.00	1,108,390.00	390,420.00	35,400.00	179,990.00	32,400.00
2014	3,426,900.00	783,120.00	343,750.00	40,800.00	195,980.00	40,700.00
2015	3,831,950.00	818,370.00	325,190.00	30,400.00	257,720.00	30,400.00
2016	4,178,590.00	634,590.00	369,556.38	37,000.00	221,712.00	35,670.00

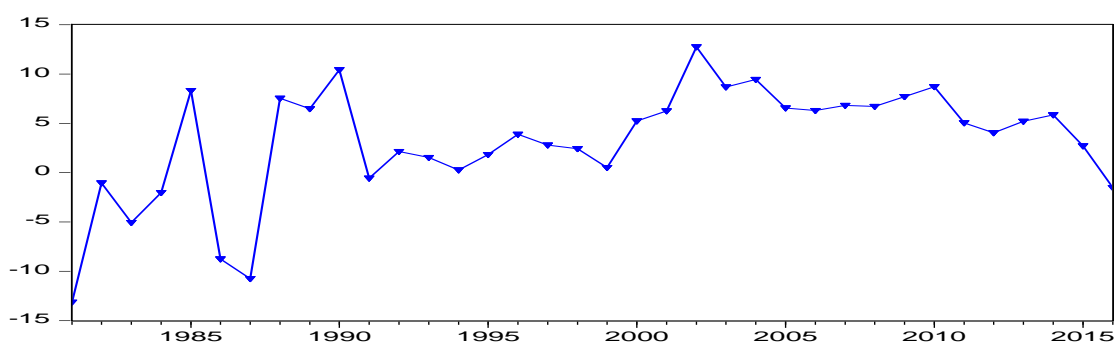
Source: Central Bank of Nigeria Statistical Bulletin, 2016

Real Gross Domestic Product Growth Rate

Real gross domestic product growth rate of Nigeria was -13.13 in 1981, but rose by 78.65% by the end of 2010 to settle at 8.71. From 2005 to 2008, there was a little rise in real gross domestic product growth rate from 6.55 in 2005 to 6.72 in 2008 before it

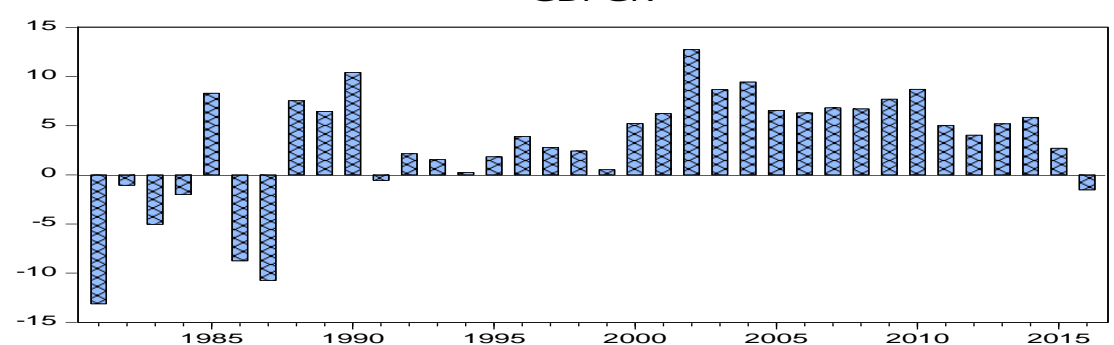
declined to 5.04 in 2011. From 2012 to 2016, as shown in Table 2, Fig. 1 and 2, real gross domestic product growth rate has been depreciating. In 2016, there a negative growth in the real gross domestic product growth rate was (-1.52) due to recession in the economy.

Fig. 1: Graph Trend in Real Gross Domestic Product Growth Rate 1981 to 2016
GDPGR



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 2: Bar Chart Trend in Real Gross Domestic Product Growth Rate 1981 to 2016
GDPGR

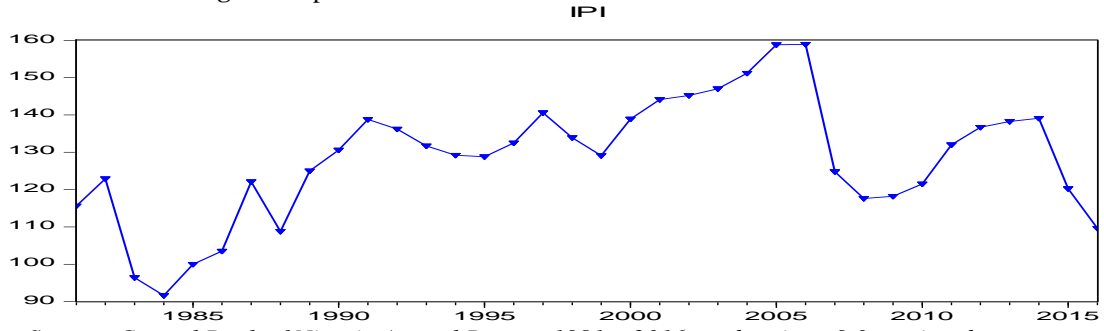


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Industrial Production Index

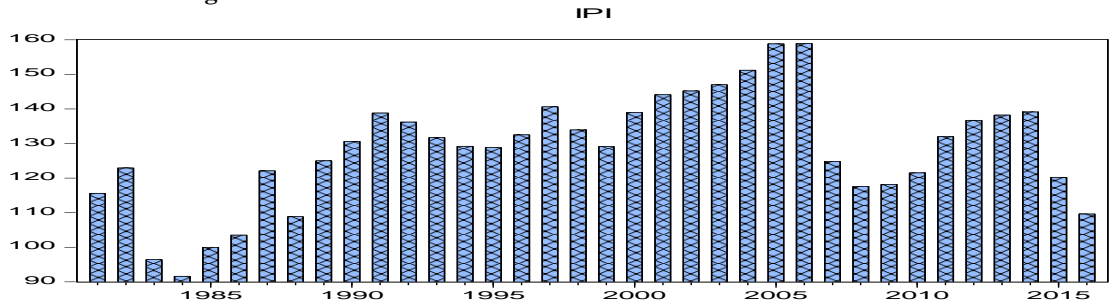
Industrial production Index in 2009 was 118.20, a rise of 0.51% from 117.60 in 2008. In 2012, index of industrial production increased by 3.44% to 136.70. As can be seen from Table 2, Fig. 3 and 4, from 1981 to 1993 industrial production index was on steady growth but declined to 129.20 in 1994. In 2010, industrial production index was 121.50, a rise of 2.72% compared to 118.20 in 2009, while it ended the year 2016 with 109.60 points.

Fig. 3: Graph Trend in Index of Industrial Production 1981 to 2016



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 4: Bar Chart Trend in Index of Industrial Production 1981 to 2016

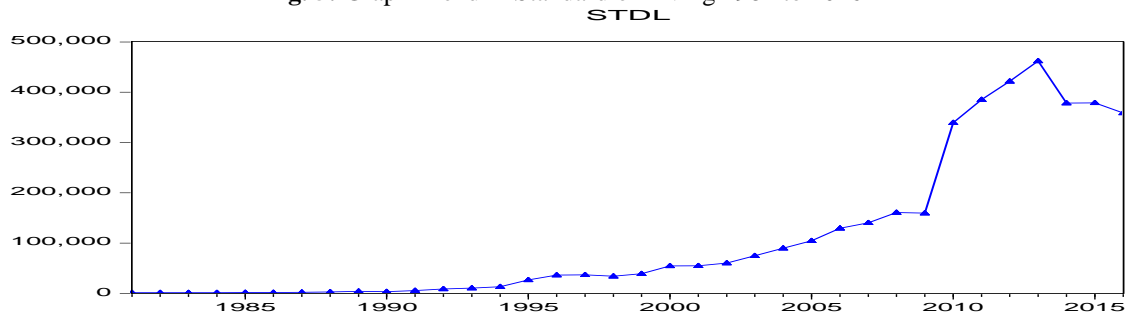


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Standard of Living

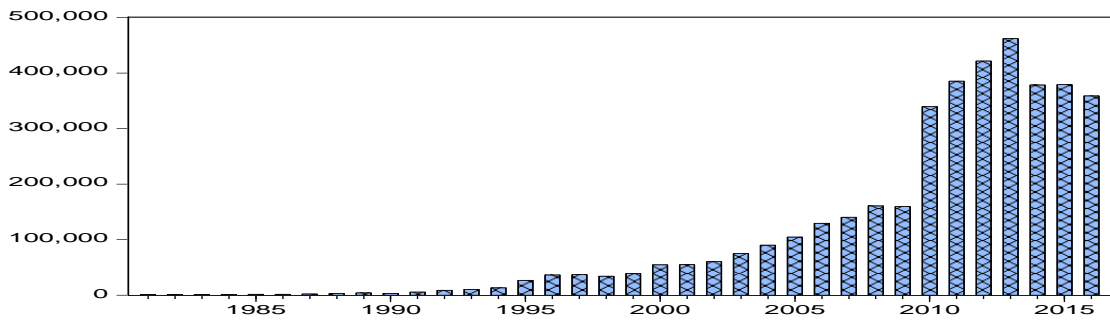
Standard of living which was measured with per capita income has been significantly on the rise over the years. From a per capita income of ₦1, 245.22 in 1981 to ₦358, 634.06 in 2016 showed a magnificent improvement in the standard of living of the population. The per capita income trend upwardly from 1981 to 2013. Nevertheless, from 2014 to 2016 per capita income declined especially in 2016 due to the economic recession in the country. The trend in per capita income is depicted in Table 2, Fig. 5 and 6.

Fig. 5: Graph Trend in Standard of Living 1981 to 2016



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 6: Bar Chart Trend in Standard of Living 1981 to 2016
STDL

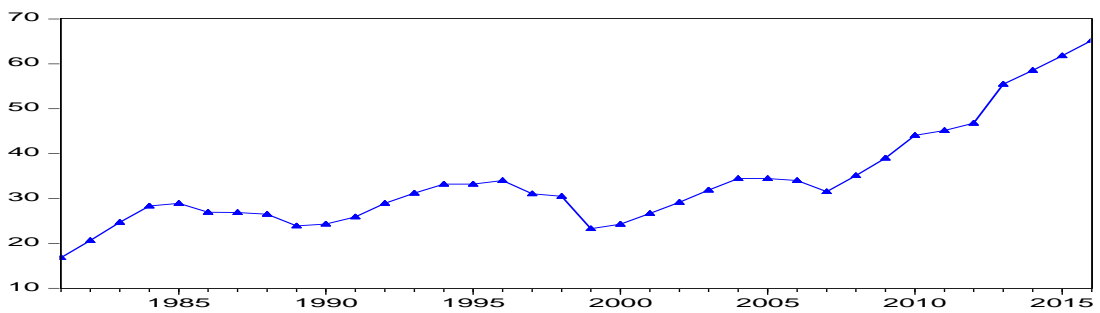


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Quality of Education

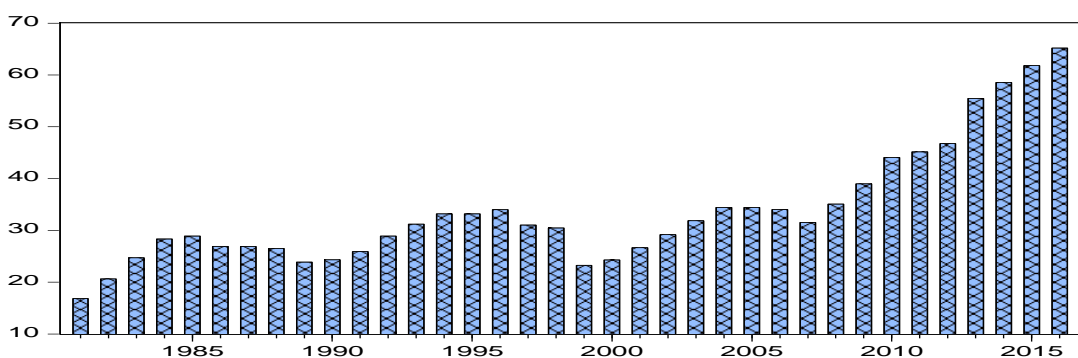
The quality of education reflected with secondary school enrolment ratio dispels improvement in the access of education in Nigeria. Secondary school enrolment ratio was 16.83 in 1981 but has significantly risen to 65.21 in 2016. Table 2, Fig. 7 and 8 illustrate the movement in secondary school enrolment ratio within the period studied.

Fig. 7: Graph Trend in Quality of Education 1981 to 2016
QEDU



Source: United Nation Educational, Scientific and Cultural Organization reports; and e-views 9.0 version data output

Fig. 8: Bar Chart Trend in Quality of Education 1981 to 2016
QEDU

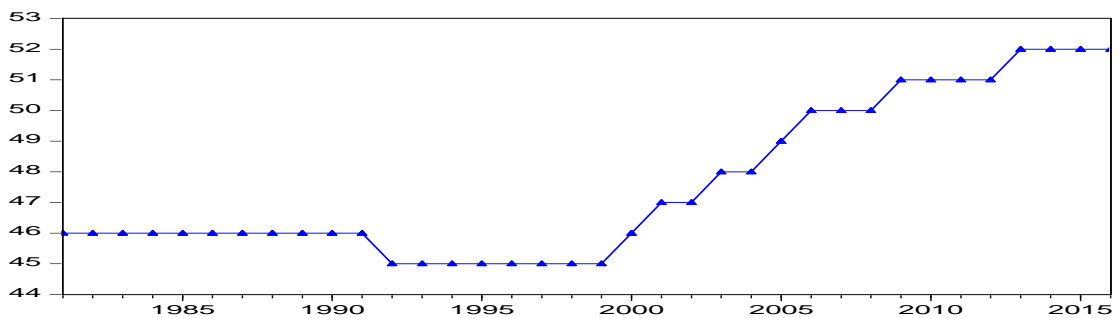


Source: United Nation Educational, Scientific and Cultural Organization reports; and e-views 9.0 version data output

Quality of Health

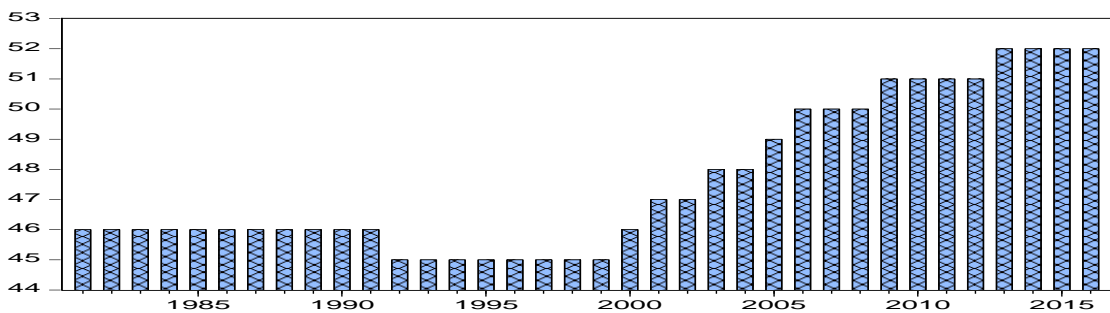
The quality of health in Nigeria through average life expectancy at birth was 46.00 in 1981, but rose by 9.62% by the end of 2010 to settle at 51.00. The quality of health from 1992 to 1999 maintained an average of 45.00 but rose marginally by 2.17 to close at 46.00 in 2000. From 2011 to 2016 as shown in Table 2, Fig. 9 and 10, quality of health increased by a small margin to 52.00 in 2016 as against 51.00 in 2011.

Fig. 9: Graph Trend in Quality of Health 1981 to 2016
QHEA



Source: World Bank, United Nation Educational, Scientific and Cultural Organization reports; and e-views 9.0 version data output

Fig. 10: Bar Chart Trend in Quality of Health 1981 to 2016
QHEA

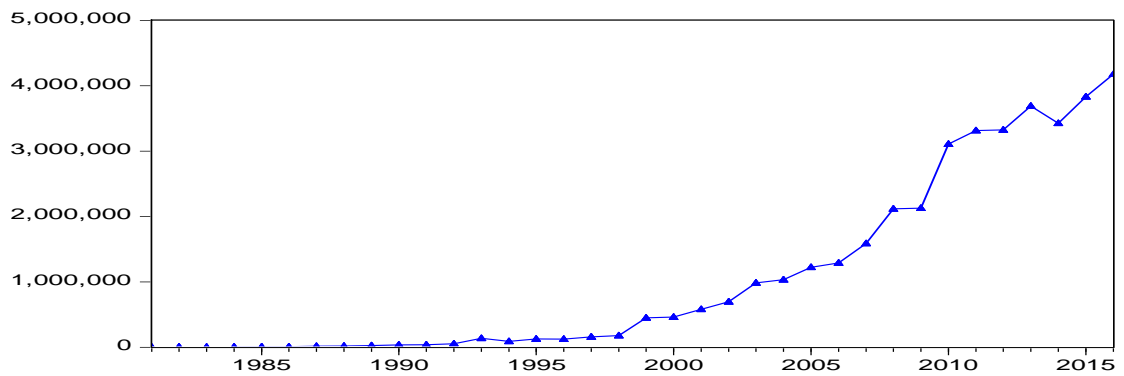


Source: World Bank, United Nation Educational, Scientific and Cultural Organization reports; and e-views 9.0 version data output

Total Government Recurrent Expenditure

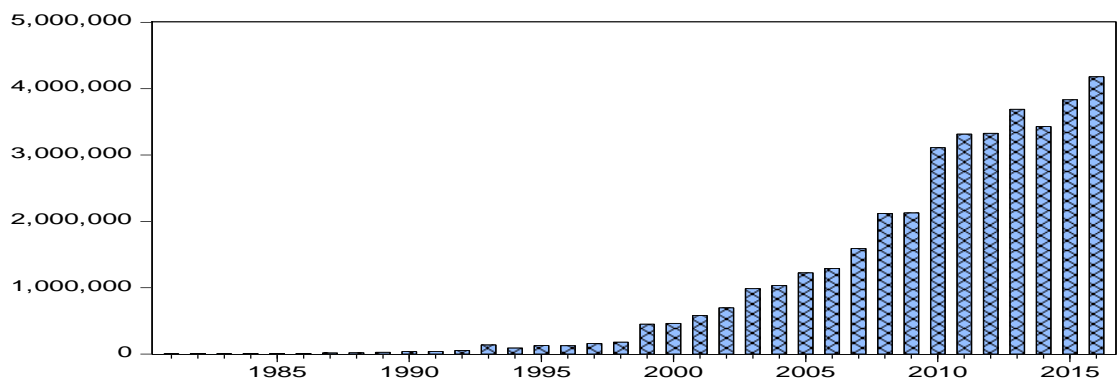
In 1981, the total government recurrent expenditure was put at ₦4, 850 million, but rose to ₦3, 109,380 million in 2010. It further increased to ₦3, 314,510 million in 2011. It declined to ₦3, 325,160 million in 2012 and significantly appreciated to ₦4, 178,590 by the end of 2016. Table 3, Fig. 11 and 12 show the trend in total government recurrent expenditure within the scope of this study.

Fig. 11: Graph Trend in Total Government Recurrent Expenditure 1981 to 2016
GREXP



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 12: Bar Chart Trend in Total Government Recurrent Expenditure 1981 to 2016
GREXP

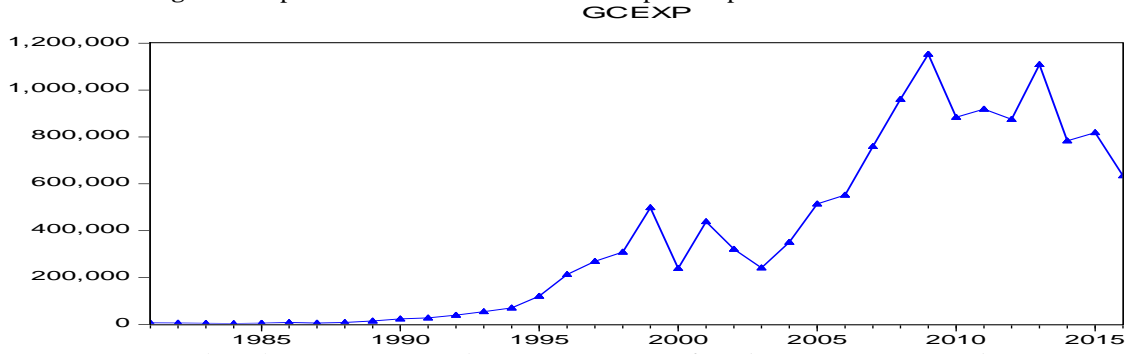


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Total Government Capital Expenditure

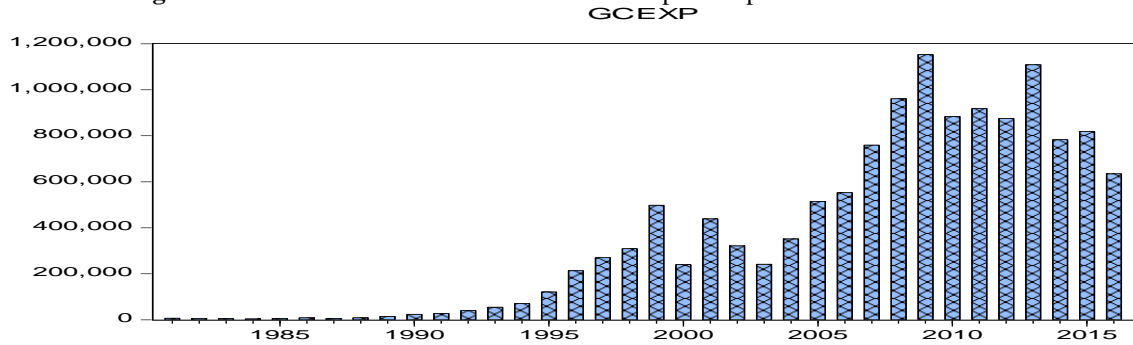
From the sequential, graphical and chart trend in Table 2, Fig. 13 and 14 respectively, total capital expenditure of the Federal Government of Nigeria rose from ₦6, 570 million in 1981 to ₦634, 590 million in 2016 thus an appreciation of over 500% yet no meaningful development have been recorded by the citizens. From 2007 to 2016, the capital expenditure of the government has maintained a steady rise. Due to the recession in Nigerian economy in 2016, the capital expenditure of the government declined by 28.96% to settle at ₦634, 590 million compared to ₦818, 370 million in 2015.

Fig. 13: Graph Trend in Total Government Capital Expenditure 1981 to 2016



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 14: Bar Chart Trend in Total Government Capital Expenditure 1981 to 2016

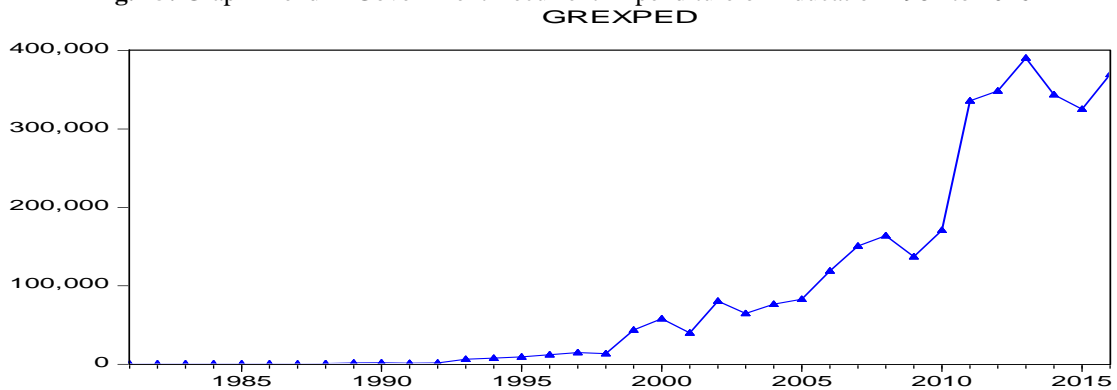


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Government Recurrent Expenditure on Education

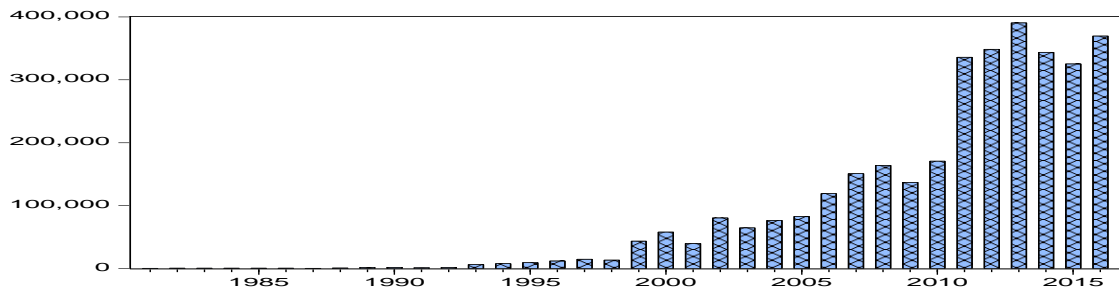
With inferences from Table 3, Fig.15 and Fig. 16, government recurrent expenditure on education has risen over time. Within the period studied, highest government expenditure was recorded in 2013 when the total recurrent expenditure was valued at ₦390, 420 million and followed by ₦369, 556.38 million in 2016.

Fig. 15: Graph Trend in Government Recurrent Expenditure on Education 1981 to 2016



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 16: Bar Chart Trend in Government Recurrent Expenditure on Education 1981 to 2016
GREXPED

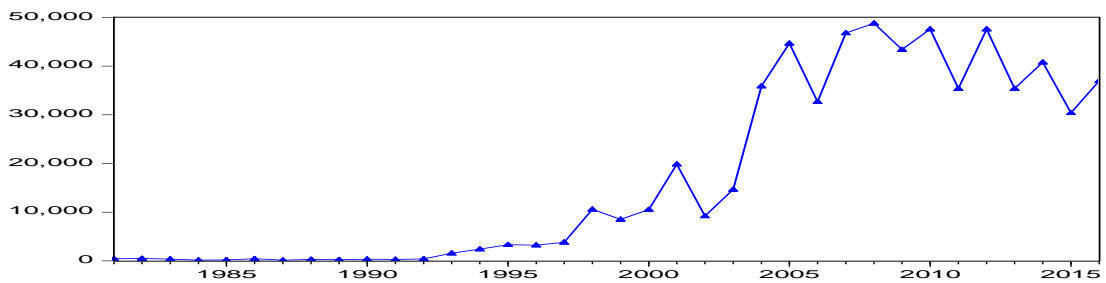


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Government Capital Expenditure on Education

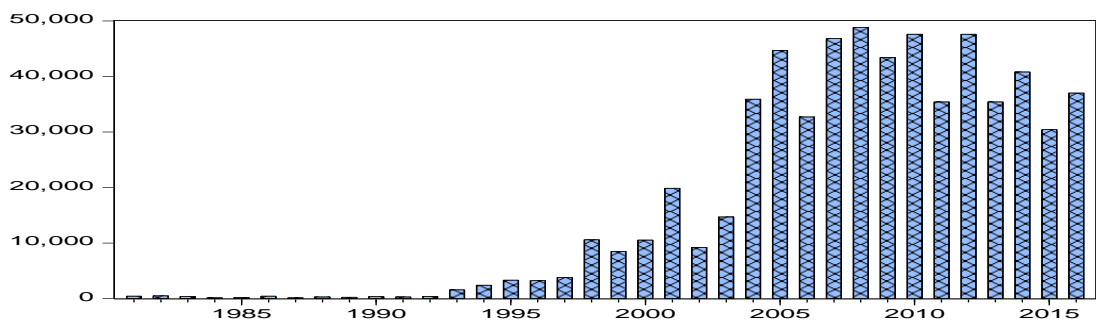
Table 3, Fig. 17 and Fig. 18 depict capital expenditure of the government on education within the period studied. In 1981, capital expenditure of the government on education was ₦440.90 million. It gradually rose to ₦10, 579.30 million in 1998 before declining to ₦8, 516.60 million in 1999. In 2008, the government made the highest capital expenditure on education as it was summed ₦48, 800.00 million. However, it went down to ₦43, 400 million the following year before dropping to ₦37, 000 million in 2016.

Fig. 17: Graph Trend in Government Capital Expenditure on Education 1981 to 2016
GCXEPED



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 18: Bar Chart Trend in Government Capital Expenditure on Education 1981 to 2016
GCXEPED

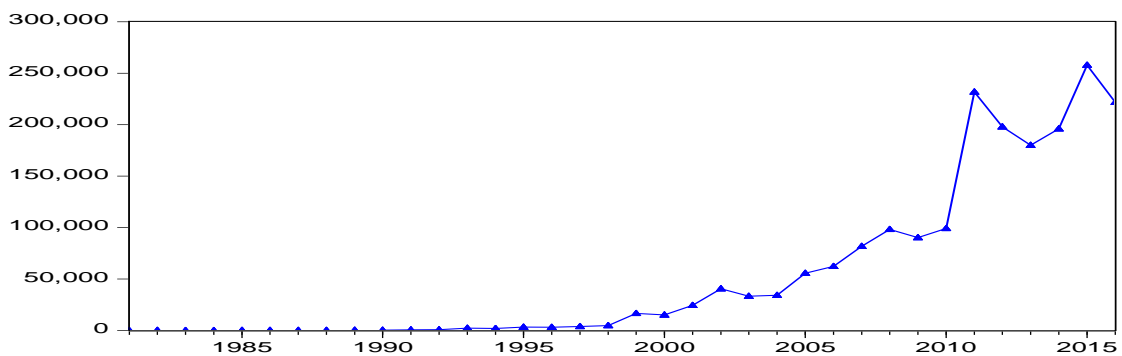


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Government Recurrent Expenditure on Health

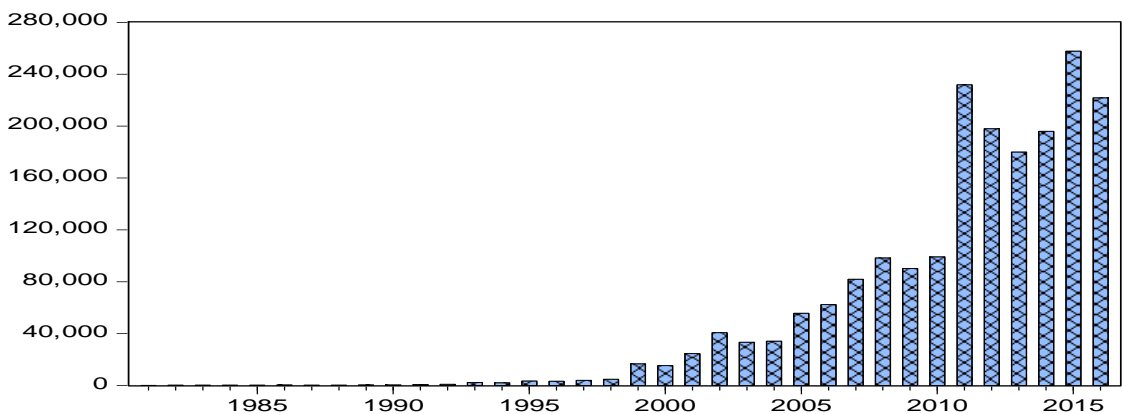
From 1981 to 1998, government recurrent expenditure on health has witnessed continuous rise but declined significantly in 1999 to ₦16,640 million from ₦4,740 million in 1998. It sharply went down to ₦15,220 million before rising again to ₦24,520 million in 2001. The government recurrent expenditure on health to the tune of ₦257,720 million in 2015 was the greatest within the period studied. In 2016, it depreciated to ₦221,712 million and probably attributed to the fall in government revenue following the fall in crude oil price in the international market. Table 3, Fig. 19 and Fig. 20 give insights to the movement in healthcare recurrent expenditure from 1981 to 2016.

Fig. 19: Graph Trend in Government recurrent Expenditure on Health 1981 to 2016
GREXPHE



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 20: Bar Chart Trend in Government recurrent Expenditure on Health 1981 to 2016
GREXPHE

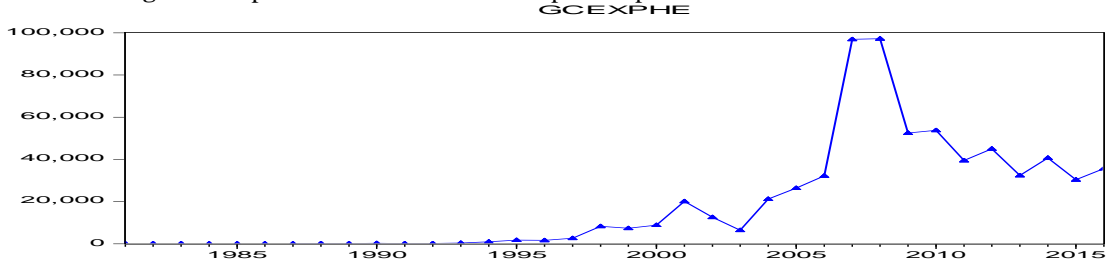


Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Government Capital Expenditure on Health

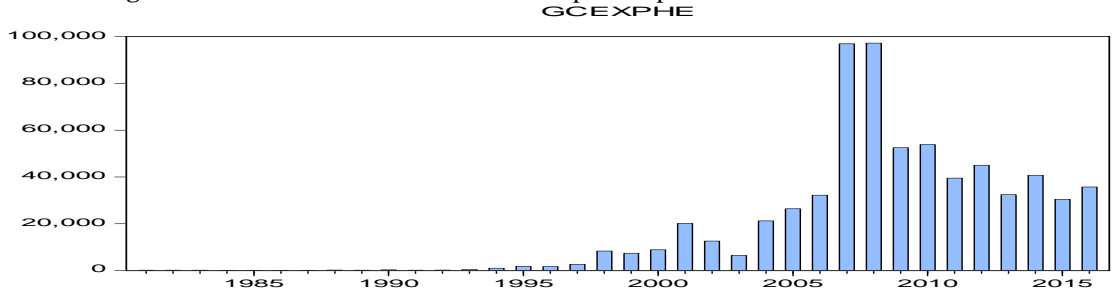
Table 3, Fig. 21 and Fig. 22 dispel the trend in capital expenditure of the government on health. In 1990, capital expenditure of the government on health was ₦128.4.00. It increased to ₦137.60 million in 1991 but sharply decline to ₦188.60 in 1993 this growth continued till 1999 when it was valued ₦7, 386.80 million relative to ₦8, 307.20 in 1998. However, it was bedevilled with some variation before getting to a peak of ₦97, 200 million in 2008. Since the year 2008, government has been reducing its capital spending on health as it further surged to ₦35, 670 million in 2016.

Fig. 21: Graph Trend in Government Capital Expenditure on Health 1981 to 2016



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

Fig. 22: Bar Chart Trend in Government Capital Expenditure on Health 1981 to 2016



Source: Central Bank of Nigeria Annual Report, 1981 – 2016; and e-views 9.0 version data output

4.2 Data Descriptive Features

The descriptive features of the data were structured to capture the mean, median, maximum, standard deviation, skewness, kurtosis, Jarque-Bera, p-value and number of observations of the data set. From the descriptive features of the data common sample in Table 4, mean were shown to be 3.14 for GDPGR, 128.32 for IPI, 110712.10 for STDL, 33.79 for QEDU, 47.58 for QHEA, 1068568 for GREXP, 368005.8 for GCEXP, 93805.79 for GREXPED, 17163.10 for GCEXPED, 54446.78

for GREXPHE and 18790.67 for GCEXPHE. The median for the sample data are 4.54, 129.90, 37901.01, 31.12, 46.00, 313880.0, 27365.00, 8865.80, 9980.0 and 6908.90 respectively for GDPGR, IPI, STDL, QEDU, QHEA, GREXP, GCEXP, GREXPED, GCEXPED, GREXPHE and GCEXPHE. The maximum and minimum values are 12.7 and -13.13 for GDPGR, 158.9 and 91.6 for IPI, 462068.0 and 1245.22 for STDL, 65.21 and 16.83 for QEDU, 52.0 and 45.0 for QHEA, 4178590 and 4750 for GREXP, 1152800 and 4100 for GCEXP, 27365.0 and 390420 for GREXPED, 8865.8 and 139.10 for GCEXPED, 257720 and 119.80 for GREXPHE and 97200 and 51.105 for GCEXPHE. The standard deviation are 5.78, 16.19, 147114.5, 11.48, 2.57, 1375246, 372270.1, 127955.7, 18699.07, 79092.83 and 25784.66 for GDPGR, IPI, STDL, QEDU, QHEA, GREXP, GCEXP, GREXPED, GCEXPED, GREXPHE and GCEXPHE.

Table 4: Data Descriptive Features

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	P-value	Obs
GDPGR	3.148611	4.540000	12.74000	-13.13000	5.782879	-1.078232	3.969616	8.385746	0.015103	36
IPI	128.3164	129.9000	158.9000	91.60000	16.18626	-0.325207	2.809731	9.688861	0.008624	36
STDL	110712.1	37901.01	462068.0	1245.220	147114.5	1.277129	3.081027	9.796200	0.007461	36
QEDU	33.79083	31.11500	65.21000	16.83000	11.48340	1.319574	4.085306	12.21449	0.002227	36
QHEA	47.58333	46.00000	52.00000	45.00000	2.556504	0.630469	1.792575	9.571759	0.001685	36
GREXP	1068568.	313880.0	4178590.	4750.000	1375246.	1.077378	2.635110	7.164181	0.027817	36
GCEXP	368005.3	255670.0	1152800.	4100.000	372270.1	0.655318	2.061156	8.898791	0.042360	36
GREXPED	93805.79	27365.00	390420.0	514.4000	127955.7	1.291978	3.200384	10.07547	0.006488	36
GCEXPED	17163.10	8865.800	48800.00	139.1000	18699.07	0.553376	1.594765	7.799374	0.040746	36
GREXPHE	54446.78	9980.000	257720.0	119.8000	79092.83	1.393325	3.538918	12.08378	0.002377	36
GCEXPHE	18790.67	6908.900	97200.00	51.10000	25784.66	1.654979	5.374954	24.89434	0.000004	36

Source: E-views 9.0 version data output

The coefficient of the data skewness, only GDPGR and IPI that were not positively skewed toward normality. Majority of the data have leptokurtic characteristic as some variables had Kurtosis statistics greater than 3. From the p-values of the Jarque-Bera statistics, the data were normally distributed thus free from any outlier that may likely affect the result of the regression estimates.

4.3 Sensitivity Analysis

Serial Correlation LM Test

When variables in a regression model is serially correlated, the inferences from such estimation is considered statistically unreliable. To avoid this issue and spurious regression output, the serial correlation LM test was performed for all the models. From the outcome of the serial correlation LM test in Table 5, the variables in the models were not serially correlated as the p-values are insignificant at 5% level of significance. It econometrically ideal that serial correlation LM test per checked for regression estimates in addition to the conventional Durbin Watson test of autocorrelation.

Table 5: Serial Correlation LM Test

Regression Estimates	F-statistic	Prob. F(2,31)
GDPGR →GREXP + GCEXP	0.735537	0.4874
IPI →GREXP + GCEXP	0.501918	0.6105
STD L →GREXP + GCEXP	0.879323	0.6037
QEDU →GREXPED + GCEXPED	1.289414	0.2908
QHEA →GREXPHE + GCEXPHE	1.464723	0.0658

Source: E-views 9.0 version data output

Heteroskedasticity Test

The presence of heteroskedasticity in a regression model casts a dent to the possible outcome and making inference that is statistically reliable becomes difficult. Mitigating the issue of heteroskedasticity in the models resulted in the conduct of heteroskedasticity test. From the heteroskedasticity test result in Table 6, the regression estimates are free from heteroskedasticity issue as the p-values of the f-statistics are not statistically significant 5% significance level.

Table 6: Harvey Heteroskedasticity test

Estimates	F-statistic	Prob. F(2,33)
GDPGR →GREXP + GCEXP	1.074769	0.3530
IPI →GREXP + GCEXP	1.044632	0.3866
STD L →GREXP + GCEXP	0.493140	0.7028
QEDU →GREXPED + GCEXPED	0.673154	0.5750
QHEA →GREXPHE + GCEXPHE	1.895480	0.1662

Source: E-views 9.0 version data output

Ramsey RESET Test

In determining how well the models were specified, the Ramsey reset specification was estimated for the all the models. Model misspecification affects the regression outcome and substitution from such estimates would be deemed insignificant. As can be seen in Table 7, the models were well-specified owing to insignificant p-values (at 5% significance level).

Table 7: Ramsey Reset Specification

Estimates	t-statistic	df	P-value
GDPGR →GREXP + GCEXP	1.440067	32	0.1596
IPI →GREXP + GCEXP	0.599658	30	0.5532
STDL →GREXP + GCEXP	0.746691	30	0.4611
QEDU →GREXPED + GCEXPED	1.594680	30	0.1213
QHEA →GREXPHE + GCEXPHE	0.083650	30	0.1500

Source: E-views 9.0 version data output

Multicollinearity Test

The presence of multi-collinearity between dependent and explanatory variable (s) is considered not a problem but becomes an econometric problem when it between the explanatory variable. The multi-collinearity result through correlation matrix in Table 8 discloses the correlation between total government recurrent and capital expenditure to be 0.17, recurrent and capital expenditure on education 0.27, while recurrent and capital expenditure on health 0.31. From these results, it deduced that there is no multi-collinearity problem between the explanatory variables in all the models. Nevertheless, there was evidence of positive correlation between the explanatory variables and dependent variables.

Table 8: Correlation Matrix

	GDPGR	IPI	STDL	QEDU	QHEA	GREXP	GCEXP	GREXPED	GCEXPED	GREXPHE	GCEXPHE
GDPGR	1.0000	0.4500	0.2445	0.2140	0.3098	0.2614	0.3955	0.226070	0.420246	0.199522	0.360482
IPI	0.44997	1.0000	0.1381	0.0764	0.122	0.1053	0.2242	0.129398	0.289333	0.080087	0.081509
STDL	0.24446	0.1381	1.0000	0.8996	0.9087	0.9789	0.8512	0.979888	0.788632	0.959664	0.619882
QEDU	0.21400	0.0764	0.8996	1.0000	0.8212	0.9163	0.7184	0.904016	0.672278	0.906818	0.487913
QHEA	0.3098	0.1212	0.9087	0.8212	1.0000	0.9499	0.8780	0.913963	0.894755	0.907652	0.765942
GREXP	0.2614	0.1052	0.9789	0.9163	0.9499	1.0000	0.1770	0.976444	0.837489	0.970866	0.687680
GCEXP	0.39555	0.2242	0.8512	0.7184	0.8780	0.1770	1.0000	0.837973	0.912017	0.815328	0.833618
GREXPED	0.22607	0.1294	0.9800	0.9040	0.9140	0.9764	0.8380	1.000000	0.278176	0.979434	0.632538
GCEXPED	0.42025	0.2893	0.7886	0.6723	0.8948	0.8375	0.9120	0.278176	1.000000	0.756277	0.887229
GREXPHE	0.19952	0.0801	0.9597	0.9068	0.9077	0.9709	0.8153	0.979434	0.756277	1.000000	0.317457
GCEXPHE	0.36048	0.0815	0.6199	0.4879	0.7659	0.6877	0.8336	0.632538	0.887229	0.317457	1.000000

Source: E-views 9.0 version data output

4.3 Test for Unit Root

The attainment of stationarity by variable (s) is necessary in model estimation due to the influence of non-stationarity on regression output. To this effect, the Augmented Dickey-Fuller (ADF), Phillips Perron (PP) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test of unit root were used to prove that the data were stationary. The stationarity test as presented in Tables 9 and 10 for ADF, Tables 11 and 12 for PP, and Tables 13 and 14 for KPSS envisage that all the variable achieved stationarity at first difference for ADF and PP, while at level estimation for KPSS.

Augmented Dickey-Fuller (ADF)

From the unit root test output in Table 9, all the data were not stationary at level form estimation but became stationary at first difference estimation (Table 10). This is an implication that the variables passed the test of unit root as the data were integrated at order one i.e. 1(1).

Table 9: Result of ADF Test at Level

Variables	Intercept	Trend and Intercept	None	Remark
GDPGR	-4.512011 (0.00)*	-4.641949 (0.00)*	-1.382897 (0.15)	Stationary
IPI	-2.056558 (0.26)	-2.008410 (0.57)	-0.320855 (0.56)	Not Stationary
STDL	0.120996 (0.96)	-1.599570 (0.77)	1.073396 (0.92)	Not Stationary
QEDU	1.345344 (0.99)	0.131133 (0.99)	3.242250 (0.99)	Not Stationary
QHEA	0.799400 (0.99)	-1.439636 (0.83)	2.283894 (0.99)	Not Stationary
GREXP	2.348498 (0.99)	-0.667090 (0.97)	3.933926 (0.99)	Not Stationary
GCEXP	-1.142910 (0.69)	-2.395787 (0.38)	-0.253794 (0.59)	Not Stationary
GREXPED	0.669559 (0.99)	-1.374301 (0.85)	1.625742 (0.97)	Not Stationary
GCEXPED	-0.710751 (0.83)	-2.602973 (0.28)	0.270676 (0.76)	Not Stationary
GREXPHE	-0.376434 (0.90)	2.179915 (1.00)	-0.861913 (0.33)	Not Stationary
GCEXPHE	-1.701754 (0.42)	-2.512903 (0.32)	-1.126618 (0.23)	Not Stationary

Source: E-views 9.0 version data output

Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

Phillips Perron (PP) Test

With inferences from Tables 11 and 12, all the variables would not attain stationarity at level form (Table 12). That notwithstanding, stationarity for all the data was achieved at first difference estimation. In other words, the data were also integrated at order one i.e. 1(1) as was the case of the ADF test.

Table 10: Result of ADF Test at First Difference

Variables	Intercept	Trend and Intercept	None	Remark
GDPGR	-7.943588 (0.00)*	-7.931819 (0.00)*	-8.080538 (0.00)*	Stationary
IPI	-5.274653 (0.00)*	-5.266442 (0.00)*	-5.355890 (0.00)*	Stationary
STDL	-4.931566 (0.00)*	-5.004752 (0.00)*	-4.669369 (0.00)*	Stationary
QEDU	-3.787458 (0.00)*	-4.107661 (0.01)*	-3.356184 (0.00)*	Stationary
QHEA	-4.935404 (0.00)*	-5.350075 (0.00)*	-4.449719 (0.00)*	Stationary
GREXP	-5.733958 (0.00)*	-3.842017 (0.02)**	-4.775142 (0.03)**	Stationary
GCEXP	-7.475509 (0.00)*	-7.347241 (0.00)*	-7.361155 (0.00)*	Stationary
GREXPED	-5.288434 (0.00)*	-5.248782 (0.04)*	-4.878938 (0.00)*	Stationary
GCEXPED	-8.516869 (0.00)*	-8.380974 (0.00)*	-8.379910 (0.00)*	Stationary
GREXPHE	-4.457554 (0.04)**	-5.033301 (0.00)*	-3.501378 (0.00)*	Stationary
GCEXPHE	-5.748821 (0.00)*	-5.658537 (0.00)*	-5.808275 (0.00)*	Stationary

Source: E-views 9.0 version data output

Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

Table 11: Result of PP Test at Level

Variables	Intercept	Trend and Intercept	None	Remark
GDPGR	-4.512011 (0.00)*	-4.613723 (0.00)*	-3.444175 (0.00)*	Stationary
IPI	-2.026837 (0.27)	-1.831757 (0.66)	-0.300373 (0.57)	Not Stationary
STDL	-0.074257 (0.94)	-1.725408 (0.71)	0.697856 (0.86)	Not Stationary
QEDU	1.345344 (0.99)	-0.253174 (0.99)	2.758149 (0.99)	Not Stationary
QHEA	0.534716 (0.96)	-1.467971 (0.82)	1.750655 (0.98)	Not Stationary
GREXP	2.535525 (1.00)	-0.530805 (0.98)	4.153049 (1.00)	Not Stationary
GCEXP	-1.026842 (0.73)	-2.395787 (0.38)	-0.080579 (0.65)	Not Stationary
GREXPED	1.231143 (0.99)	-1.105632 (0.91)	2.233828 (0.99)	Not Stationary
GCEXPED	-0.833137 (0.78)	-2.530090 (0.31)	0.108434 (0.71)	Not Stationary
GREXPHE	0.536707 (0.99)	-1.555649 (0.79)	1.394687 (0.96)	Not Stationary
GCEXPHE	-1.701754 (0.42)	-2.625075 (0.27)	-1.126618 (0.23)	Not Stationary

Source: E-views 9.0 version data output

Note: In determining the truncation lag for PP test, the spectral estimation method selected is Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

Table 12: Result of PP Test at First Difference

Variables	Intercept	Trend and Intercept	None	Remark
GDPGR	-12.43864 (0.00)*	-16.49997 (0.00)*	-12.53437 (0.00)*	Stationary
IPI	-5.246398 (0.00)*	-5.336097 (0.00)*	-5.343924 (0.00)*	Stationary
STDL	-4.969999 (0.00)*	-4.999583 (0.00)*	-4.793448 (0.00)*	Stationary
QEDU	-3.787458 (0.00)*	-3.995331 (0.02)**	-3.269388 (0.00)*	Stationary
QHEA	-5.009864 (0.00)*	-5.350557 (0.00)*	-4.694004 (0.00)*	Stationary
GREXP	-5.915199 (0.00)*	-7.678769 (0.00)*	-4.871698 (0.00)*	Stationary
GCEXP	-7.475509 (0.00)*	-7.347241 (0.00)*	-7.239692 (0.00)*	Stationary
GREXPED	-5.255607 (0.00)*	-10.85809 (0.00)*	-4.878773 (0.00)*	Stationary
GCEXPED	-8.726471 (0.00)*	-8.582613 (0.00)*	-8.301666 (0.00)*	Stationary
GREXPHE	-7.331778 (0.00)*	-17.71003 (0.00)*	-6.541477 (0.00)*	Stationary
GCEXPHE	-5.779861 (0.00)*	-5.678011 (0.00)*	-5.841331 (0.00)*	Stationary

Source: E-views 9.0 version data output

Note: In determining the truncation lag for PP test, the spectral estimation method selected is Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

Kwiatkowski-Phillips-Schmidt-Shin (KPSS) Test

In further authentication of the stationarity test through ADF and PP, the KPSS unit root was conducted and detailed in Tables 13 and 14. At this time, all the data were found to have unit root at level form estimation but would sustain the stationarity at first difference estimation. The KPSS also reported that all the data were stationary.

Table 13: Result of KPSS Test at Level

Variables	Intercept	Trend and Intercept	Remark
GDPGR	0.581596 (0.00)*	0.165941 (0.00)*	Stationary
IPI	0.342740 (0.00)*	0.165637 (0.00)*	Stationary
STD L	0.568026 (0.00)*	0.182720 (0.00)*	Stationary
QEDU	0.656672 (0.00)*	0.163680 (0.00)*	Stationary
QHEA	0.561224 (0.00)*	0.169502 (0.00)*	Stationary
GREXP	0.606129 (0.00)*	0.185448 (0.00)*	Stationary
GCEXP	0.618973 (0.00)*	0.112060 (0.00)*	Stationary
GREXPED	0.584821 (0.00)*	0.197884 (0.00)*	Stationary
GCEXPED	0.598071 (0.00)*	0.119281 (0.00)*	Stationary
GREXPHE	0.576867 (0.00)*	0.204770 (0.00)*	Stationary
GCEXPHE	0.578123 (0.00)*	0.095973 (0.00)*	Stationary

Source: E-views 9.0 version data output

Note: The spectral estimation method selected for KPSS test is Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where (*) and (**) denotes significance at 1% and 5% respectively.

Table 14: Result of KPSS Test at First Difference

Variables	Intercept	Trend and Intercept	Remark
GDPGR	0.347931 (0.74)	0.163728 (0.29)	Not Stationary
IPI	0.189852 (0.93)	0.141619 (0.39)	Not Stationary
STD L	0.185689 (1.00)	0.069719 (0.25)	Not Stationary
QEDU	0.257085 (0.01)*	0.150678 (0.12)	Stationary
QHEA	0.342235 (0.03)**	0.126450 (0.05)**	Stationary
GREXP	0.609521 (0.00)*	0.061268 (0.00)*	Stationary
GCEXP	0.105190 (0.42)	0.106238 (0.83)	Not Stationary
GREXPED	0.388854 (0.06)	0.500000 (0.59)	Not Stationary
GCEXPED	0.122755 (0.40)	0.116181 (0.90)	Not Stationary
GREXPHE	0.328257 (0.17)	0.270083 (0.21)	Not Stationary
GCEXPHE	0.068071 (0.68)	0.068449 (0.97)	Not Stationary

Source: E-views 9.0 version data output

Note: The spectral estimation method selected for KPSS test is Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where (*) and (**) denotes significance at 1% and 5% respectively.

4.5 ARDL Co-integration Relationship

The affirmation of the non-stationarity of the data through the unit root test of ADF, PP and KPSS permit for the determination of the co-integration relationship between the dependent and explanatory variables in the models. The ARDL was chosen as against the traditional Johansen co-integration because it is structured in such a way that it takes into account the different order of integration of financial time series data. The ARDL bound test for the model are shown in Tables 15 – 19. The result of the ARDL co-integration reveal that there is a long run relationship between growth rate of real gross domestic product, industrial development, standard of living and government total recurrent and capital expenditure. Similarly, quality of education, quality of health were also related with government recurrent and capital expenditure on education and health in the long run. This assertion is arrive on the fact that the f-

statistics of the bound test via 75.2, 52.6, 25.2, 96.6 and 9.3 for models 1- 5 are greater than the upper and lower bound critical values of 4.85 and 3.79 at 5% level of significance. On this premises, null hypothesis of no co-integration relationship between the dependent and explanatory variables are rejected at significance level of 5%.

Table 15: Bound Test for Gross Domestic Product Growth Rate and Government Expenditure

T-Test	5% Critical Value Bound		Remark
F-Statistic	Lower Bound	Upper Bound	
8.772020	3.79	4.85	Null Hypothesis Rejected

Source: E-views 9.0 version data output

Table 16: Bound Test for Industrial Development and Government Expenditure

T-Test	5% Critical Value Bound		Remark
F-Statistic	Lower Bound	Upper Bound	
5.466695	3.79	4.85	Null Hypothesis Rejected

Source: E-views 9.0 version data output

Table 17: Bound Test for Standard of Living and Government Expenditure

T-Test	5% Critical Value Bound		Remark
F-Statistic	Lower Bound	Upper Bound	
51.68606	3.79	4.85	Null Hypothesis Rejected

Source: E-views 9.0 version data output

Table 18: Bound Test for Quality of Education and Government Expenditure

T-Test	5% Critical Value Bound		Remark
F-Statistic	Lower Bound	Upper Bound	
9.062546	3.79	4.85	Null Hypothesis Rejected

Source: E-views 9.0 version data output

Table 19: Bound Test for Quality of Health and Government Expenditure

T-Test	5% Critical Value Bound		Remark
F-Statistic	Lower Bound	Upper Bound	
8.678514	3.79	4.85	Null Hypothesis Rejected

Source: E-views 9.0 version data output

4.6 Nature of Long Run Relationship/ARDL Error Correction Model

The ARDL result has proven that gross domestic product growth rate, industrial development, standard of living, quality of education, quality of health and government recurrent and capital expenditure are co-integrated/related in the long run. Consequently, the determination of the nature of the long run relationship becomes necessary as well as the speed of the adjustment to equilibrium. From the result in

Table 20, government recurrent and capital expenditure have insignificant negative relationship with gross domestic product growth rate. In terms of the speed of adjustment, Table 20 reveals that the model move toward equilibrium following disequilibrium in the explanatory variables. The ECM is negatively signed with a coefficient of -0.73, a suggestion that 73% of error generated in previous period is corrected in current period.

Table 20: ARDL Co-integrating and Long Run Form for GDPGR→GREXP+GCEXP

Co-integration Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GREXP)	-0.000001	0.000001	-1.118030	0.2721
D(GCEXP)	0.000007	0.000005	1.617873	0.1158
CointEq(-1)	-0.729290	0.154858	-4.709417	0.0000
Long Run Equation				
GREXP	-0.000002	0.000002	-1.101176	0.2793
GCEXP	0.000010	0.000006	1.681375	0.1027
C	1.869904	1.596175	1.171490	0.2503

Source: E-views 9.0 version data output

Concerning index of industrial production and government expenditure, Table 21 depicts that government recurrent has negative insignificant relationship with industrial development, while capital expenditure has positive relationship with industrial development in Nigeria within the period studied. Although the error correction coefficient showed the expected negative sign reflecting the tendency of the model to shift to equilibrium owing to imbalances in past period, only 24.23% error in previous years that are corrected in current year. As can be seen in Table 22, government recurrent and capital expenditure have insignificant negative relationship with standard of living. In the light of the error correction model, it was clear that the supposed negative sign was observed and it is insignificant at 5% level of significance. Invariably, 13.76% error generated in previous period is insignificantly not corrected in current period.

Table 21: ARDL Co-integrating and Long Run Form for IPI→GREXP+GCEXP

Co-integration Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GREXP)	-0.000010	0.000008	-1.134110	0.2679
D(GREXP(-1))	-0.000008	0.000010	-0.801460	0.4307
D(GREXP(-2))	-0.000001	0.000011	-0.059884	0.9527
D(GREXP(-3))	0.000027	0.000010	2.666708	0.0135
D(GCEXP)	-0.000015	0.000010	-1.574891	0.1284
CointEq(-1)	-0.242319	0.099160	-2.443711	0.0223
Long Run Equation				
GREXP	-0.000012	0.000010	-1.227158	0.2317
GCEXP	-0.000063	0.000054	-1.169654	0.2536
C	143.528474	11.484598	12.497474	0.0000

Source: E-views 9.0 version data output

Table 22: ARDL Co-integrating and Long Run Form for STDL→GREXP+GCEXP

Co-integration Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GREXP)	0.103831	0.016471	6.303957	0.0000
D(GREXP(-1))	-0.111307	0.015563	-7.151992	0.0000
D(GREXP(-2))	0.015251	0.016357	0.932397	0.3623
D(GREXP(-3))	0.130675	0.015304	8.538485	0.0000
D(GCEXP)	-0.097498	0.013969	-6.979381	0.0000
D(GCEXP(-1))	-0.046509	0.020564	-2.261658	0.0350
D(GCEXP(-2))	0.041852	0.022174	1.887450	0.0737
D(GCEXP(-3))	0.099508	0.023510	4.232549	0.0004
CointEq(-1)	-0.137559	0.094787	-1.451243	0.1622
Long Run Equation				
GREXP	0.151152	0.064416	2.346497	0.0294
GCEXP	-1.013761	0.801152	-1.265378	0.2203
C	26776.564787	25955.713537	1.031625	0.3146

Source: E-views 9.0 version data output

The regression output in Table 23, unveils that government recurrent expenditure has significant positive relationship with quality of education in the long run, whereas capital expenditure of the government on education has negative but insignificant relationship with quality of education in Nigeria. With respect to the error correction mechanism, the coefficient evidenced the expected negative sign which is statistically significant at 5% level of significance. This indicates that the model has the tenacity to go towards equilibrium. About 46.70% error from past period were addressed in the present period as entailed by the error correction coefficient of -0.466997.

Table 23: ARDL Co-integrating and Long Run Form for QEDU→GREXPED+GCEXPED

Co-integration Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(QEDU(-1))	0.269172	0.151911	1.771913	0.0886
D(QEDU(-2))	0.268970	0.159501	1.686320	0.1042
D(GREXPED)	0.000004	0.000012	0.370450	0.7142
D(GREXPED(-1))	-0.000040	0.000013	-2.968626	0.0065
D(GCEXPED)	-0.000012	0.000031	-0.399810	0.6927
CointEq(-1)	-0.466997	0.114914	-4.063891	0.0004
Long Run Equation				
GREXPED	0.000098	0.000012	8.004317	0.0000
GCEXPED	-0.000027	0.000066	-0.403564	0.6900
C	27.231035	1.116309	24.393808	0.0000

Source: E-views 9.0 version data output

Finally, from Table 24, recurrent expenditure of the government on health depicted a positive insignificant relationship with quality of health, while capital expenditure of the government on health has negative relationship with quality of health in the long run. The error correction model is not negatively signed and insignificantly accounted for just 1.09% error in past years that is corrected in current year thus no tendency for the model to move towards equilibrium following disequilibrium in previous periods.

Table 24: ARDL Co-integrating and Long Run Form for QHEA→GREXPHE+GCEXPHE

Co-integration Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GREXPHE)	-0.000001	0.000003	-0.333826	0.7408
D(GCEXPHE)	-0.000004	0.000006	-0.656131	0.5167
CointEq(-1)	0.010938	0.112485	0.097244	0.9232
Long Run Equation				
GREXPHE	0.000086	0.000671	0.128717	0.8984
GCEXPHE	-0.000475	0.005227	-0.090790	0.9283
C	35.248233	106.792173	0.330064	0.7436

Source: E-views 9.0 version data output

4.7 Short Run OLS Relationship

In estimating the short run nexus between the government expenditure and economic growth and development, the OLS regression was applied and the result depicted in Tables 25- 29. The outputs were interpreted using the coefficients of the individual variables, Adjusted R-square, f-statistic and Durbin Watson.

Gross Domestic Product Growth Rate and Government Expenditure

Table 25 shows that there is significant positive relationship between government capital expenditure and gross domestic product growth rate in Nigeria, while recurrent expenditure of the government depicted a negative insignificant relationship with gross domestic product growth rate. When the two components of government expenditure: recurrent and capital are held constant, the growth rate of the gross domestic product would be 0.69%. A percentage rise in recurrent expenditure decreases the growth rate of gross domestic product by 1.56%, whereas a unit increase in capital expenditure causes 1.12% appreciation in gross domestic product growth rate.

Table 25: OLS Regression: Gross Domestic Product Growth Rate and Government Expenditure

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.694949	1.277780	0.543872	0.5902
GREXP	-1.56E-06	1.37E-06	-1.134139	0.2649
GCEXP	1.12E-05	5.07E-06	2.206492	0.0344
R-squared	0.188105	Mean dependent var		3.148611
Adjusted R-squared	0.138899	S.D. dependent var		5.782879
S.E. of regression	5.366252	Akaike info criterion		6.277792
Sum squared resid	950.2898	Schwarz criterion		6.409752
Log likelihood	-110.0003	Hannan-Quinn criter.		6.323849
F-statistic	3.822826	Durbin-Watson stat		1.369909
Prob (F-statistic)	0.032118			

Source: E-views 9.0 version data output

The adjusted R-squared reveals that only 13.89% changes in growth rate of gross domestic product as a result of fluctuation in both recurrent and capital and capital expenditure of the government. From the p-value of the coefficient of the f-statistic (0.03), components of government expenditure significantly explained the changes in growth rate of gross domestic product within the time frame of this study. The deficiency of the Durbin Watson statistic of 1.40 in approximation is greatly corrected by the result of the serial correlation LM test in Table 11 which absolves the estimated model of any autocorrelation problem.

Industrial Development and Government Expenditure

From the revelation in Table 26, recurrent expenditure of the government has negative insignificant relationship with industrial development, while capital expenditure positively but insignificantly associates with industrial development. Holding recurrent and capital expenditure constant, industrial production index would stand at 27.24 points. A unit rise in recurrent expenditure of the government decreases industrial production by 1.48 points. On the contrary, a percentage increase in capital expenditure raises index of industrial production by a magnitude of 2.74 points.

Table 26: OLS Regression: Industrial Development and Government Expenditure

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.24012	15.18117	1.794336	0.0825
GREXP	-1.48E-06	2.76E-06	-0.537446	0.5948
GCEXP	2.74E-06	1.06E-05	0.257871	0.7982
R-squared	0.610987	Mean dependent var		128.6797
Adjusted R-squared	0.573340	S.D. dependent var		16.27294
S.E. of regression	10.62936	Akaike info criterion		7.672327
Sum squared resid	3502.480	Schwarz criterion		7.850081
Log likelihood	-130.2657	Hannan-Quinn criter.		7.733688
F-statistic	16.22960	Durbin-Watson stat		1.706739
Prob (F-statistic)	0.000002			

Source: E-views 9.0 version data output

The result in Table 26 shows the coefficient of the adjusted R-square as 0.573340. This entails that 57.33% variation in industrial development was as a result of joint fluctuation in recurrent and capital expenditure. From the p-value (0.00) and f-statistic (16.23), recurrent and capital expenditure of the government significantly discussed the changes in industrial development. The Durbin Watson statistic of 1.7 is within the acceptable range of no autocorrelation.

Standard of Living and Government Expenditure

As shown in Table 27, a significant positive relationship exist between recurrent government expenditure and standard of living on one hand, and a significant positive relationship evidenced between capital expenditure and standard of living on the other hand. Keeping government recurrent and capital expenditure constant, standard of

living in the country would decrease by ₦278.10. Standard of living would rise by ₦0.06 and ₦0.01 whenever recurrent and capital expenditures increase by a unit respectively. With inferences from the Adjusted R-square, 96.79% changes in standard of living is attributed to government expenditure pattern. This shows a goodness of fit of the model which is statistically significant at 5% level of significance. The Durbin Watson value of 1.30 though not quite close to the benchmark of 2.0, however, the weaknesses that may be associated with this is perfectly corrected by the serial correlation LM test in Table 11 which signifies that the variables in the model were not serially correlated.

Table 27: OLS Regression: Standard of Living and Government Expenditure

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-278.0996	6499.050	-0.042791	0.9661
GREXP	0.060340	0.014424	4.183389	0.0002
GCEXP	0.010062	0.025902	0.388474	0.7003
R-squared	0.970738	Mean dependent var		113839.7
Adjusted R-squared	0.967906	S.D. dependent var		148042.9
S.E. of regression	26521.46	Akaike info criterion		23.31651
Sum squared resid	2.18E+10	Schwarz criterion		23.49426
Log likelihood	-404.0389	Hannan-Quinn criter.		23.37787
F-statistic	342.7994	Durbin-Watson stat		1.276174
Prob (F-statistic)	0.000000			

Source: E-views 9.0 version data output

Quality of Education and Government Expenditure

The regression output on the short run relationship between quality of education and government expenditure as presented in Tables 28 unveils that government recurrent expenditure on education has significant effect on the quality of education in Nigeria, while government capital expenditure on education was observed a negative but insignificant relationship with quality of education. Assuming that government recurrent and capital education are maintained at par with each other, quality of education in Nigeria based ratio of enrolment in secondary school would be 5.09%. A unit increase in recurrent expenditure of the government on education raises the quality of education by 2.30%, while that of capital expenditure on education

decreases education quality in Nigeria by a quantum of 1.75%. Judging from the coefficient of the adjusted R-square, 94.85% variation in Nigeria's standard of living was accounted by Nigeria's government recurrent and capital expenditure on education over the period studied. This statement is statistical significant with regard to the p-value (0.00) of the f-statistic (209.75) at 5% significance level. The Durbin Watson value of 1.51 does not give worry for autocorrelation as it is still within the acceptable criteria for no autocorrelation in a regression model.

Table 28: OLS Regression: Quality of Education and Government Expenditure

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.086919	2.507497	2.028684	0.0512
GREXPED	2.29E-05	8.88E-06	2.578693	0.0149
GCEXPED	-1.75E-05	3.73E-05	-0.468230	0.6429
R-squared	0.953069	Mean dependent var		34.27543
Adjusted R-squared	0.948528	S.D. dependent var		11.27139
S.E. of regression	2.557198	Akaike info criterion		4.822912
Sum squared resid	202.7172	Schwarz criterion		5.000666
Log likelihood	-80.40096	Hannan-Quinn criter.		4.884273
F-statistic	209.8497	Durbin-Watson stat		1.508426
Prob (F-statistic)	0.000000			

Source: E-views 9.0 version data output

Quality of Health and Government Expenditure

The global utility condition for reliable and statistically derivable regression outcome through the adjusted R-squared in Table 29 dispels vividly that both government recurrent and capital expenditure on health have significant and positive relationship with quality of health in Nigeria. Constantly keeping government recurrent and capital expenditure on health, quality of health in Nigeria would significantly improve rapidly by 45.73%. Again, quality of health would increase by 2.27% and 3.29% owing to a unit rise in government recurrent and capital expenditure on health in Nigeria. This claim is statistical significant at the adjusted R-square showcases that 88.55% variation in quality of health in Nigeria is due to fluctuation in government recurrent and capital expenditure of healthcare facilities. This is seen as the p-value (0.00) and f-statistic (136.40) is statistically significant at a significance level of 5%.

Although the Durbin Watson value of 1.25 is not that quite close to the benchmark of 2.0, the revelation from the serial correlation LM test in Table 11 unambiguously depicted that there is no issue of autocorrelation in the model estimated.

Table 29: OLS Regression: Quality of Health and Government Expenditure

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	45.72811	0.184641	247.6597	0.0000
GREXPHE	2.27E-05	2.35E-06	9.664320	0.0000
GCEXPHE	3.29E-05	7.21E-06	4.568685	0.0001
R-squared	0.892088	Mean dependent var		47.58333
Adjusted R-squared	0.885548	S.D. dependent var		2.556504
S.E. of regression	0.864885	Akaike info criterion		2.627214
Sum squared resid	24.68484	Schwarz criterion		2.759174
Log likelihood	-44.28985	Hannan-Quinn criter.		2.673272
F-statistic	136.4025	Durbin-Watson stat		1.253112
Prob (F-statistic)	0.000000			

Source: E-views 9.0 version data output

4.8 Variance Decomposition

With the identification of the nature of relationship between gross domestic product growth rate, industrial development, standard of living, quality of education, quality of health and government recurrent and capital expenditure, it is ideal to ascertain capital and recurrent expenditure of the government which most influences the variables of economic growth and development in Nigeria. From the result in Table 30, it is observed that government recurrent and capital expenditure have been contributing to gross domestic product growth rate in Nigeria from period 1 – 10. Capital expenditure of the government was seen to have influenced gross domestic product compared to recurrent expenditure. Nevertheless, the variation in gross domestic product growth rate was better explained by itself. The variance decomposition in Table 32 with respect to industrial development reveals that government capital expenditure also causes more changes in industrial production index in Nigeria than recurrent expenditure. With inferences from Table 32, a contrary result emerged as recurrent expenditure of the government was found to be influential in standard of living of the people compared to capital expenditure.

However, changes in standard of living was attributed heavily to fluctuation in standard of living of itself.

Table 30: Variance Decomposition of GDPGR

Period	S.E.	GDPGR	GREXP	GCEXP
1	4.890485	100.0000	0.000000	0.000000
2	5.274506	93.52377	0.278587	6.197642
3	5.498145	86.85555	0.762643	12.38181
4	5.692862	81.52427	1.237592	17.23814
5	5.852702	77.58183	1.737020	20.68115
6	5.981210	74.65633	2.234525	23.10915
7	6.078678	72.56429	2.739418	24.69629
8	6.148406	71.12915	3.237537	25.63331
9	6.194468	70.20487	3.722306	26.07282
10	6.222400	69.64734	4.178986	26.17368

Source: Data output via E-views 9.0

Table 31: Variance Decomposition of IPI

Period	S.E.	IPI	GREXP	GCEXP
1	10.68554	100.0000	0.000000	0.000000
2	15.01668	97.83349	1.627037	0.539471
3	16.64644	97.34599	1.353642	1.300368
4	17.69953	95.00104	1.204833	3.794125
5	18.38714	92.93891	1.243573	5.817518
6	18.98595	90.81427	1.396004	7.789729
7	19.48340	89.23078	1.612593	9.156630
8	19.90861	88.08408	1.873945	10.04197
9	20.25858	87.36270	2.155805	10.48150
10	20.53783	86.95678	2.453781	10.58944

Source: Data output via E-views 9.0

Table 32: Variance Decomposition of STDL

Period	S.E.	STDL	GREXP	GCEXP
1	19283.09	100.0000	0.000000	0.000000
2	27105.70	68.07254	26.14578	5.781688
3	31027.77	52.10638	21.76942	26.12420
4	37540.63	44.45878	25.65422	29.88700
5	52732.36	36.04805	41.25831	22.69364
6	66353.56	34.08718	48.13579	17.77703
7	77895.95	31.79621	52.21466	15.98913
8	85455.10	30.44949	53.13436	16.41615
9	91409.30	29.02084	52.33469	18.64447
10	96850.88	27.77127	50.17188	22.05684

Source: Data output via E-views 9.0

The output in Table 33 is an indication that government recurrent expenditure on education affects quality of education more relative to capital expenditure on education, while fluctuation in quality of education is largely as result of variation in the quality of education. Finally, in Table 34, government capital expenditure on

healthcare facilities was very influential in improving the quality of health through average life expectancy rate compared to recurrent expenditure. That notwithstanding, variation in the quality of health depends vehemently on the quality of the healthcare facilities in the country.

Table 33: Variance Decomposition of QEDU

Period	S.E.	QEDU	GREXPED	GCEXPED
1	2.099040	100.0000	0.000000	0.000000
2	2.892607	99.61681	0.371339	0.011853
3	3.510209	83.31729	16.63144	0.051276
4	4.285186	61.72172	37.69522	0.583059
5	5.003854	49.41232	47.21500	3.372684
6	5.602109	43.64753	47.62008	8.732385
7	6.153203	40.28530	44.13339	15.58132
8	6.706257	37.38176	39.76215	22.85609
9	7.281359	34.39849	35.55370	30.04781
10	7.887933	31.37881	31.63459	36.98659

Source: Data output via E-views 9.0

Table 34: Variance Decomposition of QHEA

Period	S.E.	QHEA	GREXPHE	GCEXPHE
1	0.462746	100.0000	0.000000	0.000000
2	0.675149	97.25126	0.002148	2.746596
3	0.849106	90.14971	0.927541	8.922752
4	1.018536	84.66689	1.601395	13.73172
5	1.183010	82.56032	1.844840	15.59484
6	1.334239	81.91966	1.927857	16.15249
7	1.471173	81.48625	2.036505	16.47725
8	1.597913	81.02475	2.175145	16.80010
9	1.718613	80.63836	2.305802	17.05583
10	1.835321	80.37596	2.411322	17.21272

Source: Data output via E-views 9.0

4.9 Impulse Response Function

To determine the magnitude of variation in economic development variables owing to a unit change in government expenditure, the impulse response function analysis was performed and the result summarized in Tables 35 – 39. From Table 35, economic growth responds negatively to government recurrent expenditure both in short and long run but positively to capital expenditure. For industrial development as shown in Table 36, industrial development through index of industrial production responds positively to government recurrent expenditure on short run but negatively in the long run. However, it respond positively to capital expenditure both in short and long run.

Table 35: Impulse Response Function of GDPGR

Period	GDPGR	GREXP	GCEXP
1	4.890485	0.000000	0.000000
2	1.449780	-0.278395	1.313092
3	0.487221	-0.391203	1.420831
4	0.406019	-0.412969	1.357822
5	0.392477	-0.440356	1.223721
6	0.365011	-0.452103	1.087714
7	0.323308	-0.461330	0.926332
8	0.275936	-0.460064	0.751514
9	0.223029	-0.452128	0.560698
10	0.166180	-0.435578	0.359829

Source: Data output via E-views 9.0

Table 36: Impulse Response Function of IPI

Period	IPI	GREXP	GCEXP
1	10.68554	0.000000	0.000000
2	10.31671	1.915459	1.102956
3	7.009591	0.286383	1.544947
4	5.278574	-0.153050	2.877953
5	4.074455	-0.655695	2.789673
6	3.625013	-0.909817	2.900188
7	3.371602	-1.043707	2.584468
8	3.225052	-1.142795	2.245618
9	3.069491	-1.191726	1.793179
10	2.870657	-1.225753	1.284292

Source: Data output via E-views 9.0

Table 37: Impulse Response Function of STDL

Period	STDL	GREXP	GCEXP
1	19283.09	0.000000	0.000000
2	11327.14	13859.94	6517.603
3	1223.950	4181.039	14457.67
4	-11176.64	12327.43	13026.65
5	-19386.38	28030.80	14486.04
6	-22324.87	31177.71	12314.36
7	-20701.09	32387.50	13693.03
8	-17154.37	26681.57	15120.06
9	-14187.56	22197.57	18949.05
10	-13419.71	18255.45	22607.18

Source: Data output via E-views 9.0

As depicted in Table 37, standard of living responds positively to government recurrent and capital expenditure both in short and long term basis. With regard to the quality of education, Table 38 reveals that quality of education responds positively short and long run to government recurrent expenditure, while it responds negatively to capital expenditure only in the short run but positively in the long run. Finally,

from Table 39, quality of education responds positively to government capital and recurrent expenditure both in short and long run.

Table 38: Impulse Response Function of QEDU

Period	QEDU	GREXPED	GCEXPED
1	2.099040	0.000000	0.000000
2	1.982208	0.176268	-0.031493
3	1.389562	1.420628	-0.072981
4	1.033369	2.207408	0.317408
5	1.018961	2.213605	0.858723
6	1.151543	1.767189	1.376978
7	1.246838	1.328471	1.777314
8	1.248698	1.082979	2.092818
9	1.193911	0.983536	2.377295
10	1.134145	0.912664	2.661215

Source: Data output via E-views 9.0

Table 39: Impulse Response Function of QHEA

Period	QHEA	GREXPHE	GCEXPHE
1	0.462746	0.000000	0.000000
2	0.478709	0.003129	0.111891
3	0.454606	0.081717	0.227622
4	0.477896	0.099628	0.279506
5	0.526397	0.095946	0.275312
6	0.550351	0.092200	0.263237
7	0.552558	0.098780	0.262831
8	0.552428	0.107058	0.268953
9	0.559404	0.112100	0.273505
10	0.570638	0.114535	0.275731

Source: Data output via E-views 9.0

4.10 Granger Causality Analysis

The effect of government expenditure on economic growth and development in Nigeria was ascertained with the aid of the granger causality analysis and presented in Table 40. The choice of the granger causality procedure over the OLS is because it help in determining whether one time series variable is useful in predicting or forecasting another. The OLS ordinary test for “mere “relationship between variables. Two variables may relate without one causing changes in the other. From Table 35, there is bidirectional relationship between government recurrent expenditure and standard of living, while a unidirectional is present between government capital expenditure and standard of living at 5% level of significance as causality trails from

both recurrent and capital expenditure to standard of living. This implies that both recurrent and capital expenditure of the government has significant effect on standard of living in Nigeria.

Table 40: Granger Causality Result for Economic Growth, Development and Government Expenditure

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
GREXP does not Granger Cause GDPGR	35	0.17077	0.6822	No Causality
GDPGR does not Granger Cause GREXP		1.43811	0.2392	No Causality
GCEXP does not Granger Cause GDPGR	35	1.63321	0.2105	No Causality
GDPGR does not Granger Cause GCEXP		1.03363	0.3169	No Causality
GREXP does not Granger Cause IPI	35	0.26300	0.6116	No Causality
IPI does not Granger Cause GREXP		0.04395	0.8353	No Causality
GCEXP does not Granger Cause IPI	35	0.03813	0.8464	No Causality
IPI does not Granger Cause GCEXP		2.17112	0.1504	No Causality
GREXP does not Granger Cause STDL	35	9.74376	0.0038	Causality
STDL does not Granger Cause GREXP		10.9210	0.0023	Causality
GCEXP does not Granger Cause STDL	35	14.6059	0.0006	Causality
STDL does not Granger Cause GCEXP		0.00223	0.9626	No Causality
GREXPED does not Granger Cause QEDU	35	13.4621	0.0009	Causality
QEDU does not Granger Cause GREXPED		1.39056	0.2470	No Causality
GCEXPED does not Granger Cause QEDU	35	2.37912	0.1328	No Causality
QEDU does not Granger Cause GCEXPED		0.18151	0.6729	No Causality
GREXPHE does not Granger Cause QHEA	35	12.8679	0.0011	Causality
QHEA does not Granger Cause GREXPHE		0.03782	0.8470	No Causality
GCEXPHE does not Granger Cause QHEA	35	2.36403	0.1340	No Causality
QHEA does not Granger Cause GCEXPHE		4.52261	0.0500	Causality

Source: Data output via E-views 9.0

Furthermore, standard of living of the populace also exerts significance influence on recurrent expenditure of the government owing to the feedback causality from standard of living back to government recurrent expenditure. The quality of education was found to be granger cause by government recurrent expenditure on education as evidence by unidirectional causality from government recurrent expenditure to quality of education at 5% significance level. In other word, recurrent expenditure of the government on education has significant effect on quality of education in Nigeria. With reference to healthcare system, government recurrent expenditure on health granger cause quality of health in Nigeria owing to the significant flow of causality from government recurrent expenditure on health to the quality of health. By implication, the quality of health in Nigeria is significantly affected by the magnitude of government recurrent expenditure on this sector compared to capital expenditure of

the government on health. Similarly, the quality of the healthcare system significantly determines the fund to be allocated for capital expenditure by the government. There was no empirical evidence that growth rate of gross domestic product and industrial development are affected by government recurrent and capital expenditure.

4.11 Test of Hypotheses

Decision Criteria: If the p-value of f-statistic in granger causality test is less than 0.05, the null hypothesis is rejected. On the other hand, the null hypothesis is accepted if the p-value of f-statistic in granger causality test is higher than 0.05.

On the premise of the hypothesis decision rule, the rejection of null hypothesis or the acceptance of alternative hypothesis are detailed in Table 41.

Restatement of Hypotheses

1. H_0 : Government expenditure has no significant effect on economic growth in Nigeria.
2. H_0 : Government expenditure has no significant effect on industrial development in Nigeria.
3. H_0 : Government expenditure has no significant effect on standard of living in Nigeria.
4. H_0 : Government expenditure has no significant effect on quality of education in Nigeria.
5. H_0 : Government expenditure has no significant effect on quality of healthcare in Nigeria.

Table 41: Test of Hypotheses

Hypotheses	Regression Estimated Models	f-statistic	P-value	Decision
Hypothesis 1	GDPGR \rightarrow GREXP + GCEXP			
	GREXP	0.17077	0.6822	Accept H ₀
	GCEXP	1.63321	0.2105	Accept H ₀
Hypothesis 2	IPI \rightarrow GREXP + GCEXP			
	GREXP	0.26300	0.6116	Accept H ₀
	GCEXP	0.03813	0.8464	Accept H ₀
Hypothesis 3	STDL \rightarrow GREXP + GCEXP			
	GREXP	9.74376	0.0038	Reject H ₀
	GCEXP	14.6059	0.0006	Reject H ₀
Hypothesis 4	QEDU \rightarrow GREXPED + GCEXPED			
	GREXPED	13.4621	0.0009	Reject H ₀
	GCEXPED	2.37912	0.1328	Accept H ₀
Hypothesis 5	QHEA \rightarrow GREXPHE + GCEXPHE			
	GREXPHE	12.8679	0.0011	Reject H ₀
	GCEXPHE	2.36403	0.8470	Accept H ₀

Source: Granger Causality Output in Table 36

4.12 Discussion of Findings

The ARDL co-integration result depicts that government expenditure is related in long run with economic growth and development measured with real gross domestic product, industrial development, standard of living, quality of living and health in Nigeria. This implies that Nigeria will achieve considerable growth and development if expenditure are properly utilized and tallies with Egbetunde and Fasanya (2013) and Okoro (2013). From the result in Table 25, capital expenditure has positive relationship economic growth, while recurrent has negative relationship with economic growth. Capital expenditure associating positively with economic supports previous works of Muritala and Abayomi (2011), Nworji, Okwu, Obiwuru and Nworji (2012), Jibir and Babayo (2015) Nwaeze, Njoku and Nwaeze (2014), Oni, Aninkan and Akinsanya (2014) and Egbetunde and Fasanya (2013) but disagreed Okoro (2013) who established a negative link between capital expenditure and economic growth. With respect to the negative relationship between recurrent expenditure and economic growth, earlier study by Abu and Abdullahi (2010) is affirmed. The result in Table 35 showed that recurrent and capital expenditure have no significant effect on economic growth and industrial development in Nigeria. This

could be attributed to the fact that fund allocated for government expenditure are mismanaged or siphon by politician and those in corridors of power. This findings is in unison with Inuwa (2012), Egbetunde and Fasanya (2013), Nworji, Okwu, Obiwuru and Nworji (2012) and Oni, Aninkan and Akinsanya (2014) but could not confirm significant effect of government expenditure on economic growth as documented by Okoro (2013).

From Table 27, there is a positive relationship between recurrent, capital expenditure and standard of living in Nigeria. Similarly, in Table 35, recurrent and capital expenditure were found to have significant effect on standard of living. This findings points to the relevant of recurrent spending on the welfare of workers. When government increases spending on workers through increase in salaries, wages, etc., the consumption pattern of the labour force would rise which result in reduction in poverty and improved standard of living. This result is in line with the studies of Alimi (2014) and Dogan (2006). With respect to government expenditure on health, Table 29 entails that there is a significant positive relationship between government spending on health and quality of the health in the country. Again, the significant effect of government expenditure on health on life expectancy as shown in Table 35 implies that good and quality healthcare system increases labour output which translate to greater production. This supports the assertion of Novignon, Olakojo and Nonvignon (2012), Somoye, Olayiwola, Bidmoz, Oke and Odubunmi (2014), Eneji, Juliana and Onabe (2013) and Kim and Lane (2013) for 17 OECD countries between 1973 and 2000. Capital expenditure having a positive relationship with educational output unveils that citizens through acquisition of education at affordable would be productive and development strategies for better production in line with changing environment and advancement in technology. This agrees with Lustig (2015), Annabi,

Harvey and Lan (2007), Obi and Obi (2014), Guisan and Exposito (2010) and Oriakhi and Ameh (2014).

4.13 A Priori Expectation

The observed signs of the components of government expenditure in line with the theoretical framework with respect to economic growth, industrial development, standard of living, quality of education and health are presented in Tables 42 – 46.

Table 42: Observed Signs for Government Expenditure and Economic Growth

Independent Variables	Expected Signs	Observed Signs	Remarks
GREXP	+	-	Reject
GCEXP	+	+	Accept

Source: OLS Regression Results in Table 25

Table 43: Observed Signs for Government Expenditure and Industrial Development

Independent Variables	Expected Signs	Observed Signs	Remarks
GREXP	+	-	Reject
GCEXP	+	+	Accept

Source: OLS Regression Results in Table 26

Table 44: Observed Signs for Government Expenditure and Standard of Living

Independent Variables	Expected Signs	Observed Signs	Remarks
GREXP	+	+	Accept
GCEXP	+	+	Accept

Source: OLS Regression Results in Table 27

Table 45: Observed Signs for Government Expenditure and Quality of Education

Independent Variables	Expected Signs	Observed Signs	Remarks
GREXPED	+	+	Accept
GCEXPED	+	-	Reject

Source: OLS Regression Results in Table 28

Table 46: Observed Signs for Government Expenditure and Quality of Health

Independent Variables	Expected Signs	Observed Signs	Remarks
GREXPHE	+	+	Accept
GCEXPHE	+	+	Accept

Source: OLS Regression Results in Table 28

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study ascertained the effect of government expenditure on economic growth and development in Nigeria by specifically determining the effect of government recurrent and capital expenditure on real gross domestic product, industrial development, standard of living, quality of education and health. The findings from the study revealed the following:

1. Government expenditure has no significant effect on economic growth in Nigeria. Recurrent expenditure relates negatively with economic growth, while capital expenditure associates positively with economic growth.
2. Government expenditure has no significant effect on industrial development as recurrent expenditure showed a negative relationship with industrial development, whereas capital expenditure was positively associated with industrial development.
3. Government expenditure has significant effect on standard of living. Both recurrent and capital expenditure have significant positive relationship with standard of living.
4. Government expenditure has significant effect on quality of education. Recurrent expenditure has significant positive relationship with quality of education, while capital insignificantly related with quality of education.
5. Government expenditure has significant effect on quality of health. Recurrent and capital expenditure were found to have significant positive relationship with quality of health.

5.2 Conclusion

In developing countries like Nigeria which have resource constraint due to underdeveloped nature of the stock market, government expenditure is vital to accelerate the pace of economic growth and development. From the result of the estimation, this research work established that government expenditure has significant influence on standard of living, quality of education and health. That notwithstanding, the level of economic growth and industrialization achieved in the country so far is poor when compared with the drastic and magnificent rise in government expenditure. This study is not an end to the debate on the nexus between government expenditure and economic growth and development of emerging economies, but an inspiration for further studies in this subject area.

5.3 Recommendation

Based on the findings that emanated from this study, the following recommendation are suggested to decision makers for consideration and subsequent implementation:

1. Recurrent expenditure/government consumption expenditure constitutes over 70% of total expenditure, yet no commensurate influence on economic growth and development. Consequently, there need for policy makers to review its composition by ensuring capital expenditure takes at least 50% of annual total expenditure. Measures should be tailored towards reducing government recurrent/consumption expenditures.
2. To augment public expenditure on the path of improving industrial growth, funds allocated for environmental factors of production such as electricity, road, water, communication, etc. should be appropriately utilized.

3. The government needs to continue channelling resources to the sector within its life betterment programme such pension, social securities, etc. to significantly reduce poverty to improve standard of living of the citizens.
4. The Federal government of Nigeria should increase the allocation of funds to the education sector from 8.8% of total budget to 26% of total expenditure as required by UNESCO to trigger huge improvement in the sector.
5. There is need for government to increase fund allocated for health care service delivery. More so, establishing efficient and effective public-private partnerships in developing the health sector would go a long way to improve population health status.

5.4 Contribution to Knowledge

This study makes a contribution to knowledge by diligently ascertaining the effect of government expenditure on economic growth and development in Nigeria in relation to two sectors/sections of the economy: real sector and social sector as against previous studies that were hinged to one sector/section of the economy. Growth rate of real GDP and index of industrial production were the variables used to assess real sector performance relative to government expenditure. Social/community sector development was reflected with per capita income as a gauge of standard of living, adult literacy rate for educational development and average life expectancy at birth (male and female population) for quality of healthcare service in the country.

5.5 Suggestion for Further Studies

Despite the fact that this study utilized up to data in its empirical estimation, there are some weakness that could be addressed in future studies. First, this study covered a period of thirty six (36) years, a study on a period far beyond the time frame of this research is suggested for future studied. Again, the study utilized annual time series

data, the use of quarterly or monthly data is advised to improve the number of observation which will assist further in confirmation or in refute of the result of this present study.

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