# The Effect of Government Expenditure on Economic Growth in Nigeria

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***Abstract***
*This study was carried out to ascertain the effect of government expenditure on economic growth in Nigeria. Data was collected from the CBN statistical bulletin which was available in the Nigerian exchange group. The study employed the use of multiple regression analysis to ascertain the causal relationship that exists between the variables.*
*From the result of the analysis carried out it was observed that government expenditure on health was found to have a negative impact on economic growth. Government expenditure on environment was found to have a negative impact on economic growth. Government expenditures on education was found to have a positive impact on economic development. Government expenditures on agriculture was found to have a positive impact on economic development.*
*The study therefore recommended that policymakers should consider increasing investments in the agricultural sector, It was also recommended that policymakers should embrace a comprehensive approach to economic policy formulation, taking into account the many sectors and their interconnectedness.*

***Keyword:*** *Health, Education, Agriculture, Environment*

## 1.0 Introduction

Public expenditure is a vital instrument of government to control the economy. It plays an important role in the functioning of an economy whether developed or underdeveloped (Okoro, 2013). Public 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. In any economy, public expenditure can be categorized into capital and recurrent expenditure. The recurrent expenditures are governments' expenses on administration (Okoro, 2013), such as wages, salaries, interest on loans, maintenance, whereas expenses on capital projects, like roads, airports, health, education, infrastructure, environment, telecommunication, electricity generation, are referred to as capital expenditure (Okoro, 2013; Obina, 2003).

The role of Government capital expenditure in output and capacity utilization of industry in Nigeria has been a growing concern, despite the fact that, the government had embarked on several policies aimed at improving the growth of the Nigerian economy through the contributions to the economy and capacity utilization of the various sector (Adebayo, 2010; Peter & Simeon,

2011; Loto, 2012). Capital expenditure is necessary for increase in output and can reverse economic downturns. For instance, Agbonkhese and Asekhome (2014); Akpan and Abang (2013); and Okoro (2013) in their different studies of the relationship between government expenditure and economic growth concluded that government expenditure has a positive and significant effect on economic growth. Other studies are of the opinion that a rise in government expenditure (especially when it is funded by borrowing) may impede economic growth.

Egbetunde and Fasanya (2013) and Folster and Henrekson (2011) suggested in their studied that there is no significant relationship between government expenditure and economic growth. The relationship between government expenditure and economic growth has continued to gather dust over the years. Expenditures on social and economic infrastructures, such as health, education, roads, telecommunication, schools and electricity usually have a positive impact on national output (Folster & Henrekson, 2011). But in developing countries, increase in government expenditure usually implies increase in tax or borrowing. This reduces per capita income and the desire to work thus reducing aggregate demand.

The relationship between government expenditure and economic growth is particularly important for developing countries. This is due to the need to extract themselves from the jaws of abject poverty and set them in the path of rapid development (Udoffia & Godson, 2016). Government of developing countries have embarked on various spending programmes in order to achieve this goal. Unfortunately, economic theories do not automatically generate strong conclusions about the effect of government expenditure on economic growth (Udoffia & Godson, 2016).

In Nigeria, available statistics show that government expenditure has continued to rise over the years. This is due to receipts from oil and non-oil revenue as well as an increasing demand for public goods such as roads, electricity, education, health and security. Government capital expenditure has witnessed a rise from N6.57 billion in 1981 to N438.7 billion in 2001 and N883.87 by 2010 (CBN Statistical bulletin, 2014). However, the increase in government expenditure over the years may not have translated into meaningful economic growth as many Nigerians are still living in poverty. Data from World Development Indicator (2014) place about 63.1 percent of Nigeria's total population living below $1.25 a day (CBN Statistical bulletin, 2014).

It is disturbing to note that capital expenditure in Nigeria seems to have not replicated same level of economic growth and development, for instance between 1980 and 1990, while the GDP growth rate was decreasing (57.15% down to 2.87%), government expenditure growth rate was increasing (23.2% to 41.24%). Thus, there is an inverse relationship between the two periods. However, it is found that the growth rate of government expenditure in 2000 and 2010 was 15.53% and 2.15% respectively, while GDP growth rate witnessed 8.79% and 1.54% in the same period respectively (Okoro, 2011). Raheem, Ayeni and Fashademi (2014) find that there is poor implementation of developmental policies using secondary data but provide no theoretical underpinning for the conclusion. The present study is based on some established public sector and economic theories. Darma (2014) examines federal capital expenditure and its impact on economic growth in Nigeria. The study finds that there is a mismanagement of funds by government officials but does not relate this finding to economic growth; the theoretical underpinning is also ignored. Aregbeyeni and Kolawole (2015) find that there is no causality between government spending and economic growth, but will there be economic growth if the government folds its arms and spends

nothing? Although highly doubtful, the study does not resolve this. Due to the mixed feeling on the above the debate has been inconclusive on whether or not increasing government spending induces economic growth or not. Based on the above this paper attempts to investigate whether increasing government spending induces economic growth performance in Nigeria. The current study uses empirical analysis with a statistically tested method to drive home its points of arguments, and the interpretation of its findings is based on a theoretical framework. The question of what theoretical frameworks are used and how reliable the theories are is related to this study under review; these theories need to be examined to set a solid basis for the arguments emanating from this study out of concern over government spending on infrastructure and economic growth. Furthermore, none of these study have used autoregressive distributed lag (ARDL) model in examining and computing statistics like Root Mean Square Error (RMSE), Mean Absolute Error (MAE), and Theil Inequality Coefficient to determine the effect of capital expenditure and its effects on economic growth in Nigeria. Hence, the study fill the gap in literature by examine the effect of government capital expenditure on economic growth in Nigeria. This study covers a period of 24 years (1998 to 2022). This period is considered long enough to provide useful result to ascertain the level of federal government expenditure on economic growth in Nigeria. The availability of the relevant required data relating to the study variables informed the choice of the study period. Besides, this source of data is considered reliable and dependable. Data will be sourced from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics.

## 2.0 LITERATURE REVIEW

This section provides a review of relevant and related literature on the effect of capital expenditure on economic growth in Nigeria. The section is arranged starting with an in-depth review of the conceptual review on economic growth, capital expenditure, contribution of capital expenditure to economic growth in Nigeria, theoretical framework on the study under review and relevant empirical studies on capital expenditure and economic growth.

### 2.1 Concept of Economic Growth

The term economic growth is an increase in the production of goods and services over a specific period. Economic growth creates more profit for businesses. As a result, stock prices rise (Agbonkhese & Asekhome, 2014). Economic growth is best defined as a long term expansion of productive potential of the economy, the trend of growth could be expanded by raising capital investment spending as a share of national income as well as the size of capital inputs and labour supply, labour force and the technological advancement (Ogboru, Abdulmalik & Park, 2018). Economic growth is the increase of per capita Gross Domestic Product (GDP) or other measure of aggregate income. The International Monetary Fund (IMF) defines Economic growth as the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP, usually in per capita terms (Carreon, 2013).

That gives company's capital to invest and hire more employees. As more jobs are created, incomes rise. Consumers have more money to buy additional products and services. Purchases drive higher economic growth (Wikipedia, 2019). For this reason, all countries want positive

economic growth. This makes economic growth the most watched economic indicator. In simplest terms, economic growth refers to an increase in aggregate production in an economy (Ogbonna & Appah, 2012). Often, but not necessarily, aggregate gains in production correlate with increased average marginal productivity. That leads to an increase in incomes, inspiring consumers to open up their wallets and buy more, which means a higher material quality of life or standard of living (Loto, 2011).

"Economic growth is one of the objectives of macroeconomic policy of a country's economy. Economic growth is defined as "the process whereby the real per capital income of a country increases over a long period of time (Wkipedia, 2019). Economic growth is measured by the increase in the amount of goods and services produced in a country. A growing economy produces more goods and services in each successive time period. This growth occurs when an economy's productive capacity increases which, in turn, are used to produce more goods and services. In its wider aspect, economic growth implies raising the standard of living of the people, and reducing inequalities of income distribution (Wkipedia, 2019). All agree that economic growth is a desirable goal for a country. But there is no agreement over the magic number, viz., the annual growth rate which an economy should attain. Economic growth is a rise in the per capital income (Jelilov, Gylych; Muhammad Yakubu & Maimuna, 2015). This connotes an increase in the total output of an economy per person, all things being equal. Economic growth may also be described as an increase in the volume of flow of goods and services in an economy. Per capital income is the average earning per person in a given society during a given period of time. Per capital income (PCI) represent the monetary value of the productive activities of individuals in an economy, it is commonly calculated based on gross national product (GNP) or gross domestic product (GDP).

Economic growth is seen as an increase in a country's potential gross domestic product (GDP) (Okoro, 2013). Dwivedi (2002) define economic growth as a sustained increase in per capita national output or net national product over a long period of time. Ogbonna and Appah (2012) added that to measure economic growth, economists generally examine the rate of change in real GDP from one year to the next. According to Central Bank of Nigeria (2008), Gross Domestic Product (GDP) is the monetary value of goods and services in an economy during a period of time irrespective of the nationality of the people who produced the goods and services. This implies that one can ascertain the basic economic performance level if the GDP is in view."

### 2.1.1 Measures of Economic Growth

Economists and statisticians use several methods to measure economic growth. The most common way to measure the economy is real gross domestic product, or real GDP. GDP is the total value of everything goods and services produced in our economy (Feldstein, 2017). The word "real" means that the total has been adjusted to remove the effects of inflation. There are at least three different ways to measure growth of real GDP. It is important to know which is being used, and to understand the differences among them (Varian, 2016). The most common ways to measure real GDP are: quarterly growth at an annual rate, the four-quarter or "year-over-year" growth rate, the annual average growth rate, quarterly growth at an annual rate shows the change in real GDP from one quarter to the next, compounded into an annual rate (Varian, 2016). (This process is often called annualizing.) For example, in the second quarter of 2001, the economy grew 0.1 per cent from the first quarter. If the economy had grown at that pace for an entire year, the annual growth

would be 0.4 per cent. So the quarterly growth at an annual rate was reported at 0.4 per cent (Fernald, Hall, Stock & Watson, 2017).

This measure is often used by the media. It does a good job of showing recent economic growth. This is because the effects of any one-time-only factors during the quarter, labour disputes for example, become compounded when the rate is annualized (Syversion, 2016). Some suggest measuring economic growth through increases in the standard of living, although this can be tricky to quantify, different methods, such as Gross National Product (GNP) and Gross Domestic Product (GDP) can be employed to assess economic growth, Gross Domestic Product measures the value of goods and services produced by a nation. Gross National Product measures the value of goods and services produced by a nation (GDP) and income from foreign investments. Some economists posit that total spending is a consequence of productive output, although GDP is widely used, it, alone, does not indicate the health of an economy (Wikipedia, 2018). The gross domestic product is the logical extension of measuring economic growth in terms of monetary expenditures. If a statistician wants to understand the productive output of the steel industry, for example, he needs only to track the dollar value of all of the steel that entered the market during a specific period. The OECD described GDP as suffering from a number of statistical problems. Its solution was to use GDP to measure aggregate expenditures, which theoretically approximate the contributions of labor and output, and to use multi-factor productivity (MFP) to show the contribution of technical and organizational innovation (Wikipedia, 2018).

Those of a certain age may remember learning about the gross national product (GNP) as an economic indicator. Economists use GNP mainly to learn about the total income of a country's residents within a given period and how the residents use their income (Feldstein, 2017). GNP measures the total income accruing to the population over a specified amount of time. Unlike gross domestic product, it does not take into account income accruing to non-residents within that country's territory; like GDP, it is only a measure of productivity, and it is not intended to be used as a measure of the welfare or happiness of a country (Feldstein, 2017). There is little difference between GDP and GNP for the US, but the two measures can differ significantly for some economies. For example, an economy that contained a high proportion of foreign-owned factories would have a higher GDP than GNP (Fernald *et al*., 2017). The income of the factories would be included in GDP as it is produced within domestic borders. However, it would not be included in GNP since it accrues to non-residents. Comparing GDP and GNP is a useful way of comparing income produced in the country and income flowing to its residents (Okpara & Nwaohe, 2010).

### 2.1.2 Justification of Measurement of Economic Growth

Despite different calls Stiglitz, Sen, and Fioussi (2009) for shifting the emphasis of government statistical indicators from measuring economic production to measuring overall well-being, trying to broadly capture all the factors that enter well-being would be highly ambitious. In addition to the challenge of accurately measuring all of the many factors that bear on households, one needs to grapple with how to weight different factors in order to produce a single comprehensive measure. Corrado, Fox, Goodridge, Haskel, Jona, Lasinio, Sichel, and Westlake (2017), note, GDP effectively weights the units produced of different goods and services by their prices, which should correspond to the values of these items.) Of course, a single measure is not absolutely necessary some proposals, such as the OECD's Better Life initiative, merely call for a "dashboard" of factors related to welfare. The strength of dashboards is that they allow users to

apply their own weights; however, this is also a weakness when it comes to trying to reach consensus about how different countries compare or how much welfare has increased over time.

Bernanke and Olson (2017) took one concrete step toward creating a broader measure of welfare that draws from economic theory to weight different factors. The authors use a "consumption-equivalent" welfare approach combining data on consumption, leisure, inequality, and mortality into a single summary statistic using an expected utility calculation that applies equal weight to each person. They go on to explore differences over time and across countries between this summary statistic and GDP, finding, for example, that their alternative statistic implies that living standards in Western European countries appear much closer to those in the United States because of longer life spans, greater consumption of leisure, and lower inequality. An entirely different approach to capturing welfare would be to simply ask people how happy they are. Wolfers (2003), Stevenson and Wolfers (2008), and Sack, Stevenson and Wolfers (2012), for instance, explore measures of so called "subjective well-being." Stevenson and Wolfers (2008) provide a thorough analysis of subjective well-being over time and across countries and conclude that such measures are fairly well correlated with absolute real income per capita (with some role for relative income). While there is some worry about the biases people exhibit when answering questions about their well-being (Krueger, 2008) and uncertainties about how to aggregate responses to questions about happiness (Bond & Lang, 2018), these measures are potentially important complements to indicators of well-being based on hard data.

## 2.2 Capital Expenditure in Nigeria and its Linkage with Economic Growth

Economic growth represents the expansion of a country's potential GDP or output. For instance, if the social rate of return on investment exceeds the private the return, then expenditure policies can raise the growth rate and levels utility (Bernanke & Olson, 2017). Economic growth has provided insight into why state growth at different rates over years; and this influence government in her choice of tax rates and expenditure levels that will influence the growth rates. One way in which public expenditure is expected to affect the pace of economic growth is the will or capacity of the people to work, save and invest (Cornelius, Ojong, Ekpo & Ogar, 2016). In this connection, the exact effect depends largely upon the precise form and magnitude of public expenditure as seen in the context of accompanying circumstances. Now, when public expenditure is incurred, by itself it may be directed to particular investments or may be able to bring reallocation of the investible resources in the private sector of the economy. An important way in which public expenditure can accelerate the pace of economic growth is by narrowing down the difference between social and private marginal productivity of certain investments (Cornelius, et al,. 2016). Here public expenditures can be used to provide subsidies for those investments which are commercially non-viable but which are very helpful for economic growth (Bernanke & Olson, 2017). Such a system of subsidies for example may be for agricultural inputs, if agricultural production is to be stimulated or for investment in backward area to reduce regional disparities and unemployment. Subsidies can also be used to promote import substitution and at the same time, to keep prices of necessary imports of capital goods etc. As far as savings are concerned, it may be presumed that public expenditure would be designed in such a way as to increase the overall savings in the country, though of course not necessarily (Rotimi, 2005).

Some public expenditure may be in the form of education, various social services and so on in which case it will lead to an increase in consumption rather than savings. On the other hand,

public expenditure helps the people in attaining higher efficiency and productivity, their capacity to work and save increases (Cornelius, et al., 2016). But above all, we must recognize the lead which public expenditure, if used in a judicious way and with a purpose can give to the economy. It has the capacity to open up vast opportunities and it can create an awakening and desire in the mind of the people to improve their lot (Calderon, 2009).

**2.3 Empirical Review**

This section reviews existing literature on the relationship between government expenditure and economic growth. A number of studies have focused on the relationship between government expenditure and economic growth in both developed countries and developing countries like Nigeria.

Toto, Ahmad and Muhammad (2018) examined the effect of the pattern of local government expenditures on economic growth, namely regional expenditures in education, health, agriculture, housing, transportation, and social, and linking the respective superior sectors in the New Autonomous Region (NAR) In Sumatera Island. The result shows that potential sectors having criteria of the basic sector, and high growth and competitiveness are still dominated by the agricultural sector and services. Meanwhile, local government expenditures for education, health, and social affairs have a positive and significant effect, housing has a negative and significant effect, and government spending on agriculture and transportation has no significant effect on the growth of the new autonomous regions, with the agricultural sector, Manufacturing, electricity, gas and water supply sectors, construction sector, trade, hotel and restaurant sector, as well as transportation and communications sectors being the ones supporting economic development in New Autonomous Regions (NAR).

Ishmael, Farouk and Idis (2018) explored the effect of government expenditure on agriculture and its impact on unemployment reduction in Nigeria from 1999 - 2015. Time series data was gathered from secondary sources on Unemployment rate, Government Recurrent/Capital Expenditure on agriculture, the result revealed that the relationship between government expenditure and unemployment did not have a significant effect, that is, has no reducing effect on unemployment in Nigeria. The study therefore recommends the federal government intervention in quadrupling of agriculture votes in the annual budget towards the 10% Maputo Declaration of 2003 for enormous progress.

Seifu, Njocke and Yah (2018) analyzed the effect of government investment spending on economic growth in Cameroon going from the components of the GDP5 and using VAR (Vector Auto Regressive) model. Our results show the intervals in which the various components of government spending have an effect on economic growth in Cameroon. We find that the lagged GDP and government investments have a positive effect on growth whereas private investments affect it negatively.

Kairo, Mang, Okeke and Aondo (2017) explored the relationship between human capital development and government expenditure. Data were collected over the period 1990-2014. ARDL and impulse response function were adopted for the estimation. The Bound Test was used to determine that a long run relationship exists between HDI and GOVEXP. The results demonstrated that both in the long and short run, government spending has remained positive but to a very large extent insignificant to human capital development in Nigeria. This is why Nigeria's per capita income has remained low for a long time in the world ranking. This study therefore strongly

recommends that government spending should largely be focused on human development through specialized high technology-driven schools and efficient and effective health facilities.

Inimino, Tubotamuno and Shaibu (2017) examined the impact of public education expenditure on economic growth in Nigeria from 1980 to 2015. Co-integration/Error Correction Mechanism and Granger Causality test were employed to analyze the data. The Co-integration test revealed that there is a long-run relationship among the variables. The result of the parsimonious ECM showed that the overall model is satisfactory given the coefficient of determination of 65 percent and f-statistic of 5.312802. The result also revealed that government capital education expenditure and government recurrent education expenditure have significant relationship with economic growth. Moreover, the Pairwise Granger Causality result showed a unidirectional causation between government capital education expenditure and real gross domestic product, government recurrent education expenditure and real gross domestic product as well as gross capital formation and real gross domestic product. It was recommended amongst government should carry out capital projects in the educational sector including building of quality class rooms, laboratories, purchase of teaching and learning aids including computers because these facilities will have multiplier effect on the economy.

Kimaro, Keong and Sea (2017) examined the impact of government expenditure and efficiency on economic growth of Sub Saharan African low income countries. Employing a panel data of 25 Sub-Saharan African low income countries spanning from 2002–2015 which are obtained from World Development Indicators (WDI) database. The paper executes panel unit root tests by using ImPesaran-Shin and Fisher ADF tests. The paper also uses Pedroni test to accomplish panel co-integration tests. The results indicated that increasing government expenditure accelerates economic growth of low income countries in Sub Saharan Africa. However, when government expenditure is interacted with government efficiency we find no evidence for government efficiency to boost the impacts of government expenditure on economic growth. Hence, the study recommended that fiscal policy makers in Sub Saharan African low income region should consider the rationale for using their spending to accelerate economic growth.

Ebong, Ogwumike, Udongwo and Ayodele (2016) examined the effect 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. Capital expenditures on Agriculture did not exert any significant influence on growth both in the long and short runs. Similarly, the corresponding short-run and long-run impacts on growth of capital expenditures on Education were 0.45 and 0.48, respectively. These results were positive and statistically significant at the 5% level. The short-run impact of health capital expenditures on economic growth was 0.21, while the long-run impact was 0.16. Expenditures on economic infrastructure had significant positive impacts on growth of 0.28 in the short-run and 0.32 in the long-run. Moreover, these expenditures do not crowd-out private investment. These results indicate that government expenditure on human capital development through the social services sector tended to promote economic growth unlike that on Agriculture. Given that Agriculture still remains a mass major provider of livelihood opportunities,

it is still an important channel of economic growth. There is need, therefore, to strengthen the quality and sustainability of especially, capital expenditures on Nigeria's Agricultural sector.

Dikeogu, Ohale and Otto (2016) examined the impact of public expenditure on economic growth in Nigeria from 1970 to 2013. The study adopted the econometric technique of Ordinary Least Squares (OLS) and Error Correct Mechanism (ECM) using annual time series data from secondary sources. The ADF result showed that all the variables were stationary at 1st difference and the cointegration test indicated a long run relationship among the variables. The findings reveal that aggregated government expenditure do not impact significantly on economic growth, while disaggregated government expenditure exerts a significant impact on economic growth. In conclusion, the study submits that public expenditure has serious implication on economic growth in Nigeria within the period of study. There is, therefore, the need for government to ensure appropriate channeling of its expenditure to areas like infrastructural development in order to stimulate investment and production with the expectant result of price stabilization.

Cornelius, Ojong, Ekpo and Ogar (2016) examined the effect of government expenditure and its implications on the Nigerian economy. In line with these objectives, secondary data were sourced from the CBN statistical bulletin and other relevant publication using the desk survey method. The exploratory and ex-post facto designs were used for the study. The data collected were analyzed using the ordinary least square multiple regression technique. Findings from the analysis revealed that recurrent expenditure had a significant relationship on the growth and development of Nigeria economy; capital expenditure had a significant effect on the growth and development of Nigeria economy. It was recommended that government should spend more on security as this will promote investment; also, government should increase its expenditure on economic services such as agriculture, construction, transport, communication, electricity and other economic services.

Abdulrahman (2016) examined the impact of Government Expenditure on Economic Growth in Nigeria. Gross domestic product (GDP) was regressed on the Aggregate Government expenditure, interest rate and Money Supply in Nigeria for the period of 1986 – 2011. The analytical tools of analysis were used in analyzing the data collected, and the model used is multiple regression models. From the result, it is clear that Government Expenditure has a negative and insignificant impact on the economic growth of a country, despite the fact that the overall model performance is good as shown by the R-Square and F - test. It has been shown in the cause of the research through the review of empirical literature as well as the regression results that economic growth in the Nigerian economy is basically a fiscal policy phenomenon, as generally held. The study recommended that Government Expenditure should be adequately monitored.

"Udoffia and Godson (2016) investigated the impact of federal government expenditure on the Nigerian economic growth. The study adopted the Ordinary Least Square estimation technique to estimate the model specified using time series data for the period 1981-2014. Real Gross Domestic Product was used as the dependent variable while federal government capital and recurrent expenditures were used as the independent variables. The result from the regression analysis shows that federal government capital and recurrent expenditures have a positive effect on real GDP. The study recommended that federal government should direct more of its recurrent expenditure towards economic and community services as they accelerate economic growth. The study also recommended proper management of public funds allocated to the agricultural sector and

manufacturing industries as they have the potential of raising the nation's production capacity and providing employment for citizens in the country.

Aremu, Babalola, Aninkan, and Salako (2015) examined the analysis of impact of sectoral government expenditures on economic growth in Nigeria: Bound Test Co-integration Approach. This study empirically investigated the impact of government expenditures on critical sectors on economic growth in Nigeria (1984-2013). With the purpose of determining to what extent the government expenditures on these sectors are contributing to the achievement of growth objective. The study employs quantitative analysis by the use of Auto- Regressive Distributed Lag model (Bound Test Co-integration Approach) to determine both short-run and long run impact of Government expenditures on economic growth. The specific ARDL estimates of the analysis reveals that government expenditure on defence retards the economic growth and government expenditure on agriculture promote the transport/communication have no impact on economic growth in the long-run. In the short run, none of the government expenditure on these sectors contributes to the growth objective.

Gebrehiwot (2015) investigated the effect of human capital development on economic growth in Ethiopia: evidence from ARDL approach to co-integration. The finding of this research showed that there is a stable long run relationship between real GDP per capita, education human capital, health human capital, labour force, gross capital formation, government expenditure and official development assistance. The estimated long run model indicates that human capital in the form of health have big positive impact on real GDP per capita rise followed by education in human capital. The study also did not critical and specifically examined the long run and short run relationships of government expenditure on human capital development.

Anyanwu, Adam, Obi and Yelwa (2015) explored the relationship between human capital and economic growth in Nigeria with time series data which covers periods 1981-2010. Using the endogenous modeling approach cast within the autoregressive distributed lag (ARDL) framework, the bounds testing analysis indicated existence of co integration between economic growth and human capital development indicators. The result showed that human capital development indicators had positive impact on economic growth in Nigeria within the reviewed periods. This study also did not critically and specifically examine the long run and short run relationships of government expenditure on human capital development.

Njoku, et al., (2014) examined the effect of government expenditure on economic growth in Nigeria between the periods of 1961 to 2013 and concluded that there is significant relationship between federal government expenditure and economic growth in Nigeria. Their study recommended that government should continuously increase expenditures that accelerate growth.

Torruam and Abur (2014) in their study public expenditure on human capital development as a strategy for economic growth in Nigeria: application of Co Integration and Causality Test Analysis. The study investigated the impact of human capital development on economic growth in Nigeria. The study examines the causal relationship between human capital development and economic growth in Nigeria for the period 1977-2012. The stationarity properties of the data and the order of integration of the data were tested using both the Augmented Dickey-Fuller (ADF) test and the Phillip-Perron (PP) test. The variables tested stationary at first differences. The Johansen approach of co-integration was applied to test for the long-run relationship among the variables. The result indicated three (3) co-integrating relations between the variables; the

Granger-causality suggested that there is bidirectional causality running from economic growth to human capital development and from total expenditure on education to total expenditure on health in Nigeria. The study concludes that human capital development has an impact on economic growth in Nigeria. This implies that if funds channeled into education and health sectors are properly managed and utilized efficiently it would improve the educational and health sectors. However, this study only focused on the relationship between public expenditure and economic growth and not really on how public expenditure impact on human capital development."

Nwaeze, Njoku and Nwaeze (2014) explored the impact of government expenditure on Nigeria's economic growth (1992 – 2011). They stated that public expenditure on investments and productive activities is expected to accelerate the pace and level of economic activities in the economy, thus leading to higher levels of production and growth. This study examined 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 in line with the objectives of this study. Real Gross Domestic Product, proxy for economic growth is adopted as the dependent variable while Total Recurrent Expenditure and Total Capital Expenditure constitute the independent variables. The results of this study show that the Federal Government Expenditure has a positive and insignificant impact on the economic growth of Nigeria for the period under study.

Agbonkhese and Asekhome (2014) studies the impact of government expenditure on economic growth and development in Nigeria, using OLS method of econometric technique, assessed the impact of public expenditure, credit to the economy, private capital formation, exchange rate and lagged values of GDP on current Gross Domestic Product. The result of their assessment showed that with the exception of exchange rate (which had a negative impact on GDP) other explanatory variables have a positive impact on Gross Domestic Product.

Okoro (2013) explored the impact of government spending on the Nigerian economic growth. Using time series data of 32years period (1980-2011), the study employed the ordinary least square multiple regression analysis to estimate the model specified. Real Gross Domestic Product (RGDP) was employed as the dependent variable while government capital expenditure (GCEXP) and government recurrent expenditure (GREXP) represents the independent variables. The result indicated 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.

Chude and Chude, (2013) investigated the relationship between government expenditure and economic growth in Nigeria. Using time series data spinning from 1977 to 2012 for Nigeria, established that total government expenditure has a high and statistically significant effect on economic growth in Nigeria in the long run. Economic growth is influenced by factors both exogenous and endogenous to the public expenditure in Nigeria. They recommended a decrease in Nigeria's budgetary allocation to recurrent expenditure on education and place more emphasis on capital expenditure so as to accelerate the growth of Nigeria.

Akpan and Abang (2013) examined the effect of government spending on economic growth in Nigeria. Utilizing annual time series data from 1970 to 2010, with the help of OLS technique to a modified Ram (1986)'s two-sector production growth model. The results revealed

that at the aggregate level, government spending in Nigeria is growth promoting, although the impact is very small and less than unity (0.16%). At the disaggregated level, only recurrent spending is significantly and positively related to growth, while the impact of capital spending is negative and insignificant. Hence, the study recommended that for a robust growth, recurrent spending may still be necessary but government may also need to re-adjust its spending priorities to accommodate capital spending. Doing this would not only complements and improve the competitiveness of private sector productivity but may also corrects for the observed insignificant and negative impact of the variable on Nigeria's economic growth.

Onakoya and Somoye (2013) examined the impact of public capital expenditure on economic growth in Nigeria in the context of macroeconomic framework at sectoral levels. Their study showed that public capital expenditure contributes positively to economic growth in Nigeria. Their study suggested a positive but insignificant relationship to the services sector. Their study recommends privatization of state owned enterprises.

Stefan and Magnus (2001) examined growth effects of government and taxation in rich countries. They applied an econometric panel study on a sample of rich countries covering the period 1970 to 1975. Their result pointed to a robust negative relationship between government expenditure and growth in rich countries. From their analysis, the more econometric problems are addressed, the more robust the relationship between government size and economic growth appears.

Calderón (2009) examines the impact of infrastructure development on economic growth in 136 African countries for the period 1960–2005, it evaluates the impact of a faster accumulation of infrastructure stocks and an enhancement in the quality of infrastructure services on economic growth across African countries over the sample period. The study findings indicate that growth is positively affected by the volume of infrastructure stocks and the quality of infrastructure services.

Akinlabi et al. (2011) examined the impact of investment in public infrastructures on poverty alleviation and consequently economic development in Nigeria. Using Cointegration and Granger causality test for the period 1981 to 2006, they found public infrastructure Granger cause GDP, but fiscal deficit does not Granger cause GDP. Dissou and Didic (2011) found for
Benin that the crowding out effects of public infrastructure is sensitive to the mode of financing chosen by the government. Overall, their findings suggest that public investment in infrastructure can support private investment and sustain capital accumulation. The positive impact of public investment on private investment can be explained through the infrastructure financing channels such as public private partnerships and sub-contracting which in turn tend to crowd-in private investment.

Onakoya et al (2012) investigated the impact of infrastructure on economic growth in Nigeria. Using three-stage least squares, result shows that infrastructural investment has a significant impact on output of the economy directly through its industrial output and indirectly through the output of other sectors such as manufacturing, oil and other services. The agricultural sector is however not affected by infrastructure.

Fasoranti (2012) examined the effects of disaggregated government expenditures on infrastructure on the growth of the Nigerian economy. Results showed a long run relationship between the growth of the economy and government expenditures in education, environment and

housing, health services, water resources, inflation rate, agriculture, security, transport and communication.

Awomuse, Olorunleke and Alimi, (2013) from their analysis of the effects of federal government size on economic growth on Nigeria (1961 to 2011) found out that there exists no long run relationship between government expenditure and economic growth in Nigeria. Their analysis revealed that the Wagner's law does not hold for over the period being tested. Using VAR Granger casualty test, they found out a weak empirical support in the proposition by Keynes that public expenditure is an exogenous factor and a policy instrument for increasing national output in the short run.

Gregorious and Ghosh (2009) used the heterogeneous panel to investigate the impact of government expenditure on economic growth. The authors employed the GMM technique, and discovered that countries with large government expenditure tend to experience higher growth, but the effect varies from one country to another. And therefore effective and efficient expenditure framework is needed.

Nurudeen and Usman (2010) investigated the effect of government expenditure on economic growth in Nigeria by employing disaggregated analysis. The results reveal that government total capital expenditure (TCAP), total recurrent expenditures (TREC), and government expenditure on education (EDU) have negative effect on economic growth. On the contrary, rising government expenditure on transport and communication (TRACO), and health (HEA) results to an increase in economic growth. The study therefore recommended among others that government should increase both capital expenditure and recurrent expenditure, including expenditures on education, as well as ensuring that funds meant for the development of these sectors are properly managed. Secondly, government should increase its investment in the development of transport and communication, in order to create an enabling environment for business to strive.

Onuorah and Akujuobi (2012) examined the trend and empirical analysis of public expenditure and its impact on the economic growth in Nigeria. The study employed Johansen Co-integration and VEC and found that recurrent government expenditure established long run relationship with RGDP. Finally, there is no statistical significance between public expenditure variables and the economic growth in Nigeria. The author recommended that a means of checking corruption and misappropriation of public funds be devised by fiscal authorities.

Nworji, Okwu, Obiwuru and Nworji (2012) examined the effect of public expenditure on economic growth in Nigeria for the period 1970 to 2009 using OLS multiple regression on domestic product (GDP), and various components of government expenditure. The study 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. There is a critical need by the government to ensure adequate and proper channeling of its expenditures to sectors of high propensity for growth and minimize its recurrent expenditures.

Arewa and Nwakahma (2013) investigated the long-run relationship between government expenditures and a set of macroeconomic variables (GDP, consumer price index and unemployment) using annual data collected from CBN statistical bulletin for a period of 1991 to

2011. The study adopted the Johansen multivariate cointegration for its estimation procedure and discovers that there is long-run relationship between government expenditure and the specified macroeconomic variables. It also discovers that an increase in capital expenditure improves economic bliss, while recurrent expenditure is detrimental to growth. Finally, the findings show that most of the variables do not Granger cause each other, but however, recurrent expenditure Granger cause prices, in the same vein capital expenditure does granger cause unemployment.

Egbetunde and Fasanya (2013) analyzed the impact of public expenditure on economic growth in Nigeria during the period 1970 to 2010 by employing the bounds testing (ARDL) approach. 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. The findings indicated that the impact of total public spending on growth was negative which is consistent with other past studies. Recurrent expenditure however was found to have little significant positive impact on growth. Therefore, government should increase its spending on infrastructure, social and economic activities and also check corruption.

Okpara and Nwaoha (2010) examined the relationship between government expenditure, money supply, prices and output in Nigeria for the period 1960 to 2006. Using the two–stage least square methods, the study observed that money supply is a positive and significant function of prices and also granger causes price with no reverse or feedback effect. The study therefore recommended that government should step up its expenditures with strong supervision and control to ensure that budgeted fund is actually committed to its proper use.

## 2.4 Theoretical Framework

Several theories underpin this study which are discussed below so as to understand the link between the variables in the study

First is the stakeholder theory which is based on the assumptions that address morals and values in managing an institution, originally propounded by Freeman (1984). According to Heath (2009), stakeholder theory recognizes that there are parties involved in management, such as employees, customers, contractors, financiers, communities, public agencies, political groups, trade associations, competitors and trade unions, who sometimes scrutinize government spending (Babatunde, 2017). Stakeholder theory is used in this study as a critical-diagnostic tool to identify the points at which stakeholders are vulnerable to breakdowns in the spending process in the absence of moral constraints on the part of government spenders. For instance, stakeholders such as electorates, taxpayers or simply citizens are interested in what the government offers from spending taxpayers' money (Babatunde, 2017). They expect a business-like approach to governance in the areas of utmost good faith, transparency and accountability, as enshrined in new public management theory (Heath, 2009).

Next is the Public Expenditure Theory: The public sector has a role to play in society to ensure the smooth running of economic activities. Also, the goals of government are sometimes numerous and have several stakeholders involved. Therefore, to avoid chaos, efficiency and equity should guide public spending (Hindrizia & Myles, 2005). Hindrizia and Myles (2005) explain that efficiency concerns the smooth running of public activities. Efficiency has to do with the coordination, collection and monitoring of government revenue and expenditure towards the provision of services to the stakeholders. Equity is about the fair sharing of public gains among

stakeholders. The applicable public expenditure theory in this study is based on Wagner's law, known as the law of increasing state spending. Wagner's law was formulated by Adolph Wagner (1835–1917). The theory states that for any country, public expenditure constantly rises as income growth expands (Hindrizia & Myles, 2005).

According to Magazzino, Giolli and Mele (2015), Wagner's law stipulates that in the process of economic development, the share of the public sector in GDP has been increasing over time. Cosimo, Lorenzo, and Marco (2015) explain that the law is premised on four principles, as follows: that growth results in increased complexity because there are new and continuing increases in public expenditure; that public expenditure increases result in urbanization and externalities; that the goods supplied by the public sector should have a huge income elasticity of demand; and that growth results in an increase in demand with a resultant increase in public expenditure (Magazzino et al., 2015). This study expects that if growth in expenditure matches economic growth, then it should also translate into economic development; however, this has not been the case in reality in developing nations like Nigeria because sometimes there are elements of fiscal illusion in government activities (Magazzino et al., 2015).

Finally the Neo-Keynessian Theory of Economic Growth: Both Harrod and Domar are interested in discovering the rate of income growth necessary for a smooth and uninterrupted working of the economy. Though their models differ in details, yet they arrive at similar conclusions. Harrod and Domar assign a key role to invest in the process of economic growth. But they lay emphasis on the dual character of investment. Firstly, it creates income, and secondly, it augments the productive capacity of the economy by increasing its capital stock. The former may be regarded as the „demand effect" and the latter, the „supply effect" of investment (Keynes, 1936). Hence so long as net investment is taking place, real income and output will continue to expand. However, for maintaining a full employment equilibrium level of income from year to year, it is necessary that both real income and output should expand at the same rate at which the productive capacity of the capital stock is expanding. Otherwise, any divergence between the two will lead to an excess of idle capacity, thus forcing entrepreneurs to curtail their investment expenditures (Loto, 2011). Ultimately, it will adversely affect the economy by lowering incomes and employment in the subsequent periods and moving the economy off the equilibrium path of steady growth. Thus, if full employment is to be maintained in the long run, net investment should expand continuously. This further requires continuous growth in real income at a rate sufficient enough to ensure full capacity use of a growing stock of capital. This required rate of income growth may be called the warranted rate of growth or "the full capacity growth rate according to (Harrod & Domar, 2006).

## 2.5 Summary of Review

From the review literature capital expenditure are forms of education, health, agriculture, various social services and so on in which case it will lead to an increase in consumption rather than savings. Public expenditure helps the people in attaining higher efficiency and productivity, their capacity to work and save increases. We must recognize the lead which public expenditure, if used in a judicious way and with a purpose can give to the economy. It has the capacity to open up vast opportunities and it can create an awakening and desire in the mind of the people to improve their lot it can be seen that the Keynesian and neo-classical schools of thought are preeminent among the various studies. The Keynesian school of thought believes that increase in government expenditure should promote economic growth. The Neo-classical school of thought

does not believe that increase in government expenditure should promote economic growth. Researchers like Chude and Chude (2013), Njoku, et al (2014), Okoro (2013), Agbonkhese (2014), and Onakoya and Somoye, (2013) based their work on the keynesian model which believes that increase in government expenditure leads to increase in economic growth. On the other hand, Egbentunde and Fasanya, (2013), Awomunse, Olorunleke and Alimi, (2013) followed the neo-classical school of thought which posited that increase in government expenditure does not lead to increase in economic growth.

## 3.0 METHODOLOGY

This chapter addresses the various methods, steps and procedures that will be adopted in the empirical analysis in order to ensure that the results of the study are reliable, accurate, and valid. The software that will be used in this is Eview 9.0. The steps include research design, population and sampling procedure, sources of data, model specification, method of data analysis and operationalization of variables.

### 3.1 Research Design

The research designs adopted in this study is the Ex-Post-facto method. Ex-Post-facto research which is very applicable in the management and social sciences is employed as the data collection method because the study involves the systematic study of a population in other to understand and be able to predict some aspects of the behaviour of the population. Moreover, this design is most appropriate and suitable for measuring or ascertaining the impact of one variable on another. In an Ex-Post-facto research which involves secondary data in which responses in the nature of a factor and its effects on individuals are being studied, the researcher does not have the ability or opportunity to vary or manipulate the independent variables. This inability to manipulate the independent variables stern from the fact that the variables are inherently non-manipulable or because their manifestations have already occurred (Agbonifoh and Yomere, 1999)

### 3.2 Population and Sampling Procedure

The population of the study which is the entire Nigerian economy, is the focus of this study. To constitute sample size out of the population of the study, the convenience sampling which is a purposive non-probability sampling method is adopted in the selection of samples for this study. The concept of non-probabilistic procedure allows more information within the distribution and accords the research work more scientific feature, thereby concretizing the validity of the research findings. The sample period is between 1998 and 2022 which is a period of twenty four (24) year annual observations. Consequently, time series data for the five variables for twenty years shall be examined.

### 3.4 Sources of Data

The data used in this study are sourced from the Nigerian Statistical Bulletin (NSB) and the Central Bank of Nigeria Statistical Bulletin (2022). The data covered a period of twenty four years (1998 to 2022). The reason for the choice of this period is based on the fact that it is long enough to be able to have a more realistic evaluation of the hypothesized impact of capital expenditure on the growth of the Nigerian economy over time.

### 3.5 Model Specification

The model of analysis follows a linear combination of explanatory time series variables, and the dependent variable which is real GDP as the proxy for economic growth in Nigeria. To

estimate the effect of the expenditure on the Nigerian economy, we have identified several capital expenditure variables that could capture the impact of the various transmission channels. Thus, the structural model to estimate the relationship between capital expenditure variables and economic growth is stated thus:

RGDP = F (CEXPAGRI, CEXPEDU, CEXPHE, CEXPENV)…….(3.1)

Hence, the econometric form of the model is as follow:

$RGDP = \beta_0 + \beta_1 CEXPAGRI + \beta_2 CEXPDU + \beta_3 CEXPHE + \beta_4 CEXPENV + U$…….(3.2)

Where:

RGDP = Economic growth proxy by real gross domestic product
CEXPAGRI = Capital expenditure on agriculture
CEXPEDU = Capital expenditure on education
CEXPHE = Capital expenditure on health
CEXPEVN = Capital expenditure on environment
U = Error Terms,
β0 = constant

The a priori of the explanatory variables are $\beta_1, \beta_2, \beta_3, \beta_4 > 0$

### 3.6 Method of Data Analysis

Two methods are used; these are the unit root test which helps to establish the stationarity status of the data in order to prevent spurious regression results. We perform also the Ordinary Least Squares (OLS) estimation technique which is the Best, Linear Unbiased Estimator. It is based on the minimization of the sum of squares residuals of the model. Hence, the estimation technique of time series data that is employed in this study is the Ordinary Least Squares (OLS) method that easily estimates the behavioural relationships among time series variables. The coefficients obtained from the estimation are then used to verify the working hypotheses of the study.

### 3.7 Operationalization of Variables

| S/N | Variables | Definition | Type of variables | Measurement |
|---|---|---|---|---|
| 1 | RGDP | Real Gross Domestic Product | Dependent | Real Gross Domestic product |
| 2 | CEXPAGRI | Capital expenditure on agriculture | Independent | Capital spending on agriculture |
| 3 | CEXPEDU | Capital expenditure on education | Independent | Capital spending on education |
| 4 | CEXPHE | Capital expenditure on health | Independent | Capital spending on health |
| 5 | CEXPEVN | Capital expenditure on environment | Independent | Capital spending on environment |

***Source: Researcher's compilation, 2023***

## 4.0 DATA PRESENTATION AND ANALYSIS

In this section, we shall be focusing on the presentation, analysis and interpretation of the data collected for this research work. Consequently, it entails the application of both mathematical and statistical techniques to provide the bases for the research hypothesis. Hence, it is a vital part of any research work, since it forms the basis for recommendation and conclusion at the end of the research. A quantitative analysis of the models specified in the previous chapter is examined empirically. The study was conducted to ascertain the relationship between government expenditure and economic growth.

### 4.2 Descriptive statistics

| | RGDP | HEALTH | ENVIRON | EDU | AGRIC |
|---|---|---|---|---|---|
| Mean | 42306.55 | 38481.00 | 66898.52 | 43812.54 | 75785.59 |
| Median | 32995.38 | 40735.80 | 62876.00 | 43400.00 | 78500.00 |
| Maximum | 110509.9 | 97200.00 | 145951.4 | 87900.00 | 138900.0 |
| Minimum | 0.379752 | 6431.000 | 3020.900 | 8516.600 | 5761.700 |
| Std. Dev. | 37479.06 | 21697.61 | 51079.97 | 23584.33 | 46424.10 |
| Skewness | 0.495499 | 0.351972 | 0.084517 | 0.189223 | -0.259739 |
| Kurtosis | 1.838204 | 3.380726 | 1.475238 | 1.992764 | 1.607732 |
| Jarque-Bera | 2.429006 | 0.667175 | 2.451532 | 1.205984 | 2.300279 |
| Probability | 0.296858 | 0.716349 | 0.293533 | 0.547172 | 0.316593 |

**Source:** Researchers Compilation,2023.

The table above shows the descriptive statistics which shows a summary of the key characteristics of the variables in the dataset, which include Real Gross Domestic Product (RGDP), government expenditure on health (HEALTH), government expenditure on the environment (ENVIRON), government expenditure on education (EDU), and government expenditure on agriculture (AGRIC). Let's interpret each statistic:

The mean represents the average value of each variable. For example, the mean RGDP is approximately 42,306.55, indicating that, on average, RGDP is around this level.

The median represents the middle value in a dataset when it's sorted in ascending order. It provides a measure of central tendency that is not affected by extreme values (outliers). For example, the median RGDP is approximately 32,995.38, suggesting that half of the observations fall below this value and half above it.

The Maximum and Minimum values represent the highest and lowest values observed in each variable. For instance, the maximum RGDP value is 110,509.9, while the minimum is approximately 0.379752. The standard deviation measures the dispersion or spread of data points around the mean. A larger standard deviation indicates greater variability in the data. For example, RGDP has a standard deviation of approximately 37,479.06, suggesting that RGDP values vary considerably from the mean. Skewness measures the asymmetry of the data distribution. A positive skewness (greater than 0) indicates that the data is skewed to the right (tail on the right). A negative skewness (less than 0) indicates that the data is skewed to the left (tail on the left). For example, RGDP has a positive skewness of 0.495499, indicating a right-skewed distribution. Kurtosis measures the "tailedness" of the data distribution. High kurtosis (greater than 3) suggests heavy

tails, while low kurtosis (less than 3) suggests light tails. For example, HEALTH has a kurtosis of 3.380726, indicating heavier tails than a normal distribution. The Jarque-Bera test assesses whether the data follows a normal distribution based on skewness and kurtosis.
A low p-value (typically below 0.05) suggests that the data significantly deviates from a normal distribution. For example, RGDP has a Jarque-Bera statistic of 2.429006 with a probability of 0.296858, indicating that it does not significantly deviate from a normal distribution.

**4.3 Correlation Analysis**

Covariance Analysis: Ordinary
Date: 09/21/23 Time: 06:49
Sample: 1998 2022
Included observations: 25

| Correlation<br>Probability<br>Observations | RGDP | HEALTH | ENVIRON | EDU | AGRIC |
|---|---|---|---|---|---|
| RGDP | 1.000000<br>-----<br>25 | | | | |
| HEALTH | 0.338590<br>0.0978<br>25 | 1.000000<br>-----<br>25 | | | |
| ENVIRON | 0.444286<br>0.0261<br>25 | 0.749889<br>0.0000<br>25 | 1.000000<br>-----<br>25 | | |
| EDU | 0.336193<br>0.1004<br>25 | 0.729100<br>0.0000<br>25 | 0.849480<br>0.0000<br>25 | 1.000000<br>-----<br>25 | |
| AGRIC | 0.436435<br>0.0292<br>25 | 0.744593<br>0.0000<br>25 | 0.936773<br>0.0000<br>25 | 0.759771<br>0.0000<br>25 | 1.000000<br>-----<br>25 |

Source: Researchers Compilation,2023.

The table you've provided shows the correlation matrix for your variables, which measures the strength and direction of linear relationships between pairs of variables. Here's how to interpret the correlation matrix. The correlation coefficient ranges from -1 to 1, where: 1 indicates a perfect positive linear relationship (as one variable increases, the other increases proportionally). -1 indicates a perfect negative linear relationship (as one variable increases, the other decreases

proportionally). 0 indicates no linear relationship. Probability: The probability values (p-values) associated with each correlation coefficient indicate whether the observed correlations are statistically significant. Lower p-values (typically below 0.05) suggest that the correlation is statistically significant.

From the result it was observed that there is a positive correlation between RGDP and HEALTH, but it is not statistically significant at the conventional significance level of 0.05. This suggests that there may be some positive association between government health spending (HEALTH) and economic growth (RGDP), but it's not strong enough to be considered statistically significant in your dataset.

There is a positive correlation between RGDP and ENVIRON, and it is statistically significant (p-value < 0.05). This suggests that there is a statistically significant positive relationship between government expenditure on the environment (ENVIRON) and economic growth (RGDP). The correlation coefficient indicates a moderate positive association.

Interpretation: There is a positive correlation between RGDP and EDU, but it is not statistically significant (p-value > 0.05). This suggests that there may be a positive association between government education spending (EDU) and economic growth (RGDP), but the evidence is not strong enough to establish statistical significance.

There is a positive correlation between RGDP and AGRIC, and it is statistically significant (p-value < 0.05). This indicates a statistically significant positive relationship between government expenditure on agriculture (AGRIC) and economic growth (RGDP). The correlation coefficient suggests a moderate positive association.

In summary, based on the correlation matrix, it appears that government expenditure on the environment (ENVIRON) and agriculture (AGRIC) has a statistically significant positive relationship with economic growth (RGDP), while government spending on health (HEALTH) and education (EDU) shows positive correlations but not at a statistically significant level. These findings provide insights into potential associations between government spending in these sectors and economic growth in your dataset. However, causation cannot be determined solely from correlation analysis, and further research and analysis would be needed to explore causal relationships.

**4.4 Regression Result**

Dependent Variable: RGDP
Method: Least Squares
Date: 09/21/23 Time: 06:57
Sample (adjusted): 1999 2022
Included observations: 24 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 20560.64 | 11981.83 | 1.715984 | 0.1033 |
| D(HEALTH) | -0.049289 | 0.399174 | -0.123477 | 0.9031 |
| D(ENVIRON) | -0.337598 | 0.402215 | -0.839346 | 0.4123 |
| D(EDU) | 0.047431 | 0.362186 | 0.130956 | 0.8973 |
| AGRIC | 0.316847 | 0.141106 | 2.245452 | 0.0375 |

| | | | | |
|---|---|---|---|---|
| ECM(-1) | 0.719614 | 0.173456 | 4.148677 | 0.0006 |

| | | | |
|---|---|---|---|
| R-squared | 0.574216 | Mean dependent var | 43878.11 |
| Adjusted R-squared | 0.455943 | S.D. dependent var | 37434.25 |
| S.E. of regression | 27611.60 | Akaike info criterion | 23.50218 |
| Sum squared resid | 1.37E+10 | Schwarz criterion | 23.79669 |
| Log likelihood | -276.0261 | Hannan-Quinn criter. | 23.58031 |
| F-statistic | 4.854991 | Durbin-Watson stat | 1.695370 |
| Prob(F-statistic) | 0.005504 | | |

**Where:**
**RGDP=** Real gross domestic product a measure for economic growth
**Health=** government expenditure **on** health
**ENVIRON=** Government expenditure on environment
**EDU=** Government expenditure on education
**AGRIC=** Government expenditure on agriculture

From the regression result above it was observed that the coefficient for government expenditure on health suggests that a one-unit increase in HEALTH expenditure leads to a decrease of approximately 0.049 RGDP units. However, the t-statistic is very low (-0.12) and the associated probability (0.9031) is much higher than 0.05, indicating that this variable is not statistically significant in explaining RGDP.

Similar to the HEALTH variable, government expenditure on the environment (ENVIRON) also appears to have a negative effect on RGDP, with a coefficient of -0.338. However, like HEALTH, this effect is not statistically significant due to a high p-value (0.4123).

Government expenditure on education (EDU) has a positive coefficient, suggesting that a one-unit increase in EDU expenditure leads to an increase of approximately 0.047 RGDP units. However, as with the previous variables, this effect is not statistically significant (p-value of 0.8973). Government expenditure on agriculture (AGRIC) has a positive coefficient, indicating that a one-unit increase in AGRIC expenditure leads to an increase of approximately 0.317 RGDP units. This variable is statistically significant at a 0.05 significance level, as the p-value (0.0375) is below 0.05

Furthermore, the ECM(-1) represents a lagged value of RGDP, and it appears to have a positive and statistically significant impact on current RGDP. A one-unit increase in the lagged RGDP leads to an increase of approximately 0.720 RGDP units in the current period.

With respect to the fitness of the model it was observed that the R-squared which is a measure of how well the independent variables explain the variation in the dependent variable (RGDP). From the result an R-squared of 0.574216 therefore indicates that the model explains approximately 57.42% of the variation in RGDP while the remaining left on accounted for is been captured in the stochastic aspect of the model. The Adjusted R-squared which is a version of R-squared that adjusts for the number of independent variables in the model. It stood at a value of 0.455943 therefore, suggesting that after adjusting for the number of variables, the model still explains a significant portion of the variation.

The F-statistic tests whether the overall model is statistically significant. With a p-value of 0.005504, it suggests that the model as a whole is statistically significant at a conventional significance level of 0.05.
The Durbin-Watson statistic which tests for autocorrelation in the residuals stood at a value of 1.695 indicating the absence of autocorrelation.

**Diagnostic Test**

The following diagnostics tests are conducted for the regression results in line with the OLS assumptions. Such as the Hausman Test, Breusch-Pagan-Godfrey test for heteroscedasticity, the Lagrange Multiplier (LM) test for higher-order autocorrelation and the Ramsey RESET test for miss-specification

**Table 4.4: Test for Autocorrelation**

Breusch-Godfrey Serial Correlation LM Test:

| | | | |
|---|---|---|---|
| F-statistic | 1.264942 | Prob. F(2,63) | 0.2893 |
| Obs*R-squared | 2.702460 | Prob. Chi-Square(2) | 0.2589 |

The Lagrange Multiplier (LM) test for higher-order autocorrelation is utilized in this study and this is in recognition of the fact that OLS models assume serial independence in the residuals (Maddala, 1977; Greene, 1990). The LM test is a general test for high order autocorrelation and is relatively more powerful than the DW test. From the results, the hypotheses of zero autocorrelation in the residuals were not rejected. This was because the probabilities (Prob. F, Prob. Chi-Square) were greater than 0.05. The LM test did not, therefore, reveal serial correlation problems for the model.

**Table 4.5: Test for the Assumption of Heteroskedasticity**

Heteroskedasticity Test: Breusch-Pagan-Godfrey

| | | | |
|---|---|---|---|
| F-statistic | 0.727200 | Prob. F(5,18) | 0.6120 |
| Obs*R-squared | 4.033280 | Prob. Chi-Square(5) | 0.5446 |
| Scaled explained SS | 10.38334 | Prob. Chi-Square(5) | 0.0651 |

Source: Eviews,8.0

Given that Heteroscedasticity tends to be a deficiency in a data set, the Breusch-Pagan-Godfrey test was conducted on the residuals as a precautionary measure in this study, as noted by Johnson and Dinardo (1997) and Engle (1982b). Analysis of the results indicated probabilities exceeding 0.05, thereby indicating that the presence of heteroscedasticity in the residuals was not supported and it was rejected.

**Table 4.6: Test for Model Misspecification**

Null Hypothesis: D(ENVIRON) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=5)

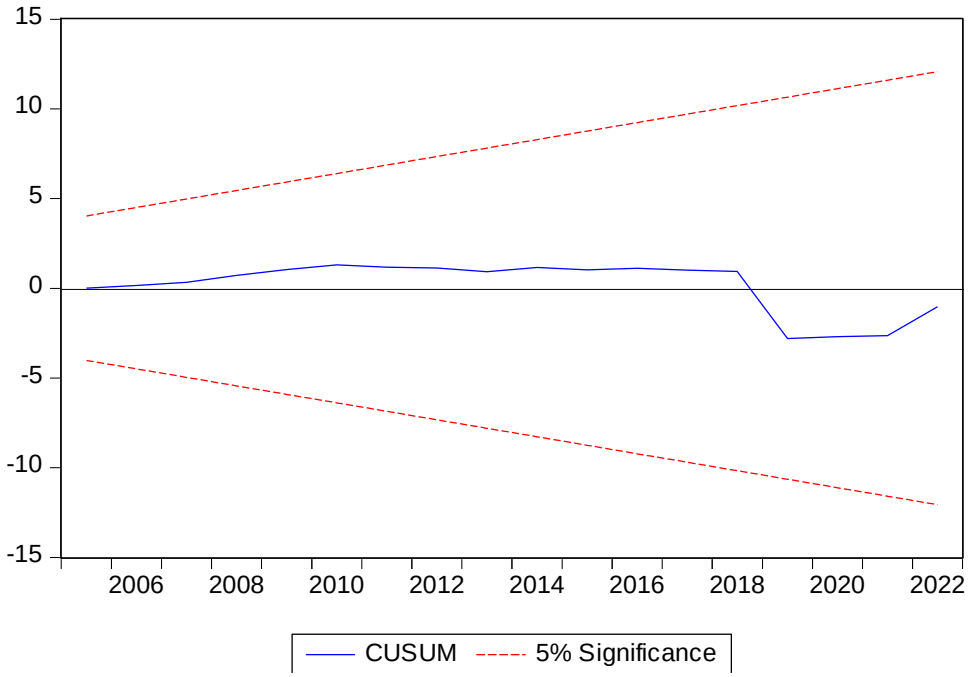
| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -4.012193 | 0.0056 |
| Test critical values: | 1% level | -3.752946 | |
| | 5% level | -2.998064 | |
| | 10% level | -2.638752 | |

*MacKinnon (1996) one-sided p-values.

Considering Ramsey (1969) and Ramsey and Schmidt (1976) argument that various specification errors such as omitted variables, incorrect functional form, correlation between independent variables and the error term, give rise to non-zero error term vector (Johnson, and Dinardo, 1997: 121), the performance of the Ramsey RESET test was inevitable. The test was performed to determine whether there were specification errors. The results showed high probability values that were greater than 0.05, meaning that there was no significant evidence of miss-specification.

**Table 4.7: Test for stability**

The CUSUM test (Brown, Durbin, and Evans, 1975) is based on the cumulative sum of the recursive residuals. This option plots the cumulative sum together with the 5% critical lines.



The test finds parameter instability if the cumulative sum goes outside the area between the two critical lines. As observed from the figure, the lines for the cumulative sum lie within the 5% critical lines and hence this suggests that the parameters of the model are stable.

**5.0 Discussion**

The objective of the study was to examine the impact of government expenditure on economic growth. In achieving this, data collected from CBN statistical bulletin in the Nigerian exchange group and analyzed using multiple regressions analysis to check for the existence of causal relationships between the dependent and explanatory variables.

The section concludes on the findings of the study and highlights salient policy recommendations and recommendations for future studies. Based on the analysis carried out it was observed that

1. government expenditure on health was found to have a negative impact on economic growth.
2. government expenditure on environment was found to have a negative impact on economic growth.
3. government expenditures on education was found to have a positive impact on economic development.
4. government expenditures on agriculture was found to have a positive impact on economic development.

**5.2 Conclusion**

Overall, the study underscores the significance of well-targeted investments in agriculture and the environment for promoting economic growth. However, the relationships between health and education spending with economic growth are less clear in this specific context and dataset. Policymakers should consider these findings as they design and implement fiscal policies, keeping in mind the importance of sector-specific strategies and the need for efficiency and effectiveness in resource allocation.

It's essential to note that while the study identifies correlations between these variables and economic growth, causation cannot be definitively determined from this analysis alone. Further research, including more comprehensive models and consideration of additional factors, is recommended to deepen our understanding of the complex relationship between government expenditure and economic growth.

**5.3 Recommendation**

**1.**Given that government expenditure on agriculture (AGRIC) has a positive and statistically significant impact on economic growth, policymakers should consider increasing investments in the agricultural sector. This might include funding for modernizing agriculture, providing farmers with access to technology, and supporting agricultural research and development. It is important to consistently observe and analyze government expenditures in order to assess their influence on various economic indices. It is essential for policymakers to refrain from exclusively depending on a single sector for the purpose of achieving economic development. The practice of allocating investments among several sectors, such as agriculture, industry, services, and technology, may contribute to the stabilization and facilitation of long-term economic development.

**2.**It is essential for policymakers to engage in a comprehensive evaluation of their existing health expenditure plans. While it is essential to invest resources towards the maintenance of public health and overall welfare, the analysis indicates that, within the framework of your model, augmenting expenditures on healthcare may not provide immediate economic development advantages. The absence of statistical significance in the variable pertaining to health suggests the presence of other influential variables that may have a dominating impact on economic development. Policymakers need to take into account a wider array of economic determinants and strategies that influence real gross domestic product (RGDP), including but not limited to infrastructure investment, trade policy, and fiscal changes. It is recommended that policymakers embrace a comprehensive approach to economic policy formulation, taking into account the many sectors and their interconnectedness. Economic development is subject to the effect of a multifaceted network of elements, including education, infrastructure, innovation, and macroeconomic stability. A singular emphasis on a certain area may not lead to the intended outcomes.

**3.** The absence of a statistically significant correlation between expenditures on environmental initiatives and real gross domestic product (RGDP) should not serve as a deterrent to investments in environmental conservation and sustainable practices. This statement highlights the significance of achieving a harmonious equilibrium between environmental aims and economic pursuits. It is imperative for policymakers to persist in their prioritization of environmental conservation and sustainability, since these measures are fundamental to ensuring enduring well-being and enhancing the overall quality of life. Although the research does not establish a clear correlation between environmental expenditures and economic development, it underscores the need of using such expenditures in a manner that is both efficient and effective. It is essential for policymakers to prioritize the allocation of environmental funds towards projects and activities that provide discernible environmental advantages, while simultaneously mitigating adverse economic externalities. It is recommended that policymakers embrace a comprehensive approach to policy formulation, taking into account the possible trade-offs and synergies that may arise between environmental and economic goals. Strategically crafted policies have the potential to foster sustainable economic development while also safeguarding the environment.

**4.**Although the research does not provide robust statistical evidence to establish a direct correlation between education expenditure and economic development under the given model, it is important for policymakers to not be discouraged from allocating resources towards education. Education is generally acknowledged as a crucial determinant for the development of human capital, enhancement of productivity, and facilitation of long-term economic progress. The absence of statistical significance underscores the relevance of effectively allocating resources within the education system. It is important for policymakers to prioritize the allocation of education resources towards initiatives that have proven effectiveness, enhancing the overall quality of education, and mitigating educational inequities. Rather than just focusing on augmenting the allocation of funds towards education, governments should give precedence to enhancing the quality of education. This may include allocating resources towards teacher professional

development, curriculum design, and the integration of technology to optimize the efficacy of educational initiatives. It is essential that education policies be congruent with the needs of the job market. This entails the provision of education and skills that are pertinent to the dynamic labor market, hence enhancing employee productivity and fostering economic development.

### 5.4 Recommendation for further studies

1. Conduct a long-term analysis to investigate how government expenditure in various sectors affects economic growth over extended periods. This can help capture the lagged and cumulative effects of spending.
2. Employ advanced time-series analysis techniques, such as vector Autoregression (VAR) or Cointegration analysis, to explore the dynamic relationships between government spending and economic growth over time.

## References

Abdul, J. A. (2013). Education and Economic Growth in Malaysia: The Issues of Education Data *International Conference on Economics and Business Research* (ICEBR)

Abdulrahman, S. (2016). How Government Expenditure Effects On Economic Growth In Nigeria. *Journal of Business and Finance Management Research, 2*(10), 122-134

Agbonkhese, A. O. & Asekhome, M. O. (2014). Impact of Public Expenditure on the Growth of Nigerian Economy. *European Scientific Journal*, *10*(28), 219-227.

Agbonkhese, A. O., & Asekhome, M. O. (2014). Impact of public expenditure on the growth of Nigerian economy. *European Scientific Journal*, 10(28), 219-227.

Akinlabi, B. H., Kehinde, J. S., & Jegede, C. A. (2011). Public infrastructures: An approach to poverty alleviation and economic development in Nigeria. *The European Journal of Humanities and Social Sciences*, 4(1), 29-48.

Akpan, U. F. & Abang, D. E. (2013). Does Government Spending Spur Economic Growth? Evidence from Nigeria. *Journal of Studies in the Social Sciences*. *5*(1), 36-49.

Akpan, U. F., & Abang, D. E. (2013). Does Government Spending Spur Economic Growth? Evidence from Nigeria. *Journal of Studies in the Social Sciences*. *5*(1), 36-49.

Anyanwu, S.O., Adam, J. A., Obi, B., & Yelwa, M. (2015). Human capital development and economic growth in Nigeria. *Journal of Economics and Sustainable Development,* 6(14); 1-12.

Aregbeyeni, O., & Kolawole, B. O. (2015). Oil revenue, public spending and economic growth relationships in Nigeria. *Journal of Sustainable Development, 8*(3), 114–123.

Aremu, Y.S., Babalola, B.T.A., Aninkan, O. D., & Salako, M. A. (2015). Analysis of impact of Sectoral Government expenditures on economic growth in Nigeria: Bound Test Cointegration. Approach. *European Journal of Business and Management*. 7(12), 1-15.

Arewa, A. & Nwakahma, P. C. (2013). Macroeconomic variables and the dynamic effect of public expenditure: Long-term trend analysis in Nigeria. *Journal of Knowledge Management, Economics and Information Technology*, *3*(6), 1-32.

Awomuse, B. O., Olorunleke, K. & Alimi, R. S. (2013). The effect of federal government size on economic growth in Nigeria, 1961-2011. *Munich Personal RePEc Archive* (MPRA). 1-12

Babatunde, S. A. (2018). Government spending on infrastructure and economic growth in Nigeria, Economic Research-Ekonomska Istraživanja, 31(1), 997-1014, DOI: 10.1080/1331677X.2018.1436453.

Bhatia, H. L. (2002). *Public Finance, 25th Edition,* India: Vikas Publishing House.

Calderón, C. (2009). *Infrastructure and growth in Africa, Policy Research Working* Paper 4914, the World Bank, Washington, D.C.

Central Bank of Nigeria Statistical Bulletin. (2014). 25, 77-79.

Chude, N. P., & Chude, D. I. (2013). Impact of government expenditure on economic growth in Nigeria. *International Journal of Business and Management Review*, *1*(4), 64-71.

Cornelius, M., Ojong1, N., Ekpo, S., & Ogar, A. (2016). Government Expenditure and Its Implications on Nigerian Economy, *Journal Of Humanities And Social Science (IOSR-JHSS), 21(1),50-55.*

Cosimo, M., Lorenzo, G., & Marco, M. (2015). Wagner's law and Peacock and Wiseman's displacement effect in European union countries: A panel data study. *International Journal of Economics and Financial Issues, 5*(3), 812-819.

Darma. A. (2014). Federal capital expenditure and its impact on economic growth in Nigeria; 1980–2010. *Developing Country Studies, 4*(4), 24–33.

Dikeogu, C. C., Ohale. L., & Otto, G. (2016). Public Expenditure And Economic Growth In Nigeria. *International Journal of Advanced Academic Research of Social & Management Sciences,* 2(12), 2488-9849.

Dwivedi, D. N. (2002). *Managerial Economic*, New Delhi: Vikas Publishing House PVT Ltd. Keynes, J.M. (1936), *The General Theory of Employment, Interest and Money*, Harcourt Brace Jovanovich, New York.

Ebong, F., Ogwumike, F., Udongwo, U., & Ayodele, O. (2016). Impact of Government Expenditure on Economic Growth in Nigeria: A Disaggregated Analysis. *Asian Journal of Economics and Empirical Research, 3(1), 113-121.*

Efobi, U., & Osabuohien, S.E. (2012). Government expenditure in Nigeria: An Examination of Tri-Theoretical Mantras. *Journal of Economic and Social Research, 14*(2), 27-52.

Egbetunde, T., & Fasanya, I. O. (2013). Public expenditure and economic growth in Nigeria: evidence from auto- regressive distributed lag specification. *Zagreb International Review of Economics & Business*. *16*(1), 79-92.

Egbetunde, T., & Fasanya, I. O. (2013). Public Expenditure and Economic Growth in Nigeria: Evidence from Auto- Regressive Distributed Lag Specification. *Zagreb International Review of Economics & Business*. *16*(1), 79-92.

Fasoranti, M. M. (2012). The effect of government expenditure on infrastructure on the growth of the Nigerian economy, 1977-2009. *International Journal of Economics and Financial,* 2(4), 513-518.

Folster, S., & Henrekson, M., (2011). Growth effects of government expenditure and taxation in rich countries. *European Economic Review, 45*(8), 1501 -1520.

Gebrehiwot, K. G. (2015). The impact of human capital development on economic growth in Ethiopia: Evidence from ARDL Approach to Co-Integration. *Journal of Economics and Sustainable Development. 6*(13), 1-15.

Gregorous, A., & Ghosh, S. (2007). Fiscal Policy in an Endogenous Growth Model with Public Capital and Pollution, *Japanese Economic Review, 56*(6), 67-84.

Heath, J. (2009). The uses and abuses of stakeholders theory. *Business Ethics Quarterly, 19*(04), 497–528.

Hindrizia, J., & Myles, G.D. (2005). Theories of the public sector. *Intermediate Public Economics* (69–87). Cambridge: MIT Press

Inimino, E. E., Tubotamuno, B., & Shaibu, D, O. (2017). Public Education Expenditure and Economic Growth in Nigeria, *International Journal of Economics and Business Management, 3*(6).

Ishmael O., Farouk A, A., & Idisi O. P. (2016). Government Expenditure On Agriculture And Its Impact On Unemployment Reduction In Nigeria: 1999 – 2015. *International Journal of Economics, Commerce and Management, 4*(3).

Jelilov, G. (2015). An outlook of the recent entrepreneurship and economic problems in Nigeria: An Expatriate Perspective. *British Journal of Advance Academic Research,* 78-85.

Kairo, C, I., Mang, N, J., Okeke, A., & Aondo, D, C. (2017). Government Expenditure and Human Capital Development in Nigeria: an Auto-Regressive Distributed Lagged Model Approach (ARDL), *International Journal of Advanced Studies in Economics And Public Sectors Management, 5*(1),

Kimaro, E. L.,Keong, C. C., & Sea, L. L. (2017). Government Expenditure, Efficiency and Economic Growth: A Panel Analysis of Sub-Saharan African Low Income Countries. *African Journal of Economic Review, 2(3).*

Liu Chih-HL, Hsu, C., & Younis, M. (2008). The association between government expenditure and economic growth: the Granger causality test of the U.S. data, 1974-2002. *Journal Public Budgeting Account. Finance Management, 20*(4), 439-452.

Loto, M. A. (2011). Impact of government sectoral expenditure on economic growth. *Journal of Economics and international Finance, 3*(11), 646-652

Loto, M. A. (2012). Impact of government Sectoral Expenditure on Economic Growth. *Journal of Economics and international Finance, 3*(11), 646-652

Magazzino, C., Giolli, L., & Mele, M. (2015). Wagner's Law and Peacock and Wiseman's displacement effect in European Union countries: A panel data study. *International Journal of Economics and Financial Issues, 5*(3), 812–819.

Maku, O. E. (2009). *Does government spending spur economic growth in Nigeria*? MPRA Paper No. 17941.

Mehmet M. & Sevgi S. (2013). The effect of education expenditure on economic growth: The case of Turkey 2nd *World Conference on Business, Economics and Management-WCBEM 2013*

Musgrave, R. A. (1969). *Fiscal systems*. New Haven and London: Yale University Press.

Njoku, C. O., Ugwu, K. E., & Chigbu, E. E, (2014). Government Public Expenditures: Effect on Economic Growth (The Case of Nigeria, 1961- 2013). *International Journal of Research in Management, Science and Technology*. *2*(1), 16-29.

Nurudeen, A., & Usman, A. (2010). Government expenditure and economic growth in Nigeria, 1970-2008: A Disaggregated Analysis. *Business Economics Journal*, *4*, 1-11.

Nwaeze, C., Njoku, R., & Nwaeze, O.P. (2014). *Impact of government expenditure on Nigeria's economic growth (1992 – 2011).* A multidisciplinary journal of global macro trends. *The Macro theme Review* 3(7), 1-9.

Obinna, O. E. (2003). *Public Finance*, Nsukka, Ap and P Press Ltd. 210p

Ogbona, A., & Appiah, C. (2013). An Assessment of Nigeria Expenditure on the Agricultural Sector: Its Relationship with Agricultural Output (1980 - 2011). *Journal of Economics and International Finance, 5*(5), 177-186.

Okoro, A. S. (2013). Government spending and economic growth in Nigeria (1980-2011). *Global Journal of Management and Business Economics and Commerce*. 13(5), 21-29.

Okoro, A. S. (2013). Government Spending and Economic Growth in Nigeria (1980-2011). *Global Journal of Management and Business Economics and Commerce*. *13*(5), 21-29.

Olukoye, M. E. (2009). Does Government Spending Spur Economic Growth in Nigeria? MPRA paper No. 17941.

Onakoya, A. B, & Somoye, R. O. (2013). Impact of public capital expenditure on economic growth in Nigeria. *Global Journal of Economics and Finance*. 2(1), 1-11.

Onakoya, A. B., Salisu, A. A., & Oseni, I. O. (2012). Infrastructure and economic growth in Nigeria: A multivariate approach. *Research Journal of Business Management and Accounting*, *1*(3), 30-39.

Onuorah, A. C. & Akajuabi, L. E. (2012). Empirical analysis of public expenditure and economic growth in Nigeria. *Arabian Journal of Business and management Review (O MAN) Chapter* 401, 11(46).

Peter, N. M. & Simeon, G. N. (2011). Econometrics Analysis of the Impact of Fiscal Policy Variable on Nigeria Economic Growth. *International Journal of Economic Development Research and Investment, 2*(1), 171-183

Ranjan, K. D. & Sharma, C. (2008). Government Expenditure and Economic Growth: Evidence from India, *University Journal of Public finance.*

Srinivasan, P (2013). Causality between public expenditure and economic growth: The Indian Case. *Int. Journal of Economics and Management, 7*(2), 335 – 347.

Stefan, F., & Magnus H. (2001). Growth effects of government expenditure and taxation in rich Countries. *European Economic Review*, *45*(8), 1-18.

Torruam, J.T., &Abur, C.C. (2014). Public expenditure on human capital development as a strategy for economic growth in Nigeria: Application of Co Integration and Causality Test Analysis. *International Journal of Research in Humanities and Social Studies*, *1*(2), 1-10.

Toto, G., Ahmad, S., & Muhammad, S. (2018). Local government expenditures and economic growth in a new autonomous in Indonesia, *Academy of Accounting and Financial Studies Journal*, *22*(4).

Udoffia, D. T., & Godson, J. R. (2016). The Impact of Federal Government Expenditure on Economic Growth in Nigeria. *Greener Journal of Social Sciences, 6*(4), 092-105.

Wikipedia, (2019). https://en.m.wikipedia.org/wiki/youwin!