

Public Expenditure and Economic Growth in Nigeria

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Abstract

This study investigated the relationship between public expenditure and economic growth in Nigeria within 1999 and 2021 fiscal years. Capital expenditure proxied the predictor variable; public expenditure. The criterion variable economic growth; was measured in terms of gross domestic product, human development index, and unemployment rate. The study adopted the inter-relationship descriptive research design. The population for the study consisted of 23 fiscal years, out of which; a sample of 20 years was drawn. Secondary data used for analysis was sourced from Aaron (2021), MicroTrend (2021), CBN Statistical Bulletin (2020), National Bureau of Statistics (NBS), and from other sources. Data was analyzed in descriptively and inferentially. The study found that capital expenditure has insignificant positive relationship with gross domestic product; moderately significant but negative relationship with human development index; and has strongly significant negative relationship with unemployment rate. It was observed that inflation exerts insignificant influence in the relationship between public expenditure and economic growth in Nigeria during the study period. The study recommended among other things, that; government policy makers should ensure the presence of national goal unification both in state and federal government expenditure.

Keywords: Public Expenditure, Structure, Economic Growth, Human Development, Unemployment rate

INTRODUCTION

The Government of a country often spent millions of money in the course of performing duties on behalf of her citizens. Government, the driver of public expenditure incurs variety of expenditure as it plays the protective role and the provision function. Government also incur expenditure on its administration, economic activities as well as on transfer payments. These actions attract huge financial resources. Public expenditure in Nigeria is disaggregated on consumption basis as capital expenditure and recurrent expenditure. This grouping is based on the duration within which benefit arising from the item of expenditure is enjoyed. Capital expenditure is incurred on assets that have longer useful life span, usually more than one government accounting year. Such transactions create employment opportunities for citizens; and the benefits that come from capital expenditure span over a year. Capital and recurrent expenditures are further disaggregated functionally as administration, social and community services, economic services, and transfer (CBN Statistical Bulletin, 2020 & Owui et al, 2020).

Public expenditure is incurred by the public sector of the economy. The public sector refers to all organizations which are not privately owned and operated, but which is established, run and financed by government on behalf of the public (Institute of Chartered Accountants of Nigeria (ICAN), 2009). These entities could be owned and operated by the federal tier, state tier or the

local tier of governments as in the case of Nigeria. Costs incurred in this sector in the course of performing its functions are referred to as public expenditure. The tremendous growth in public expenditure can be attributed to threats of war. 'No greater war has been conducted... since second half of the twentieth century. But the threat of war... looms large. Thus, mere sovereignty demands a large allocation of financial resources for defense preparedness' (Muley, 2016).

The outcome of government actions measurable by different indicators has continued to attract the attention of both internal and external observers of the economy. Both parties use these result to assess and draw conclusions about the country (Onuchuku et al, 2012). Today, international bodies such as the World Health Organization (WHO), World Bank (WB), Transparency International, African Development Bank Group and United Nations Development Program, use a country's economic growth data to determine critical issues (Ashworth, 2015).

Global as well as regional organizations have developed different economic indicators as yard sticks to evaluate a country. The traditional key indices are: the growth of the economy measured in gross domestic product (GDP) terms, inflation rate, unemployment rate, and current account balance. Other measures include the level of national debt, real disposable income, income inequality, labour productivity, investment levels, exchange rate, poverty level as well as other human development indices (HDI) (Pettinger, 2019).

Statement of the Problem

Public expenditure growth is a phenomenon experienced in world economies today. Scholars in the field of economics and public finance such as Wagner (1883) and Keynes (1936) had envisaged and penned the rise. Several factors account for the increase. It includes population growth, global terrorist threats necessitating government to spend heavily on its defense system, transfer expenditure especially for developing economies, creating and maintaining conducive business environment for both local and foreign investors, protect the economy from the monopolistic tendencies by multinationals companies, and much more (Muley, 2016).

Nigeria, like the rest of world economies, has witnessed such upsurge of public expenditure. Financial statistics about the country published in official documents such as the Central Bank of Nigeria (CBN) Statistical Bulletin (2020), and those from the National Bureau of Statistics give clear evidence of the hike. Taiwo and Abayomi (2011), reported: "Nigeria economy has metamorphosed from the level of millions of naira to billion and projecting to trillion of naira". Today the figure has hit the anticipated trillions of naira. For instance, approved budget figure in 2020 fiscal year had total expenditure of ₦10.59 trillion but, reversed to ₦10.81 trillion (KPMG, 2020). In recent years, government combats unemployment problems through some anti-poverty schemes such as N - Power programme and the amnesty programme for repentant militant in the country. These programs gulp billions of naira annually (Agbakwuru, 2019, & Akinpelu, 2020). Public expenditure hike is perceived not to have corresponding and significant effect on the economic activities and welfare of Nigeria populace. World Population Review (2021) report shows that oil rich Nigeria ranked 29th on the scale of World's poorest countries. The World Bank Report (2020) stated, "Nationally, 40 percent of Nigerians (83 million people) lives below the poverty line.... The general government fiscal deficit was 4.4 percent of GDP in 2019 compared to 1.8 percent in 2014. Unemployment is expected to increase, affecting poor households and increasing the share of the population vulnerable to falling into poverty". CIA World Fact Book (2020) reports: "economic diversification and strong growth have not translated into a significant decline in poverty level ... people are still under extreme poverty... insecurity and pervasive corruption". Even the perceived growth is regarded as slower compared to population growth rate. It indicates that poverty will continue to grow in the country as the economy is not able to create enough employment for the unemployed populace (ProShare, 2019).

It is perplexing to note that these remarks are made about an economy where the basic determinant of economic performance - GDP- is on the rise. For instance, Nigeria GDP for the years 2020 was

₦152324.07 billion. Similarly, public expenditure which is also a determinant of GDP for 2020 was total public expenditure was ₦14499.61 billion respectively (CBN Statistical Bulletin, 2020). As Scholars have hypothesized, the rise in public expenditure supposed to have had impact on GDP and other economic measures such as standard of living, unemployment rate, exchange rate and inflation rate. However, the evidence in Nigeria does not support these scholars position. Thus, the nexus between public expenditure and economic growth has continued to be in doubt in Nigeria context. This necessitated the conduct of the present research; to investigate the relationship between public expenditure structure and economic growth in Nigeria, to add to the existing body of knowledge on the subject, and to contribute ideas for economic growth in Nigeria.

The subject of public expenditure and economic growth has drawn the attention of scholars over the years, and a number of investigations have been made. None of these sighted studies captured the period covered in the present study. Further, the measures of the criterion variable used in the present study have not been employed in a combined form in any of the reviewed extant work. Thus, this study fills gap in extant literature.

Aim and Objectives of the Study

The aim of this study was to investigate the relationship between public expenditure structure and economic growth in Nigeria. The specific objectives of the study are as follows, to:

- i. ascertain the relationship between capital expenditure and gross domestic product in Nigeria.
- ii. determine the relationship between capital expenditure and human development index in Nigeria.
- iii. ascertain the relationship between capital expenditure and unemployment rate in Nigeria,

Research Questions

With due consideration to the objectives of the study, the following research questions; were raised;

- i. What is the relationship between capital expenditure and gross domestic product?
- ii. How does capital expenditure relate to human development index?
- iii. What is the relationship between capital expenditure and unemployment rate?

Research Hypotheses

The following null hypotheses were formulated for the purpose of this study:

- i. There is no significant relationship between capital expenditure gross domestic product.
- ii. There is no significant relationship between capital expenditure and human development index.
- iii. There is no significant relationship between capital expenditure and unemployment rate.

LITERATURE REVIEW

Public Expenditure Structure

Public expenditure is “the expenditure incurred by an entity to provide for goods and services collectively consumed by the society”. The description made does not categorically classify the type of entity that provides such goods and services. It portrays expenditures incurred by a benevolent entity or individual to ease the living conditions of people in a given society as public expenditure. Muley (2016), described public expenditure as “expenses incurred by the public authorities- central, state and local self-government”. Unlike Thomas (2020), description; Muley (2016), points clearly the levels of authorities that participates in the provision of goods and services for the public. As cited in a publication of the Institute of

Chartered Accountants of Nigeria (ICAN) (2009), public expenditure refers to the “expenses which government incurs in the performance of its operations”.

Public expenditure is one of the branches of public finance which the classical economists did not analyze in-depth. Government during that era operated the *liaise-faire* economic policies, limiting their functions to defense and maintenance of law and order within geographical boundaries. These small and restricted activities, undertaken by the government did not attract the attention of classical economists to investigate in in-depth, the term public expenditure. This was the period when “police state” of government view was prevalent (Guru, 2016). Public expenditure has increased rapidly among economies of the world. Scholars put forward several reasons for such upsurge of public expenditure. Guru (2016), mentioned to the factors highlighted in Adolph Wagner and Wiseman and Peacock hypotheses of public expenditure. Wagner’s law points to increase in state activities or function as reasons for public expenditure growth in an economy. Wiseman and Peacock hypothesis portrayed disturbances such as wars as the cause of the increase experienced in government expenditure.

As cited in CBN Statistical Bulletin (2020), public expenditure in Nigeria is classified according to consumption bases as capital expenditure and recurrent expenditure. The categorization is based on extent in years benefits incidental from the transaction is enjoyed. In the aforementioned report, capital expenditure and recurrent spending are further disaggregated functionally as Administration services, social and community services, economic services, and transfers. The sum of expenditure on these services gives the total public capital expenditure and total public recurrent expenditure. Ultimately, the two basic expenditures sum up to be the total public expenditure for the country in any fiscal year.

Capital Expenditure

Capital expenditure could be described as government spending whose incidental benefits lasts over a period of time; usually, more than an accounting year. Business Standard (2021), described capital expenditure as; “the money spent by the government on the development of machinery, equipment, building, health facilities, and education etc”. It further stated that capital expenditure includes cost “incurred on acquiring fixed assets like land and investment by government that gives profit or dividend in future”. Public capital expenditure is the spending that government makes on the aggregate to own assets that are used as means of production. Public capital expenditure, as cited in CBN Statistical Bulletin (2020), is functionally classified as those incurred on administration, economic services, social and community services, and transfer services. According to Oxford Language Dictionary, administration is "the process or activity of running a business, organization, the management of public affairs, government".

Governments incur expenditure on construction of schools and equip these institutions. It spends money to provide hospitals and other health facilities, provide pipe borne water in rural and urban areas, provide skill acquisition programmes, and much more. From the consumption perspective, benefits obtained from expenditure on these activities are not momentary. They are enjoyed for over a longer period of time hence; such spending is considered as capital expenditure on social and community services (Aaron, 2021).

Economic services yield economic benefits, as tariffs on such services are calculated with the intention that the total cost incidental to the service is recovered from users. There is a broad range of such services. These include telephone and utility services, legal and financial services, travel and lodging services (Encyclopedia Britannica). Governments undertake several economic activities in order to achieve its economic objectives. As cited in CBN Statistical Bulletin (2020), Nigeria economic services are grouped under government spending on agriculture, road and construction, transportation and communication, and others. Public

expenditure on these areas are highly capital intensive, and the benefits from such endeavors lasts over decades.

Gross Domestic Product

Gross domestic product is the total monetary market value of all the finished goods and services produced within a country's borders in a specific time period. It is a broad measure of the overall economic health of a country at a given period of time. The concept of GDP according to Fernando (2021), was initially brought to limelight in 1937 in report to U.S, Congress in response to the Great Depression at that time by Simon Kuznets. During that period, measurement of an economy was based on gross national product (GNP). However, onward from the end of Breton Woods Conference in 1944, GDP came to be generally accepted, and employed as standard yardstick for measuring economies.

The calculation of a country's GDP takes into account all private and public consumption, government outlays, investments, additions to private inventories, paid-in construction costs, and foreign balance of trade-export are added to the value and imports are subtracted (Fernando, 2021). The foreign balance of trade is considered as the most important element of all other components of GDP, as it has great impact on the economy. GDP of an economy grows when there is trade surplus – a positive difference between a country exports in terms of goods and services, and a country's import (consumption) in terms of goods and services. Trade deficits-negative difference-results to decrease in country's GDP. The GDP of a country is usually calculated annually however, some does so on quarterly basis as well. There three basic methods employed to calculate the GDP of a country. These methods are; the expenditure approach, the output (production) approach, and the income approach. The results obtained by all approaches are the same when the determination is correctly done.

A country GDP can be reported in several ways. It could be reported on nominal value, per capita value, at purchasing power parity (PPP), growth rate and much more. The nominal GDP is a GDP computed based on the current prices. All goods and services are valued at actual prices during the period they were acquired or consumed. Nominal GDP does not consider the effect of inflation on cost of goods and services. The real GDP is an inflation adjusted measure of an economic result of a country. Prices of goods and services are often affected by the effects of inflation or deflation that occurs in an economy, and since the calculation of GDP is based on monetary values of the goods and services, there is the need to incorporate the effect of inflation or deflation in its computation. Otherwise, GDP values would not portray the actual performance of the economy when comparing various periods.

Although, GDP is a widely used measure of the economic well-being of a country, it has been criticized by some on the ground that it ignores the value of informal or unrecorded economic activities, that it is geographically limited in its determination, that it focuses on the output without the well-being of the populace, that it ignored business to business activity, and that it counts costs and waste as economic benefits. In Nigeria, agriculture, industry and services are the activities and sectors that contribute to the overall GDP. The values as cited in CBN Statistical Bulletin (2020) are stated in their nominal or basic values. Furthermore, these are presented on annual basis.

Human Development Index (HDI)

Human development as a concept has led to the introduction of HDI. The Measure of America (MOA) (2021), described the concept of human development as the process of enlarging people's freedom and opportunities and improving their well-being. It concerns the real freedom ordinary people have to make choices in respect to who to be, what to do and how to live. The search for and measurement of social variable for human development has been on for centuries (from 350 BCE) (Stanton, 2007). The modern human development index was first introduced by Haq Mahbub in the 1970s in the World Bank, and was further stressed in his own country Pakistan,

where he was the minister of finance. (Measure of America, 2021). Haq was of the view that existing parameters for the measurement of human progress was ineffective and failed to account for the exact purpose of development-the improvement of people's lives.

According to the World Health Organization (WHO) (2021), Human Development Index is "a summary of composite measure of a country's average achievement in three basic aspects of human development". Benneth (2021) described HDI as, "statistical tools to measure a country's overall achievement in its social and economic dimensions". Thus, HDI could be seen as a composite statistical measure that gives performance track indicator of a country concerning key social and economic variables. These components are: health, education and standard of living (Max, 2014).

Every year, UNDP ranks countries based on the HDI report released in the annual report. Countries that attained the rank of between 0.8 and 1 are considered to have higher educational level, life-span and gross national income per capita. Such nations are characterized by stable governments, widespread education, health care, high life expectancy and growing powerful economies. For those that ranked below 0.55 are viewed low in educational level, lifespan and gross national income per capita. These categories of nations are termed least developed countries (LDCs). The attributes of such nations include unstable government, widespread poverty, and lack of access to health care and poor education, low income per capita as well as low life expectancy and high birth rates (World Population Review, 2021).

The HDI of Nigeria has been captured by UNDP report for some years, and as cited in Sacheed and Eqwaikede (2012), it dates back beyond 2001. As at 2020 UNDP report, Nigeria rank 161 among the 189 countries reported upon. HDI is seen as a globally accepted measure of countries performance hence the study adopted it as a measure to evaluate its relationship with public expenditure profile.

Unemployment Rate

Unemployment could be described as situations whereby persons within a given age range are not being in a paid employment or self-employed but are presently available for work, during the specified period (Organisation for Economic Cooperation and Development (OECD), 2017). The term "Unemployment" refers to "individuals who are employable and actively seeking a job but are unable to find job". The definition includes individuals that stopped looking for employment for the past four weeks for the purpose of pursuing higher education, retirement, disability and personal issues, and those not actively seeking a job but desire to work (Corporate Finance Institute (CFI), 2021).

Unemployment is measured as the percentage of people in the labor force, who are not employed. The rate indicates the extent the national goal of full employment has been achieved within an economy. While there are no standard lower and upper limits to unemployment rates, Ndubisi (2021), considered 4% to 6% range as acceptable. For an economy desirous of full employment, lower rate is better since it is close to zero unemployment level. Different types of unemployment exist. These are: demand deficit, frictional, structural, and voluntary unemployment.

Unemployment has profound effect on an economy. The effects are regarded as "welfare loss" to the society as total output is foregone and it is seen as "welfare burden" borne by the individual (Adams, 2004). The ills of unemployment are not felt only by the individual but also by the economy at large. Alison and Fiona (1998), remarked that "severe financial hardship and poverty, indebtedness, ... crime, erosion of confidence and self-esteem" and much more as personal and social cost of unemployment. The economic cost of unemployment to the country at large could be evidenced from a country's statistical records. Basically, the situation results to high payment in respect to unemployment benefits, food assistance, and Medicaid; lower personal income tax revenue collections, slow economic growth as individual unemployed could not afford goods and services as before (Stephen & Toby, 2020).

The critically poor state of the economy has been viewed as the principal cause of unemployment in the country. This has been so for the past 5 years from when the economy went into recession in 2016. The ills of COVID-19, uncertainties arising from policy inconsistencies, make investors not to know the sector to invest, low level of infrastructure, weak currency in the light of international currencies, low sector outputs are among the factors that have plunged the economy into high unemployment level (Ndubisi, 2021).

Unemployment have caused Nigeria government to spend billions on empowerment programmes. Reports from the national dailies give evidence to this fact. As at 2019, a total of ₦279 million was reported to have been spent on N-power programme since it started in 2016. For 2021 fiscal year, expenditure on empowerment was projected at ₦400 billion (Akinpelu, 2020; and Agbakwuru, 2019). These were funds that could have been spent on other productive areas in the economy if these beneficiaries were in jobs. As an internationally recognized variable to indicate the performance of a nation, the present study adopted it as a measure of the criterion variable; economic growth.

Theoretical Review

The work is anchored on 'the Law of Increasing State Activity' postulated by Adolph Wagner a German Political Economist (1835-1917). According to BBA MANTRA (2019), the law states that; "with economic growth and development a nation will experience an increase in the activities of the public sector". Adul et al (2016), held that; the law states that "there exists a positive relationship between state activities and public expenditure". Barbara and Klous (2006), observed that "Wagner mentioned the relative growth of government for the first time in a very obscure Austrian source of 1863, and restated it more precisely in several publications thereafter, including his 1893 book"

The "increasing state activity" hypothesis possesses some ambiguity in its functional form thus leading to the development of different versions in extant literature (Adul et al, 2016). Scholars observed that Wagner did not formulate mathematical model to express his hypothesis. Over the years, professionals in this area of study have developed and used various model to test the "law of increasing state activity". Wagner's hypothesis is premised on certain assumptions. It assumes a "welfare state", the "organic state model" which stresses the interdependence of component parts as well as their differentiation, "the preference and will of the individual is a factor of subordinate importance as indicated in the original extraction cited in Afza and Abbas (2010).

Peacock and Wiseman (1961) criticized the theory claiming that it deals with inter disciplinary situation but could not proffer interdisciplinary approach in its analytical framework. They further argued that the theory which assumed "organic state model is not applicable in most States of Western Countries and that the theory ignored the effect of war on government expenditure. Lukierman (1988), contended that Wagner postulated his theory during the industrialization era at the end of the 19th century and that not all assumptions of his, are practical in the 20th century. He argued that Wagner's assumption of changing production techniques was expressed in negative term and that technological changes have occurred greatly in modern times which were not the case in the days of Wagner. In any case, the theory is concerned with public expenditure thus it is in tandem with the variables of this study.

Empirical Review

Ndaguba and Hlotywa (2021), investigated the relationship between public health expenditure and economic growth in South Africa between 1996 and 2016. Test result indicated that positive relationship exists between public health expenditure and human development index; that negative relationship exists between unemployment and economic development and that statistically insignificant relationship exists between consumer price index and economic growth in South Africa.

In 2021, Major and Nmehiella examined the effect of government expenditure on economic growth in Nigeria between 1999 and 2018 fiscal year. Descriptive and the ordinary least square regression method were statistical tools used in analyzing the data obtained. The study found that government recurrent expenditure had significant effect on GDP. It also found that government capital expenditure does not have significant impact on GDP during the period covered by the study.

Onifade et al, in 2020 researched on the impact of public expenditure on growth in Nigeria. Growth was proxied by real GDP while public expenditure was measured in term of government recurrent expenditure and government capital expenditure and public debt. It covered the periods between 1981 and 2017. Secondary data was used for the study. The study found that both government recurrent and public debt had significant negative impact on economic growth while capital expenditure had positive but insignificant impact on economic growth in long run.

Ajayi and Edewusi (2020), analysed the effect of public debt on economic growth in Nigeria. Public debt was the independent variable of the study and was proxied by domestic debt and external debt; while economic growth was the dependent variable; measured in terms of gross domestic product (GDP). The study covers the fiscal periods from 1982 to 2018. The study found that external debt exerts negative effect on economic growth in Nigeria both in the short run and long run. It was further found that domestic debt exerted positive effect on economic growth in Nigeria on the short run and on the long run.

The effect of government infrastructure investment on economic growth in Kenya between 1990 to 2017 fiscal year was examined in Njiru et al (2020). The statistical result indicates that there exist short run and long run relationship between government infrastructure investment, private investment and labour force, and economic growth. Specifically, the study found that economic infrastructure investment has positive and significant effect on GDP; social infrastructure investment has negative insignificant effect on GDP; private investment has significant negative effect on economic growth while labour force was found to have negative but significant effect on economic growth.

Jeph-Anyeneh et al (2020), researched the impact of government expenditure and the standard of living in Nigeria. The investigation used government recurrent expenditure and government capital expenditure as proxies of the independent variables while per capita income was used as measure of standard of living. The investigation covered the period between 1981 and 2018 fiscal year. The study found that government recurrent and capital expenditure have significant effect on the standard of living in Nigeria.

Onuaha and Okoye (2020), looked into the relationship that exists between public expenditure and economic growth in Nigeria. The study covered the fiscal years between 1981 and 2018. It was found among others that aggregate public expenditure positively affects economic growth. It further found that government recurrent expenditure and capital expenditure have insignificant effect on economic growth, and that a causal relationship exists between public expenditure and economic growth in Nigeria.

The impact of government expenditure on economic growth in Nigeria from 1998 to 2017 fiscal years was further explored in Oyadongha and Bingilar (2020). The explanatory variable was proxied by inflation rate and interest rate while the criterion variable-economic growth was measured in gross domestic product term. The finding based on statistical testing shows that both inflation rate and interest rate have no significant effect on gross domestic product in Nigeria.

In Nigeria, the economic growth effect of government expenditure from 1970-2017 was investigated in Olanrele (2020). The findings of the study indicated that total government expenditure has positive effect on real GDP on the short-run and long-run. Capital expenditure was also found to have insignificant impact on GDP while government recurrent expenditure had insignificant positives effect on real GDP. The study recommended that efforts of the government

should be directed towards increasing capital expenditure for commensurate integration of the benefits in Nigeria economy.

Orji et al (2020), inquired the relationship between human capital development expenditure and output growth in Nigeria from 1985 to 2018 fiscal year. Statistical test result revealed that public health expenditure and labour force showed significant positive contribution to output growth while public expenditure on education showed negative relationship with output growth. It was also found that gross capital formation had positive contribution on output growth. On the overall, the study concluded that there exists a long run relationship between human capital development and output growth in Nigeria within the period covered by the study.

Gupta and Shastri (2020), studied the relationship between public expenditure and economic growth in India. The study covered the period between 1980 and 2015. Public expenditure was proxied by plan expenditure and non-plan expenditure while real gross domestic product was used as measure of criterion variable. Statistical result indicates that there is a causal relationship between economic growth and non-plan expenditure; between plan expenditure and economic growth, and non-plan expenditure and economic growth in India within the study period. That non-plan expenditure consisted of 90% of interest payment, subsidies, defense expenditure and administrative payments which are not development in nature.

Ahuja and Pandit (2020), scrutinized the effect of public expenditure on economic growth as observed in developing countries. The study covered 59 countries and the period was between 1990 to 2019 national accounting years of the respective countries. The causality test result indicates that, there exist unidirectional causality between economic growth and government expenditure. Also, it was found that investment has significant positive influence on economic growth; population growth and unemployment have negative impact on economic growth; trade openness was found to encourage evolution in developing countries. On the overall, the study concluded that government public expenditure stimulates economic growth.

Mose (2020), surveyed the relationship between government expenditure and regional economic growth in Kenya from 2013 to 2017 fiscal years. The criterion variable was measured in gross county product per capita growth. The test results indicated that recurrent and non-devolve county government expenditure have significant positive relationship with economic growth at 5% significant level. In the overall, the study found and concluded that components of 47 county spending budget causes regional economic growth in the long run in Kenya during the period covered in the study and that the Wagner's hypothesis which states that sustained increase in county economic growth should cause an increase in county expenditure was absent in Kenyan counties.

The work of Ahmed et al (2020), sought to establish the statistical relationship that exists between total investment, real export and government spending, and economic growth in Pakistan. The study covered a period of 17 years' data, from 2001 to 2017. Economic growth was the dependent variable and it was measured by real gross domestic product. The study found that significant positive relationship exists between the proxies of explanatory variable and the measure of criterion variable in Pakistan within the 17 years cover by the study.

Oga et al (2019), researched on the impact of government expenditure on the growth of Nigerian economy. The study covered the fiscal years from 1980 to 2017 and used secondary data obtained from CBN statistical bulletin. Statistical result indicated that government capital expenditure had positives but insignificant effect on the growth of the Nigerian economy; that government recurrent expenditure fiscal deficit had insignificant negative effect on GDP. Also it was found that government recurrent expenditure had insignificant positives effect on the growth of the economy. Jeff-Anyeneh and Ibenta (2019), evaluated the presence of statistical relationship between government expenditure and economic growth: evidence from the Nigeria economy. The study covered the period between 1981 and 2016 fiscal year. It was found from the investigation that Nigerian economic growth was not affected by government recurrent as well as capital

expenditure- that Nigerian economic growth was found to be independent of the proxies used in the study.

Omodero (2019), audited the impact of government general spending on human development in Nigeria from 2003 to 2017 fiscal year. It aimed to establish the relationship between the proxies of the independent variable-recurrent and capital expenditure, corruption perception index and inflation rate. Human Capital Index was the measure of the criterion variable. The statistical test result indicates that government capital expenditure and inflation have insignificant negative influence on human development index; corruption does not have any impact on HDI and that government recurrent expenditure has strong and significant positive impact on HDI.

Fasu (2019), probed the effect of government expenditure on unemployment as observed in Sub-Saharan Africa countries between 1990 to 2017 fiscal year end. Government construction expenditure, government investment expenditure and foreign direct investment were used as proxies of explanatory variable while unemployment criterion was measured in terms of percentage of labour force. The study used 34 Sub-Saharan African countries. Secondary data relating to these countries were obtained from the World Bank's Development Indicators (WDI) online data base. The inclusion of a country in the population and sample was based on the availability of continuous data for the period under review. It was found from the statistical test that government consumption expenditure and government investment expenditure have effect on unemployment in SSA countries. The study further found that foreign direct investment had positive impact on unemployment in SSA countries.

Omodero (2019), investigated the impact of government sector expenditure on poverty alleviation in Nigeria. It aimed at establishing the role of government sector expenditure plays in reducing poverty within 2000 to 2017 fiscal years. The study found that agriculture, building and construction, education and health does not have any significant impact on poverty alleviation in Nigeria.

Gideon et al (2019), examined the effect of public spending on economic growth in Kenya between 1980 and 2014. The study used developmental expenditure, government purchases, education, and infrastructure as composition of government expenditure while inflation and unemployment were used as control variables. The dependent variable economic growth was measure in terms of GDP. The statistical test on the data set obtained found among others that development expenditure promotes economic growth while government purchases have no significant effect on GDP.

The work of Nduka et al (2019) in Nigeria looked at how federal government expenditure affects the standard of living of her citizens. The study covered periods from 1981 and 2018. Specifically, the study found that in the short run, significant positive relationship existed between government recurrent expenditure and per capita income whereas, significant negative relationship was observed to exist between government capital expenditure and per capital income. In the long run, it was found that government recurrent expenditure and capital expenditure are co-integrated. Further analysis revealed that government recurrent expenditure had significant positive relationship with per capita income whereas; capital expenditure negative relationship with per capita income in long run.

Dankumo et al (2019), analyzed the nexus between public expenditure and corruption and poverty. The study period covered 1996 to 2016 fiscal years. Economic activities were further disaggregated into expenditure on agriculture, construction, transport and communication, and other economic services. Social services were as well disaggregated into education, health, and other social services. The study found that; there exists significant positive relationship between corruption and poverty: that expenditure on economic services has significant negative relationship with poverty; and that expenditure on social services does not impact on poverty in Nigeria.

Nwamuo (2019), researched the impact of public expenditure on economic growth of Nigeria within 1981 and 2016. The result indicated that public capital expenditure component all have positive impact on economic growth except for expenditure and administration and on transfers

which has negative impact on economic growth in the short run. The result of the short run test on recurrent expenditure indicated that all components of recurrent expenditure have positive impact on economic growth in Nigeria except recurrent expenditure on economic service which has negative impact on GDP.

Uremadu and Chinweoke (2019) work looked at the responsiveness of economic growth to public expenditure in Nigeria between 1980 and 2016. The result indicated that government capital expenditure exerted positive significant impact on economic growth while government recurrent expenditure had insignificant negative impact on economic growth within the periods covered by the study. The study further found that domestic inflation rate had greatest negative influence on economic growth of the economy.

Ibrahim (2019), explored the dynamic interaction between private savings, public savings and economic growth in Nigeria. The study covered the period between 1970 and 2015. The study found in general terms that savings and economic growth are positively co-integrated in the long run; that a bidirectional causality exist between private saving, and public saving, and economic growth; and that the efficiency factor is negative significant to economic growth at 1% level of significance.

Onifade et al (2019), inquired the empirical retrospect of the impact of government expenditure on the economic growth as evidenced in Nigeria from 1981 to 2017 fiscal years. Government expenditure the explanatory variable was proxied by expenditure on recurrent, capital, debt financing, investment and private consumption. The criterion variable was measured in real gross domestic products. The statistical test result indicated that government recurrent expenditure has significant negative relationship with economic growth; that government capital expenditure has insignificant positive relationship with economic growth over the period of the study.

METHODOLOGY

The study adopted descriptive research design in the investigation of the relationship that exists between public expenditure and the economic growth in Nigeria. The main variables of the study are public expenditure and economic growth. Public expenditure was used as the predictor variable and it is proxied by capital expenditure (CExp). Economic growth on the other hand served as the criterion variable and was measured in gross domestic product (GDP), human development index (HDI), and unemployment rate (UER).

The population for the study consisted of 23 fiscal years (1999 – 2021), the longest period of democratic dispensation witnessed so far in the country. A sample is a representative of subset of the population It consists of members selected out of the entire population. A sample of 20 years representing approximately 87 percent of the entire population of 23 years was used for the study. The relationship observed between the variables of the study during the sampled years was used to make generalizations about the economy within the study period.

The study employed secondary data for analysis. Secondary data was sourced from Central Bank of Nigeria Statistical Bulletin, the National Bureau of Statistics (NBS) and other sources. Specifically, data about capital expenditure, recurrent expenditure, total expenditure, and gross domestic product was obtained from CBN Statistical Bulletin (2020). Data about unemployment rate was obtained from World Bank Report (2021), Aaron (2021) and MacroTrends (2021). Data for human development index was sourced from United Nations Development Program (UNDP) Reports, Global Economy Report (2021), and Saheed and Egwaikhide (2012).

The study used descriptive and bivariate analysis. Under the descriptive analysis; the mean, standard deviation, minimum, maximum, and skewness values were computed to describe the characteristics of the proxy and the measures. The study used inferential statistics for data analysis since it adopted the inter-relationship descriptive design. The Pearson Product Moment Correlation coefficient was calculated to establish the extent of relationship that exists among the proxy and

the measures; and it is based on the interpretation table shown in appendix 1. Also, the two-tail of significance test was conducted to determine whether to accept the null hypotheses or not.

Table 1. Operational Measurement of Proxy and Measures of the study

Variables	Symbol	Measurement
Total Capital Expenditure	TCE	Federal Govt. Capital Expenditure + State Govt. Capital Expenditure
Total Public Expenditure	TPE	TCE + TRE
Capital Expenditure	CES	$\frac{TCE}{TPE} \times 100$
Gross Domestic Product	GDP	$\frac{CYGDP - BYGDP}{BYGDP} \times 100$
Human Development Index	HDI	As contained in the Secondary data
Unemployment Rate	UER	As contained in the Secondary data

Where, TPE is the sum of total Federal government expenditures, TPE is total public expenditure, CES is capital expenditure, and TRE is total recurrent expenditure.

Results and Discussions

Univariate analysis involves looking at the individual variables, proxies and measures with a view to observe the characteristics of the data set for each variable (Ahiauzu & Asawo, 2016). According to Lucey (2002), the mean, standard deviation and skewness are measures of the characteristics of a data set. These along with the minimum and maximum values are used in the univariate analysis.

Table 2. Descriptive statistics of the proxies and measures used in the study.

Descriptive Statistics							
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
CAP EXP	20	19.00	44.00	31.55	6.55724	-.012	.512
GDP	20	5.63	39.68	17.019	9.65045	1.068	.512
HDI	20	.45	.54	.4968	.02969	.061	.512
UER	20	3.51	9.01	4.9365	2.02662	1.294	.512
Valid N (Listwise)	20						

Source: SPSS 25 output.

As shown in the table above, capital expenditure (CES) to total public expenditure ratio had a minimum percentage of 19 and maximum of 44 during the 20 years observed. The mean ratio was 31.55. This value lies at the middle of the minimum and maximum ratio indicating the absence of extreme values in the data set which was capable of misleading results of the study. This was supported by the low value of standard deviation recorded (6.6). Skewness which measure the normal distribution of a data set had a value of -0.012. A data set is considered normal when skewness is zero (BPI Consulting LLC, 2016). The value indicates that the data set for capital expenditure was normal distributed and can be subjected to parametric test.

GDP for the 20 observation periods had a minimum and maximum of 5.63% and 39.68% respectively. On the average the change was about 17.02%. Data set for GDP had a standard deviation of about 9.65%. It can be construed as relatively high when viewed in the light of coefficient variation. This measure had a skewness of 1.068 which a unit greater than zero. Since the values are not so far apart the data set is considered normally distributed.

As shown in table 2, the measure HD1 within 20 observation periods, had a minimum and maximum rate of 0.45 and 0.54. The mean of the data set was 0.4968, indicating the absence of extreme values. It had a standard deviation of 0.0296. This signifies almost no deviation between

the mean and the data set values. The skewness value of 0.061 further shows that the data set for HDI is normally distributed.

From table 1, unemployment rate (UER) in Nigeria had a minimum rate 3.5% and maximum of 9.01% within the 20 years observed. Its data set had a mean value of about 4.94%, and standard deviation of about 2.03 which could be interpreted as relatively high in the light of coefficient of variation. The skewness statistic is shown as 1.294 which is greater than zero for normally distributed data set. However, the disparity between the standard value for skewers and the static shown in the above table is not so far hence it is assumed that the data set for unemployment rate is normally distributed.

Correlation Results

Statement of Hypothesis (Ho) 1: There is no significant relationship between capital expenditure (CES) and gross domestic product (GDP).

Table 3. Correlation coefficients of the relationship between CES and GDP

Variables	No. of Obs.	Pearson's Co eff. (r)	Sig @ 2-tail	Alpha level	Remark	Decision
CES & GDP	20	0.301	0.197	0.05	Insign. Posit. Rel.	Accept Ho.

Source: SPSS 25 output.

Table 3 presents extracted key coefficients of the bivariate analysis of the relationship between capital expenditure and the gross domestic product. The SPSS output of 20 observation periods gave significant value at 2 tail-test of 0.197 at an alpha level of 0.05. Since the 2-tail test sig level of 0.197 is greater than the alpha value of 0.05, the null hypothesis that says no significant relationship exists between the proxy and the measure is accepted. The Pearson's product moment correlation coefficient (r) gives support to the decision on the hypothesis. The coefficient between these variables is given as 0.301 (30.1%). From the relationship interpretation table in appendix 2, their relationship is judged as a weak, in other words insignificant. Thus, the result showed the presence of insignificant positive relationship between capital expenditure and gross domestic product in Nigeria during the period covered by the study.

Statement of Hypothesis (Ho) 2: There is no significant relationship between capital expenditure (CE) and human development index (HDI).

Table 4. Correlation coefficients of the relationship between CES and HDI

Variables	No. of Obs.	Pearson's Co eff. (r)	Sig @ 2-tail	Alpha level	Remark	Decision
CES & GDP	20	-0.597	0.005	0.05	Mod. neg. Rel	Reject Ho

Source: SPSS 25 output.

Table 4 displays an extract of key coefficients of the bivariate analysis of the relationship between capital expenditure (CE) and human development index (HDI). The SPSS result of 20 observations shows that at an alpha value of 0.05, significant value under 2 tail-test was 0.005. Since the significant value is less than the alpha value of 0.05, the study rejects the null hypothesis that says no significant relationship exists between the variables.

The SPSS test of Pearson's product moment correlation coefficient obtained was -0.597. As shown in the interpretation table in appendix 2, the relationship is said to be moderate. The study thus states that moderate negative relationship exists between capital expenditure and human development index in Nigeria within the study period.

Statement of Hypothesis (Ho) 3: There is no significant relationship between capital expenditure (CE) and unemployment rate (UER).

Table 5. Correlation coefficient of the relationship between CES and UER

Variables	No of obs.	Pearson's co eff.(r)	Sig @ 2-tail	Alpha level	Remark	Decision
CES & UER	20	-0.739	0.000	0.05	Sig. neg. Rel.	Reject (Ho)

Source: SPSS 25 output

Table 4 shows the extracted coefficients from SPSS output necessary to explain the research questions and take a position on the stated null hypothesis in respect to the relationship between the proxy; capital expenditure, and the measure; unemployment rate. From the table, it can be seen that at an alpha level of 0.05, significant value of 2-tail test was 0.000. Premised on the fact that sig. value is less than the alpha value of 0.05 the study rejects the null hypothesis.

The Pearson's product moment correlation coefficient of -0.739 gives the extent of the relationship between the variables. Based on the relationship interpretation table in appendix 2, the extent of their relationship is strongly negative. The study thus states that significant negative relationship exists between capital expenditure and unemployment rate in Nigeria during the study period.

Discussion of Findings

Hypothesis 1: stated that no significant relationship exists between capital expenditure and gross domestic product. The statistical result indicated that positive but insignificant relationship existed between the proxy and the measure. This implies that spending more funds on capital project does not necessarily result to corresponding growth in the country's GDP.

The finding of this study is consistent with the study of Major and Nmehiella, (2021); Onuaha and Okoye, (2020); Stephen et al, (2020); Olanrele, (2020); Mose, (2020); Reddy, (2020); Oga et al, (2019); Jeph-Any and Ibenta, (2019); and Awode, (2019). All these studies found capital expenditure to have insignificant relationship with GDP. The finding however is not in agreement with the study of Jeph-Anyeneh et al, (2020); Chukwuemeka and Nwamuo, (2019); and Isibor et al, (2014). These studies found that capital expenditure had significant relationship with gross domestic product.

The possible causes of this variation in research findings could include the use of short run tests and long run test. Capital expenditure takes long time to complete and function in Nigeria context. This means that when the relationship test is conducted on long run basis, significant relationship could be realized. Another possible cause of the difference in finding is the use of capital expenditure figures at nominal values against inflation adjusted figures. For instance, Awode, (2019); Isibor, (2014); and Aladojare, (2013); all used inflation adjusted GDP; (RGDP), in their studies of the relationship between capital expenditure and RGDP and found the presence of significant relationship.

Hypothesis 2 stated that there is no significant relationship between capital expenditure and human development. The test result showed that negative but moderately significant relationship exists between capital expenditure and human development index. By United Nations Development Programme's rating, a high HDI indicates better performance result while a low index indicates poor conditions in a country. The findings of the of the study however indicates that when government spends more on capital project, it results to decline in human development rating.

The finding is consistent with the investigation of Omodero, (2019); and Ihenetu and Sotonye, (2019). Both studies found capital expenditure to have had negative relationship with human development index. The finding however was contrary to the studies conducted by Erasmus (2021) and Kairo et al (2017). These studies found that capital expenditure had positive relationship with human development index. The contrary findings could be caused possibly by factors such as the dimension of capital expenditure used in the analysis. For instance, Erasmus (2021) used capital expenditure on education and health expenditure to analyze the relationship. Kairo et al (2017) on

the other hand employed capital expenditure on health, education and salaries to examine the relationship between these variables. In this study, capital expenditure encompasses all; both state and federal and for all functional classification.

Hypothesis 3 stated that, there exists no significant relationship between capital expenditure and unemployment rate. The statistical test result showed that negative and strong relationship exists between the proxy; capital expenditure and measure unemployment. This implies that when government invests in capital project say by 1 unit of monetary value, it would reduce unemployment rate by 0.739 (approximately 74%) being the Pearson's product moment correlation coefficient of the variables.

This finding is consistent with what was found in the studies of Selase, (2019); and Rahmat and Saeidi, (2017); whose works showed the presence of negative relationship between the variables. However, the finding is not consistent with the findings made by Ndubueze et al, (2020); Ebi and Ibe, (2019); and Fasu, (2019). These studies found that capital expenditure had positive relationship with unemployment rate. What could have accounted for the difference between these and the present study's finding possibly, is the variables used for capital expenditure. Fasu, (2019); used only capital expenditure on investment; Ndubueze et al, (2020); used capital expenditure on education and on health. This study on the other hand used all Federal and State Government capital expenditure structures, ranging from administration, communication and social services, economic services and transfers. The broadness of what constitutes capital expenditure used in this study possibly could have been a factor among others that caused the variation in statistical results of the relationship test.

CONCLUSIONS

The study of public expenditure and economic growth in Nigeria found that capital expenditure has positive but insignificant relationship with gross domestic product (GDP); it has negative but moderately significant relationship with human development index (HDI); and it has negative and strongly significant relationship with unemployment rate (UER). These findings have both theoretical and practical implications. Theoretically, it implies that Wagner's law of increasing state activity is applicable in Nigeria economy. Practically, it implies that even though capital expenditure is considered as a key factor in economic growth, investments in this area could have both positive and negative effects on the economy. Based on the findings, study concludes that, only insignificant positive relationship exists between capital expenditure and GDP, while moderate, and strongly significant relationship exists between capital expenditure and the other economic growth measures used in this study.

RECOMMENDATIONS

Based on the conclusion of the study, the following recommendations are made:

- i. Policy makers should ensure the presence of economic policy congruence among the state and federal tiers of government. This would give the country a unified direction and approach to tackle its economic growth problems. This could be done by both tiers agreeing on a specific proportion of their total public expenditure to be spent on capital projects annually.
- ii. Government policy makers should embark on sector analysis to identify those sectors that contributes more to the economic growth of the country and spend more capital expenditure on these sectors of the economy.
- iii. Policy makers should avoid undertaking extravagant capital projects some of which takes years to accomplish, while others end up uncompleted and abandoned. Such expenditure amounts to tiring down productive resources.

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Appendix 1. Benchmarks for Interpretation of Correlation Coefficient (r)

Range	Interpretation
0.8 -1.00	Very strong relationship
0.6 -0.79	Strong relationship
0.4 – 0.59	Moderate relationship
0.2 – 0.39	Weak relationship
0.00 – 0.19	Very weak relationship

Source: Salkind (2010) (as cited in Ahiauzu & Asawo, 2016)