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GOVERNMENT CAPITAL EXPENDITURES AND ECONOMIC DEVELOPMENT PARADIGM IN NIGERIA. THE PER CAPITA AMPLITUDE.

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Abstract
This research focused on government capital expenditure and economic development paradigm in Nigeria between the periods 1990 to 2020. The immediate objective was to determine the effect of government's capital expenditure on economic development in Nigeria. Government capital expenditure was disaggregated into economic services, social and community services, transfers and administration, while economic development was proxied by per capita income. Data for the study were obtained from the Central Bank of Nigeria statistical bulletin and World Bank data website (WDI). The ordinary least square (OLS) statistical technique was used for data analysis. Results from the individual statistical tests revealed that except for government capital expenditure on social and community services, government capital expenditure on economic services, administration and transfers have insignificant negative and positive effects respectively on per capita income in Nigeria. However, the result of the global statistics as shown by the F-test revealed that government capital expenditure on economic services, social and community services, transfers and administrations collectively have significant effect on the economic development of Nigeria. On this backdrop, it was recommended that there is urgent need for the government of Nigeria to be more proactive by sincerely blocking all leakages that makes it possible for civil and public servants to divert public funds meant for capital projects in the country. This can be achieved through automation of the public sector expenditure in order to reduce person-to-person contact which makes it easier for people to collaborate on how to siphon public funds.

Keywords: Government, Capital expenditures, economic development

Introduction.

In recent times, underdeveloped and emerging economies had made concerted efforts to become developed economies. This move was geared towards ensuring that these countries with low standards of living become nations with better standards of living. During this process, there is a shift from agricultural produce to industrialization and services. In essence, the attainment of economic development has remained one of the

major macro-economic objectives of under-developed and emerging economies the world over. This takes into account average life expectancy, standard of education, literacy rates, environmental standards, availability of quality housing, access to health care and per capita income of the citizens of a country. According to Asongu and Jellal (2016), the bottom line of economic development is to ensure that the prolonged and sustained increases in the real national income of a country is accompanied by positive changes in the economic, technological and social structures of the economy; with the result that the real per capita income of the people increases over a long period of time; subject to the stipulation that the number of people below the poverty line does not increase, the distribution of income does not become more unequal and development does not become less sustainable environmentally.

Onifade, Cevik, Erdogan, Asongu and Bekun (2020), observed that there are two major categories of economic policies that have been widely utilized for the general purpose of achieving the above stated economic development related goals. These are monetary and fiscal policies. Although these policies are different in terms of their structure and application, the bottom line is to enhance economic growth and development. Accordingly, the former is generally a formidable instrument in the hands of the apex bank (Central Bank) of various nations, while the latter exists as an important economic instrument in the hands of the governments of various nations. Fiscal policies are government policies that are strategically designed to regulate or stabilize the economy through various forms of taxes and expenditures. They are economic approaches that coordinated government strategies for producing revenue fundamentally through tax assessment and its consequent methodologies for making choices on how the comparing income that is produced would be distributed for accomplishing focused on economic objectives (Hong and Nadler, 2015). Agreeing to Thingan (1997), fiscal policy points at guaranteeing long-run economic steadiness by the alterations of short-run economic changes in such a way that a government uses its consumption and income programs to produce alluring impacts whereas dodging those impacts that are undesirable on a nation's wage, production, and work levels.

The structure of government expenditure in Nigeria can be disaggregated into recurrent and capital expenditures. Recurrent expenditure are government expenses on administration such as wages, salaries, interest on loans, maintenance etc. The essence of this type of expenditure is to ensure that a government function effectively. On the other hand, government expenses on capital project like roads, airports, health, education, telecommunication, electricity generation, and so on constitute government capital expenditure (Owui, Asukwo, Olugbemi, Nkamare and Emefiele, 2020). The provision of public infrastructural facilities has been one of the fundamental bases for government spending. Providing and maintaining these infrastructural amenities cost huge amounts of money. However, capital expenditure can be sectorally and functionally classified. The sectoral classification connotes government's actual expenditures on various sectors of an economy like agriculture, mining and quarrying, manufacturing, real estate,

health, education and the likes. According to the Central Bank of Nigeria, functional classification of capital expenditure of the Federal Government of Nigeria consists of administration, economic services, social community services expenditures and transfers (CBN, 2019).

It is on literature that Nigeria over the years has invested a lot of human and material resources in the pursuit of growth and development in an economic sense. Improvement in the quality of socio-economic institutions, structure and composition of the economy and overall welfare of Nigerians have led the government to incur huge sums of capital expenditures. This expenditure rose from N6.57 billion in 1981 to N24.05 billion in 1990, N239.45 billion in 2000, N883.87 billion in 2010 and N2289 billion in 2019 (CBN, 2019). However, major macroeconomic indicators like unemployment rate, poverty rate and per capital income are not encouraging. According to the World Poverty Clock in June 2018, Nigeria is the poverty capital of the world with 87 million Nigerians living below N693.5 per day.

Again, the argument on whether government capital expenditure has impacted positively and significantly on economic growth and development has continued to provoke series of economic controversies and debate. Nevertheless, the methodologies adopted in earlier studies and variables covered cannot be isolated in this argument, debate and controversies. The bandwagon approach of using GDP as an index for economic development is not the most appropriate. Therefore, this work sets out to examine the effect of government capital expenditure on economic development in Nigeria. Hence, as an improvement on studies by the likes of Taiwo and Abayomi (2011), and Samuel, Udoh, Abner, Ike, Tingir and Ibekwe (2018), the work introduced per capita income as an index for economic development and equally extended the work to 2020.

Synopsis of Literature Review

Government or public expenditure can be seen as the expenses which the government of a country incurs for its own maintenance, for the benefit of the society, the economy, external bodies and for the country at large (Okoro, 2013). It is government's own form of investment and it is not profit driven. Such expenditures are undertaken at all levels of government for the social and economic good of the citizens of a country, state or region. Public expenditure as such simply means government spending from revenues derived from taxes and other sources. Thus, it is an important instrument used by the government to control an economy. When an economy is experiencing expansion, government can decide to reduce its expenditure in order to fight against inflation, but when an economy is regressing (Contrasting) one way the government can help out is to spend in order to revive such an economy. Thus, government expenditure plays an important role in the functioning of an economy, whether developed, developing or under-developed. Accordingly, Asongu (2014) submitted that government expenditure (investment) affects aggregate resources when used together with monetary policy.

Okoro (2013) opined that the structure of government expenditure can be examined

from two viewpoints; namely - transfer / resource-using (non-exhaustive/ absorptive expenditures) and recurrent / capital expenditures. Transfer expenditures or non-exhaustive expenditures take the form of outright grants of money to private citizens or private businesses. In other words, it is payment which is without corresponding transfer to real resources from the private sector or their use by the state. Examples are debt service (interest payments and capital repayments on internal and external debts), pensions and gratuities, external financial obligations such as annual subscriptions to international bodies, social security benefits, unemployment compensation, and other welfare payments (Hong, 2015).

Resource-using, exhaustive or absorptive expenditures are those that involve the transfer of funds from the government to the private sector in return for goods and services. Such non-transfer expenditures have effects that are allocational in nature unlike the transfer expenditures whose initial effect is on the distribution of income in the society. Their examples are expenditures on administration, economic, social and community services (Okoje, 2015).

Recurrent expenditures on the other hand are expenses on running costs or for day-to-day running of government affairs such as payment of workers' salaries/ remunerations, spending necessary to maintain existing levels of government services; while capital expenditures are those that are capital stock augmenting, i.e., spending on the construction of physical assets such as schools, roads, bridges, airport, railways etc.

Some other researchers have also attempted to classify expenditure on the basis of its effects on production: productive and unproductive expenditures. All expenditures that is necessary and relevant, and hence being in the nature of investment and helping to improve the productive capacity of an economy, is productive expenditure; while unproductive expenditures are those that are wasteful and avoidable (Oteng – Abayie, 2011). However, Nnamocha (2002) opined that government expenditure in the Nigerian context includes all expenditures on goods and services, transfers and capital expenditure by the Nigerian government. This excludes inter-governmental transfers, which limits government expenditure to those on goods and services, and transfers to the non-governmental sector of the economy. Nonetheless, Nwinee and Torbira (2012) averred that public sector expenditure or investment comprises of the summation of federal, state and local government spendings, as well as those of their agencies; and financial transfers to the parastatals of the three tiers of government.

In the same vein, economic development is an activity for which there are high expectations, and significant investments of public money. The primary step in characterizing economic development is recognizing it from the concept of economic growth. Growth happens when output increments. Output can increment either when uses add more inputs or innovation or innovation in order to improve the effectiveness with which we change inputs into outputs. In portion, since of this straightforwardness, economic growth, with its accentuation on increases in population, work or add

up to output dominates the debate, in spite of the reality that increments in any or all of these may well be related with both improvements and/or declines in prosperity and quality of life (Feldman, Hadjimichael, Kemeny and Lanahan (2014).

San (2009) considers economic development to be the reinforcing of independence and substantive flexibilities, which permit people to completely take part in economic life. In this way, economic development happens when individual agents have the opportunity to create the capacities that permit them to effectively engage and contribute to the economy. Within the total, this ought to lower transaction costs and increase social portability. Instead of being diminished to a static factor in a production process, individuals become the agents of change within the process of economic development. They have the opportunity to realize their potential. The more prominent the number of people able to take an interest within the economy and the society, the more noteworthy the opportunity for modern thoughts to circulate and be put into activity.

According to Bartik (2013), economic development is a process where low income national economies are transformed into modern industrial economies. It involves qualitative and quantitative improvements in a country's economy, political and social transformations. This also includes the concept of economic development in addition to economic changes. Thus, economic development can be defined as passage from lower to higher stage in a nation's economy which implies change.

Kindlebeger and Herrick (2008) added that economic development is generally defined to include improvements in material welfare especially for persons with the lowest incomes, the eradication of mass poverty with its correlate of illiteracy, disease and early death, changes within the composition of inputs and yield that generally incorporate shifts within the fundamental structure of generation absent from farming towards mechanical exercises, the organization of the economy in such a way that profitable work is for the most part among working age populace or maybe man the circumstance of a advantaged minority, and the comparing more noteworthy cooperation of wide based bunches in making choice approximately the course of economic activities and others.

Arora and Athreye (2012), while making a distinction between economic growth and economic development argued that economic development implies both more output and changes in the technical and industrial arrangement by which it is produced and distributed. Development of an economy to them in the classical era meant an increase in the absolute size of annual production regardless of the size of the population, or an increase in the economy's real income over a long period of time. Consequently, Easterly (2011) stated that economic development is a process whereby an economy's real national income increases over a long period of time. This definition comes up short to require into consideration the changes within the development of populace. On the off chance that a rise in genuine salary is went with by speedier development in populace, there will be no financial improvement but hindrance. Hence, a few financial specialists characterize financial advancement in

terms of an increment in per capita pay. Thus, the justification for the adoption of per capita income as a measure of economic development in this research. This is because, it is the most universal and its components are regularly tracked on a global scale, providing for ease of calculation and usage. The limitations of national income as an indicator of economic development made economists like W.W. Rostow, P.A. Barran and H. Leibenstein to favour the use of per capita income as an index of economic development. According to Kenton (2009), per capita income is a measure of the amount of money earned per person in a nation or geographic region. It can be utilized to decide the average per-person salary for a nation and to assess the quality of life and standard of living of the populace. Per capita wage tallies each man, lady and child, indeed infant babies, as individuals of the populace. This stands in differentiate to other common estimations of an area's success, such as family wage, which checks all individuals dwelling beneath one roof as a family, and family wage, which checks as a family, those related by birth, marriage, or appropriation.

Drewnowski (2016) defined development in terms of economic and social welfare, by submitting that "in the standard of living of people, economic development is supportive and it involves increased per capita income and creation of new opportunities in education, health care and employment sectors. Development is of limited significance if it does not lead to economic welfare. Economic development thus implies increased per capita income and reduced income inequalities and satisfaction of the people as a whole".

Economic development has also been viewed from the angle of poverty, inequality, and unemployment. Where all three indices are in high levels, at that point this constitutes a period of low economic development for the nation concerned. On the off chance that one or two of these central issues have been developing more awful, particularly in the event that all three have, it would be unusual to call the result advancement indeed in the event that per capita wage multiplied (Sen, 2009). Thus, Goulet considered life sustenance, self-esteem and freedom as important basis and guidelines for understanding the meaning of development. All said, it can be deduced that economic development is a process of prolong and sustained increases in the real national income of a country accompanied by positive changes in the economic, technological and social structures of an economy and per capita income is one of the ways of measuring economic development.

Broadly talking, per capita income alludes to the genuine national wage partitioned by the entire populace of the nation. On the off chance that the rate of populace outperforms the rate of national salary development, at that point per capita national salary will drop. Essentially, in case both national pay and populace develop at the same rate, per capita national wage will stay steady and typically not financial advancement. Subsequently, it isn't rise in genuine national salary but rise in genuine per capita salary which may be taken as a marker of advancement (Dandley, 2016).

Government Expenditure in Nigeria

The Second National Development Plan (1970 – 1974) accorded a leading role to

government just as it considered public enterprises as crucial to growth and self-reliance due to capital scarcity, structural defects in the private sector and perceived dangers of foreign dominance of the private sector. The Third National Development Plan (1975 – 1980) advocated some shift in resource allocation in favour of rural areas which were said to have benefitted little from the economic growth of the 1970s. Thus, small farmers and the rural population were expected to benefit from public expenditures. In addition, the poorer sections of the population were to be provided subsidized facilities such as water supply, health services, electricity, etc. An exception nevertheless was the 1977/78 to 1979/80 fiscal year which was essentially restrictive. However, against the background of the austere fiscal outlook of the government, under the fourth National Development Plan (1981 – 1985), the role of fiscal policy was viewed mainly as the generation of revenue through increased tax effort and the control of public spending (Anyanwu, Oaikhenan, Oyefusi and Dimowo, 1997).

The Structural Adjustment Programme (SAP) introduced in July 1986 recognized that the financial resources for public expenditures for the rest of the 1980s and beyond were likely to be less than was previously envisaged. And given the uncertainty in the oil market and substantial debt repayment falling due, there was need to curtail government expenditure, especially those involving foreign exchange. In the main, Anyanwu et al (1997) opined that as with other IMF – World- Bank programmes, measures were to be taken to reduce government expenditure. Such measure were the reduction of the growth of government wage bill, reduction in government subsidies on fertilizer, food, petroleum and petroleum products; limiting or delaying new investments and the rationalization; hence the privatization and commercialization of public enterprises, thereby improving the efficiency of investment and expenditure control and administration.

During the first National Rolling Plan (1990 – 1992), government efforts were aimed at combating inflation, hence large budgetary deficits were to be avoided, as such government expenditures were to be made more cost effective and kept at levels that were consistent with the nation's resources, realistic growth targets and general economic stability. In the main, the government therefore was to promote efficiency in the allocation of scarce development resources through emphasis on private sector participation and privatization/commercialization. In this regard, the public sector was to place greater emphasis on promotional activities, including provision of an appropriate policy environment, basic infrastructures and adequate institutional support for private investment to thrive (Abdullah, 2010). On the other hand, the Second National Rolling Plan (1991 – 1993) went forward at targeting a balanced budget in 1991 and a surplus in 1992 coupled with continued selective withdrawal from commercial activities and increased privatization and commercialization of public enterprises. Hence, government expenditure in the country has been on the increase ever since then. Akudo (2018) as such submitted that fiscal policy in Nigeria generally has oscillated, on balance, between liberalization and restrictiveness.

Nevertheless, public or government expenditures in Nigeria are functionally classified into administration, economic services, social and community services, and transfers with capital and recurrent expenditure compositions (CBN, 2019). Administration expenditure comprises of general administration, National Assembly, defence and internal security. Economic services include agriculture, construction, transport and communication and others; social and community services is made up of education, health and others and transfer comprises of public debt charges, internal and external debts (Ukwu, 2012).

According to CBN (2019), economic services accounted for about 55.27 percent of total government capital expenditure in 1981 which was the most for the year. Same Economic Services within the years reviewed gulped the highest capital expenditure of N994.19 billion in 2019 while the least came from Administration in the year 1985, with a value of N0.46 billion. Aside 1985, 1990 and 1995 when transfers accounted for a major part of government capital expenditure of 54.14%, 64.65% and 45.76% respectively, economic services expenditure has always dominated government's capital expenditure in Nigeria.

Theoretical Framework

Following the 1928 – 1930 Great depression, the Keynesians favoured government intervention to correct market failures. In 1936, John Maynard Keynes in his book "General Theory of Employment, interest and Money", criticized the classical economists for putting too much emphasis on the long run. According to Keynes, "we are all dead in the long run". Keynes accepted depression required government intercession as a short-term remedy. Expanded investment funds will not offer assistance but investing amid misery will do. Government will increment open investing, giving people acquiring control and makers will deliver more, making more business. This is often the multiplier impact that appears causality from open consumption on national wage (Richardson, 2014).

Appropriately, Keynes categorized public expenditure as an exogenous variable that can produce economic growth rather than an endogenous phenomenon. Keynes accepted the part of the government to be pivotal because it can maintain a strategic distance from depression by increasing total demand and hence, switching on the economy again by the multiplier impact. It may be a device that brings stability within the short run but this have to be done cautiously as well as much of public consumption leads to inflationary circumstances whereas too little of it leads to unemployment.

Therefore, given the existence of so many public or government expenditure theories, the one most suitable for this study is the Keynesian theory. This is because the theory advocates for increased government spending in an economy in order to enhance aggregate output, employment and economic development. In essence, Keynes advocated for increased government expenditures and lower taxes to stimulate demand and pull an economy out of depression. Subsequently, the theory is anchored on the premise that optimal economic performance could be achieved and economic slumps prevented by

influencing aggregate demand through stabilization and economic intervention policies by the government.

Again, given that the government (Federal, State and Local Government) is the biggest spender in the Nigerian economy, it follows that government expenditure should act as a catalyst in stimulating other forms of expenditure (investment by individuals, business firms and foreigners), which ultimately should enhance national output, reduce unemployment and poverty rates, boost per capita income and human development; and finally lead to economic development of the country.

Empirical Literature

This section of the paper reviews some earlier studies on government capital expenditure and economic development. For instance, Taiwo and Abayomi (2011) empirically examined the trends as well as effects of government spending on the economic development of Nigeria for the period 1970 – 2008 using econometric model with Ordinary Least Square (OLS) technique. They tested for the presence of stationarity between variables and for possible long run relationship between same variables. Generally, results revealed that there is a positive relation of recurrent expenditure, capital expenditure and economic development as the variables are co-integrated at 5% and 10% critical level.

Josaphat and Oliver (2010) investigated the impact of government spending on economic growth in Tanzania between 1965 – 2006 using time series data. They defined a basic development accounting show in which add up to government expenditure was disaggregated into consumption on physical venture, utilization investing and human capital venture. The Ordinary Least Square (OLS) multiple regression technique was adopted for data analysis and it was found that increased productive expenditure (Physical investment) have a negative impact on growth. The result further revealed that expenditure on human capital investment was insignificant in their regression output and inform the view that investment in Tanzania has not been productive.

Niloy, Emranul and Denise (2013) examined the growth effects of government expenditure for a panel of thirty developing countries (Nigeria inclusive) over two decades, with particular focus on sectoral expenditures. They also adopted the OLS econometric technique of data analysis. The essential investigate results appeared that the share of government capital expenditure in GDP is emphatically and altogether related with economic growth, but repetitive use is immaterial. The result at sectoral level uncovered that government investment and total expenditures on education are the only costs that stay essentially related with growth all through the examination. In spite of the fact that public investments and consumptions in other divisions (transport, communication and defense) was found at first to have noteworthy affiliations with growth, but do not survive when government budget imperative and other sectoral expenditures were joined into the investigation. Moreover, private investment share of GDP was found to be related with economic growth in a critical and positive way.

Junko and Litali (2008) investigated the impact of government expenditure on economic growth in Azerbaijan because of the temporarily oil production boom (2005-07), which caused exceptionally large expenditure increase aimed at improving infrastructure and raising incomes. Azerbaijan total expenditure increased by a cumulative 160 percent in nominal value from 2005 to 2007 (i.e. from 41 percent of non-oil GDP to 74 percent) in their research reference which were made to Nigeria and Saudi Arabia (1970-89) who have also experienced oil boom and increased government expenditure over the years. The study simulated the neo-conditions. Their analysis suggested that the evaluated fiscal scenario poses significant risks to growth sustainability and historical experience indicates that the initial growth performance largely depends on the efficiency of scale-up expenditure. The study also shed light on the risks associated with a sudden scaling-down of expenditure, including the political difficulties to undertake an orderly expenditure reduction strategy without undermining economic growth and the crowding-out effects of large government domestic borrowing.

Oyeleke, Raheem and Falade (2016) investigated the influence of disaggregated functional government capital expenditure on economic growth in Nigeria between the periods of 1970 to 2013, using error correction technique of estimation on the data of the economy. The results indicated that long run relationship exists between the components of public capital expenditure and economic growth. The results also revealed that disaggregated functional capital expenditure of government did not generate the intending growth to real economic activities. More specifically, capital expenditure on economic services was actually negatively affecting the growth of the economy, though insignificant, implying that the economy did not benefit from such spending.

Godwin and William (2016) examined the relationship between government consumption, money supply, prices and output in Nigeria, utilizing two-stage least squares strategy. They found that the consumption choice of the government is essentially decided by government income and one year lag of government expenditure. Be that as it may, government consumption was found needing in catalyzing the development of the economy. Their results too uncovered that money supply was a positive and noteworthy function of prices additionally granger caused prices with no turn around or criticism impact. Once more, the stock of money exerted a positive and noteworthy impact on the development of the economy whereas prices were found to have a critical decreasing impact on the real Gross Domestic Product.

Owui, Asukwo, Olugbemi, Nkamare and Emefiele (2020) examined government capital expenditure and economic growth, using annual time series data for the period from 1972 – 2018. The study employed the error correction mechanism (ECM) methodology in estimating the relevant equation. Results showed that there is a long run relationship among the variables and that there were bi-directional relationship between gross domestic product and capital expenditure on social and community services, expenditure on administration, expenditure on economic services and expenditure on transfers. Also, it was

revealed that previous one and two period values of gross domestic product have positive and significant impact on the current value of GDP in Nigeria. It also showed that public capital expenditures on administration have positive and significant impact on economic growth, while those of economic services and social and community services have only positive impacts. However, capital expenditure on transfer has negative relationship with economic growth.

Al-Shatti (2014) surveyed the impact of government overheads on economic progression in Jordan from 1993-2013, by means of OLS multiple regression models. Government outflow captured capital and recurrent outflow on education, health, economic, housing and community utilities. Findings revealed a statistically significant impact of recurrent overheads on health, economic, housing and community utilities and capital expenditure on health and economic affairs. In addition, there is a non-significant impact of recurrent expenditure on education and of the capital expenditure on education, housing and community facilities in Jordan. The study also submits the presence of positive affiliation between government outflows and economic growth in Jordan.

Onifade, Cevik, Erdogan, Asong and Bekun (2020) returned to the impacts of public expenditures on economic growth with regard to capital expenditure, recurrent expenditure and government fiscal expansion in line with back for the budgetary allocations to different sectors of the Nigerian economy. Pesaran's ARDL approach was connected to carry out the effect investigation utilizing yearly time series information from 1981 to 2017. Observational discoveries back the presence of a level relationship between public spending indicators and economic growth in Nigeria.

Sharply, recurrent consumptions of government were found to be altogether affecting on economic growth in a negative way whereas the positive impacts of public capital consumptions were not noteworthy to economic growth over the period of the study. Further results from the Granger Causality test uncovered that financial expansion of the government that is pivoted on debt financing is emphatically granger causing public expenditures and domestic investment with the last mentioned too granger causing real growth within the economy.

As observed, there are so many studies in the literature on government capital expenditure and economic growth and/or development. However, the uniqueness of this work lies in the fact that it is introducing per capita income as a catalyst for economic development. Most of the studies reviewed used gross domestic product as indicator of economic development and/or growth. However, per capita is generally recognized as a better proxy of development. Again, the study prides itself as a more current one and as such presents a better picture on the nexus between government capital expenditure and economic development.

Methodology

The research adopted the ex-post-facto research design for this study. This is because this method of research seeks to establish causal relationships between

events and circumstances. The secondary data used for analysis in this research were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and WDI (World Development Indicators), the Data-bank of the World Bank.

The Ordinary Least Square (OLS) technique was adopted for data analysis. The choice of this technique is not far from its characteristics of being the best, linear, unbiased, consistent and sufficient estimator (Edmond, 2012). Accordingly, the process involves determining estimates of the estimated parameters of our model and carrying out joint, individual and goodness of fit tests on these estimated parameters. The joint test was aimed at determining the collective impact of the estimated parameters in the model, whole the individual tests were aimed at establishing the impact of each of the estimated parameters. The goodness of fit test reveals the fitness of our research model. As such, F, t and R^2 tests were respectively the criteria used for these statistical tests.

Model Specification

In establishing the relationship between government capital expenditure and economic development in Nigeria, a multiple regression model was adopted for the study. Functionally, this model is given as;

pci = f(gcee, gcet, gcea, gces) ------(1)

the functional model was transformed into econometric form as:

$pci = \beta_0 + \beta 1gcee_t + \beta 2gcet_t + \beta 3gcea_t + \beta 4gces_t + \mu$ --- (2)

Where;

pci = per capita income as proxy for economic development
gcee = government capital expenditure on economic services
gcet = government capital expenditure on transfers
gcea = government capital expenditure on administration
gces = government capital expenditure on social and community services
β_0 = intercept term of the model
β_1--- β_4 = Slopes of the model
μ = error term of the model
f = functional Notation

Data Estimations

Test of Hypotheses

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.712	4	.678	22.456	.000[b]
	Residual	.785	26	.030		
	Total	3.497	30			

a. Dependent Variable: logpci
b. Predictors: (Constant), loggces, loggcet, loggcea, loggcee

Source: SPSS Output 2022.

Since the p-value (Sig.) of F_c(22.456) is less than our 5% level of significance (i.e. 0.000 < 0.05), we accept the alternative hypotheses and conclude that government capital expenditure on the areas of economic services, social and community services, transfers and administrations have significant effect on the economic development of Nigeria (proxied by per capita income in Nigeria).

Individual tests of Hypotheses

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.340	.126		18.559	.000	2.081	2.599		
	loggcee	-.038	.087	-.070	-.437	.666	-.217	.141	.341	2.935
	loggcet	.064	.039	.162	1.637	.114	-.016	.143	.883	1.132
	loggcea	-.069	.072	-.151	-.967	.343	-.216	.078	.353	2.836
	loggces	.509	.098	.996	5.210	.000	.308	.710	.236	4.233

a. Dependent Variable: logpci

Source: SPSS Output 2022.

Given that the above p-values of our t-statistic with the exception of β_4, are all greater than 0.05, we accept the first three null hypotheses and then conclude that:

(i) Government's capital expenditure on transfers has not significantly impacted on per capita income in Nigeria.

(ii) Government's capital expenditure on economic services has not significantly affected per capita income in Nigeria.

(iii) Government's capital expenditure on administration has not impacted significantly on Nigeria Per capita income.

(iv) Capital expenditure of the government on social community services has significant effect on Nigeria's Per capita income.

Test of Goodness of Fit

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.881[a]	.776	.741	.173755148	.776	22.456	4	26	.000	1.634

a. Predictors: (Constant), loggces, loggcet, loggcea, loggcee
b. Dependent Variable: logpci
Source: SPSS Output 2022.

This test was conducted in order to ascertain the fitness of our model. We used adjusted coefficient of determination (R^2) for this test and its result was given as 0.741. This implies that our model accounts for about 74.1 percent variation in per capita income. This is a good fit for the model.

Diagnostics Tests

This covered autocorrelation and multicollinearity tests. The essence of diagnostics test is to ascertain the validity of the above statistical tests and analysis.

Autocorrelation Test

d = 1.634, since the value of d falls between the threshold of 1.5 and 2.5, it follows that there is no significant presence of autocorrelation in our model. In essence, there is no form of correlation between successive values of the error term (μ) of our research model.

Multicollinearity Test

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	loggcee	loggcet	loggcea	loggces
1	1	4.700	1.000	.00	.00	.01	.00	.00
	2	.169	5.274	.00	.00	.82	.03	.03
	3	.084	7.494	.48	.01	.16	.07	.06
	4	.032	12.048	.05	.13	.00	.83	.27
	5	.015	17.436	.47	.86	.01	.07	.65

a. Dependent Variable: logpci
Source: SPSS Output 2022.

CI (βi) = 5.274, 7.494, 12.048 and 17.436. Since CI(β_1) and CI (β_2) are less than 10, it implies that there is no presence of multicollinearity in the variables gcee and gcet. However, there is a moderate presence of multicollinearity in the variables gcea and gces. This is because the CI (β_3) and CI (β_4) lies between 10 and 30. Hence, there is no significant correlation between the explanatory variables of our model.

Interpretation of Results

This study sets out to investigate the effect of government capital expenditure on the economic development in Nigeria. The reason being as a result of the crowding-out effect of government expenditure in an economy, such as Nigeria. Accordingly, government capital expenditure was disaggregated into expenditure on economic services, social and community services, transfers and administrations while per capita income was used as a proxy for economic development.

Results emanating from the statistical analysis in this study has revealed that government capital expenditure on economic services and administrations has a negative relation with per capita income in Nigeria during the period under review. The result showed that a percentage increase in government capital expenditure on economic services leads to about 0.038 and 0.069 percent decrease in per capita income in Nigeria respectively and vice versa. This runs contrary to our a priori expectation as a positive relationship was expected. The reason for this may be as a result of the fact that government spends more on recurrent issues than on capital issues, hence the inverse relationship. However, government capital expenditure on transfers and social community services showed the desired positive relationship with per capita income in Nigeria. That is a percentage increase in government capital expenditure on any of these results in about 0.064% and 0.509% increase on per capita income in the country respectively. This is due to the multiplier effects of government's capital expenditure, which enhances national or aggregate output.

Furthermore, the disaggregated statistical test results revealed that except government capital expenditure on social and community services, neither those of economic services, transfers nor administration has a significant influence on per capita income in Nigeria. This is quite disturbing when one considers government borrowing, (local and foreign) on yearly basis to meet up budgeted expenditures. As such, it is possible that yearly capital expenditure on these units was insignificant because of the tendency of high level of corruption in the public sector whereby most or some of these borrowed funds and expenditure by the government ends up in private pockets, thereby reducing the impact such expenditures should have on the people. On the other hand, the result of the joint test revealed that these government capital expenditures collectively have significant impact on per capita income in Nigeria. This result is in agreement with the findings of Taiwo and Abayomi (2011), Niloy, Emranul and Denise (2013) but at variance with that of Josaphat and Oliver (2010). In addition, the test of goodness of fit going by the adjusted R^2 showed that government capital expenditures accounted for about 74% changes in per capita income in Nigeria.

Conclusion and Recommendations

Results from our analysis revealed that government capital expenditure on economic services, social and community services, transfers and administrations has a significant impact on per capita income in Nigeria. However, except for government expenditures on the areas of social and community services, none of the other components of these government expenditures have significant influence on per capita income in Nigeria as shown by the individual statistical test.

Based on the foregoing, the following recommendations were put forward:

a. There is every need for the government to be more proactive by evolving policies geared towards blocking all loopholes that makes it possible for civil and public servants to divert funds meant for capital projects in the country. This is especially on those areas of government expenditures not having any meaningful effect on economic development in Nigeria.

b. There is need for automation of the public sector activities. This is because the massive existence of person-to-person contact makes it easier for people to collaborate on how to siphon public funds.

c. The judiciary too has a major role to play in ensuring that there is sanity in the system. This they can do by ensuring that they implement existing laws and punish offenders who steal from the people as this will go a long way in discouraging those who may want to do same in the future.

References

Abdullah, H.A. (2010). "The Relationship Between Government Expenditure and Economic Growth in Saudi Arabia". *Journal of Administrative Science,* 12 (2).

Akudo, O. (2018). "Government Capital, Recurrent Expenditure and Poverty Rate in Nigeria", *International Tax and Public Finance,* 8(4).

Al-Shatti, A.S. (2014). "The Impact of Public Expenditure on Economic Growth in Jordan", *International Journal of Economics and Finance*. 6.

Anyanwu, J.C. Oyefusi, A. Oaikhenan, H. and Dimowo, F.A. 1997). *The Structure of the Nigerian Economy (1960-1997)* Onitsha: Joanee Educational Publishers Limited.

Arora, A. and Athreye, S. (2012). "The Software Industry and India's Economic Development", *Information Economics and Policy,* 14(2).

Asongu, S.A. (2014). "Linkages Between Investment Flows and Financial Development: causality Evidence from Selected African Countries", *Afr. J. Econ Manag. Stud.* 5 (3).

Asongu, S.A. and Jellal, M. (2016). "Foreign and Fiscal Policy:

Theory and Evidence", *Comp. Econ Stud.* 58 (2).

Bartik, T. (2013). "Local Economic Development Policies", Staff Working Paper, No. 03-91, Kalamazoo, MI: WE Upjohn Institute.

Bhatia, H.L. (2012). *Public Finance, 25th Edition.* New Delhi: Vikas Publishing House, PVT Limited.

CBN (2019) Central Bank of Nigeria Statistical Bulletin, Vol. 30.

Drewnowski, J. (2016), "Social and Economic Factors in Development" *UNRISD Report* No. 3, Geneva, February.

Easterly, W. (2011). "The Political Economy of Growth without Development: A case study of Pakistan", Paper for the Analytical Narratives of Growth Project, Kennedy School of Government, Harvard University.

Edmond, A.A. (2012). *Basics of Academic Research in Management and Social Sciences*. Port Harcourt: Associate Publishers.

Feldman, M. Hadjimichael, T., Kemeny, T. and Lanahan, L. (2014). "Economic Development: A Definition and Model for Investment", *Small Business Economics,* 20 (2).

Godwin, C.O. and William, C.N. (2016). "Government Expenditure, Money Supply, Prices and Output Relationship in Nigeria: AN Econometric Analysis", *International Research Journal of Finance and Economics* 54.

Hong, S. and Nadler, D. (2015). "The Impart of Political Institutions on U.S. State Bond Yields. During Crises: Evidence from the 2018 Credit Market Seizure", *J Econ Policy Reform* 19.

Jhingan, M.L. (1997). *Macroeconomic Theory:* Delhi: Vrinda Publications Limited.

Josaphat, P.K. and Oliver, M. (2010). "Government Spending and Economic Growth in Tanzania", *Credit Research Paper* 16.

Junko, K. and Vitali, K. (2008). "Impact of Government Expenditure on Growth", *Economic Development and Cultural changes,* 18.

Kenton, W. (2019). "Per Capita Income", http://www.investopiedia.com

Kindleberger, C.P. and Herrick, B. (2008). *Economic Development.* New York McGraw – Hill.

Niloy, B.M., Emranul, H. and Denise, R. (2013). Public Expenditure and Economic Growth: A Disaggregated Analysis for Developing Countries, Centre for Growth Business Cycle, Research School of Economics Studies, Studies, University of Manchester, Manchester.

Nnamocha, P.N. (2002). *Public Finance for a Developing Economy: The*

Nigerian Application. Owerri Bon Publishers.

Nwinee, B.F. and Torbira, L.L. (2012). *Public Finance Management in Nigeria.* Port Harcourt: University of Port Harcourt Press.

Okojie, C.E. (2015). "Human Capital Formation for Productivity in Nigeria", *Nigerian Economic review,* June.

Okoro, A.S. (2013). "Government Spending and Economic Growth in Nigeria (1980 – 2011)", *Global Journal of Management and Busienss Research, Economics and Commerce,* 13(5).

Onifade, S.T., Cevik, S. Erdogan, S. Asongu, S. and Bekun, F.V. (2020) 'An Empirical Retrospect of the Impacts of Government Expenditures on Economic Growth: New Evidence from the Nigerian Economy" *Journal of Economic Structures,* 9(6).

Oteng-Abayie, E.F. (2011). "Government Expenditure and Economic Growth in Five ECOWAS Countries: A Panel Econometric Estimation", *Journal of Economic Theory.*

Owui, H.O. Asukwo, I.J. Olugbemi, M.D. Nkamara, S.E. and Emefiele, C.C. (2020). "Government Capital Expenditure and Economic Growth in Nigeria", *International Journal of Economics and Financial Management* 5(2).

Oyeleke, O. Raheem, J.A. and Falade, O.E. (2016). Government Capital Expenditure and Economic Growth in Nigeria: Any Lesson from Disaggregated Functional Analysis", *European Journal of Business and Management,* 8(31).

Richardson, K.E. (2014). "Analyzing the Effects of Sectoral Spending on Human Capital Development in Nigeria: Evidence from Panel Data", *IOSR Journal of Humanities and Social Science,* 19(9).

Samuel, U.E., Udoh, B.E. Abner, I.P., Ike R.N. Tingir, T.J. and Ibekwe, U.J. (2018). "Effect of Administrative Capital Expenditure on Economic Development: AN Emerging Nation Outlook", *Journal of Internet Banking and Commerce,* 23(1), April.

Sen, A. (2009). *Commodities and Capabilities. Oxford: Oxford University Press.*

Seymor, D. and Oral, W. (2017). "The Impact of Government Expenditure on Economic Growth in the OECS: A Disaggregated Approach", *World Bank Research,* Oxford University Press.

Taiwo, M. and Abayomi, T. (2011). "Government Expenditure and Economic Development: Empirical Evidence from Nigeria", *European Journal of Business and Management,* 3(9).

Thingan, M.L. (1997) *Macroeconomic Theory*. Delhi: Vrinda Publications Limited.

Ukwu, U.I. (2012). "Public Expenditure and Financial Accountability in Nigeria", World Bank Workshop on Improving Public Expenditure and Financial Accountability in Nigeria, Kaduna, April 24 – 26.

Table 4.1: Yearly Data on Per Capita Income (PCI) Government Capital Expenditure on Economic Services (GCEE), Transfers (GCET), Administration (GCEA) and Social Community Services (GCES) in Nigeria (1990 – 2020).

Year	PCI ($)	GCEE (₦'B)	GCET (₦'B)	GCEA (₦'B)	GCES (₦'B)
1990	568	3.49	15.55	2.92	2.10
1991	503	3.15	20.36	3.35	1.49
1992	477	2.34	30.18	5.12	2.13
1993	270	18.34	24.50	8.08	3.58
1994	321	27.10	30.04	8.79	4.99
1995	408	43.15	55.44	13.34	9.22
1996	462	117.83	71.58	14.86	8.66
1997	480	169.51	43.59	49.55	6.90
1998	469	200.86	49.52	35.27	23.37
1999	498	323.58	114.46	42.74	17.25
2000	568	111.51	46.70	53.28	27.97
2001	590	259.76	76.35	49.25	53.34
2002	742	215.33	0.00	73.58	32.47
2003	795	97.98	0.01	87.96	55.74
2004	1008	167.72	11.50	137.77	30.03
2005	1268	265.03	26.27	171.57	71.36
2006	1656	262.21	23.04	185.22	78.68
2007	1883	358.38	17.33	226.97	150.90
2008	2243	504.29	210.20	287.10	152.17
2009	1891	506.01	59.70	291.66	144.93
2010	2280	412.20	59.50	260.20	151.77
2011	2488	386.40	207.50	231.80	92.85
2012	2724	320.90	265.90	190.50	97.40
2013	2962	505.77	164.27	283.65	154.71
2014	3099	393.45	48.75	229.63	111.29
2015	2687	348.75	159.82	226.81	82.98
2016	2176	278.95	158.14	147.72	68.80
2017	1969	542.19	203.51	328.94	167.66
2018	2028	753.49	278.94	446.25	203.42
2019	2230	994.19	438.86	591.26	264.69
2020	2396	705.80	307.69	406.99	194.41

Sources: CBN Statistical Bulletin (2020), World Bank Data (2020)

Log of Data Set on Per Capita Income (PCI) Government Capital Expenditure on Economic Services (GCEE), Transfers (GCET), Administration (GCEA) and Social Community Services (GCES) in Nigeria (1990 – 2020).

Years	Logpci	Loggcee	Loggcet	loggcea	loggces
1990	2.754348	0.542825	1.19173	0.465383	0.322219
1991	2.701568	2.498311	1.308778	0.525042	0.173186
1992	2.678518	0.369216	1.479719	0.70927	0.32838
1993	2.431368	1.263399	1.389166	0.907411	0.553883
1994	2.506505	1.432969	1.4777	0.943989	0.698101
1995	2.61066	1.634981	1.743823	1.125156	0.964731
1996	2.664642	2.071256	1.854792	1.172019	0.937518
1997	2.681241	2.229195	1.639387	1.695044	0.838849
1998	2.671173	2.302893	1.694781	1.547405	1.368659
1999	2.697229	2.509982	2.058654	1.630835	1.236789
2000	2.754348	2.047314	1.669317	1.726564	1.446692
2001	2.770852	2.414672	1.882809	1.692406	1.727053
2002	2.870404	2.333105	0	1.86676	1.551482
2003	2.900367	1.991137	-2	1.944285	1.746167
2004	3.003461	2.224585	1.060698	2.139155	1.477555
2005	3.103119	2.423295	1.41946	2.234441	1.853455
2006	3.21906	2.418619	1.362482	2.267688	1.895864
2007	3.27485	2.554344	1.238799	2.355968	2.178689
2008	3.350829	2.70268	2.322633	2.458033	2.182329
2009	3.276692	2.704159	1.775974	2.464877	2.161158
2010	3.357935	2.615108	1.774517	2.415307	2.181186
2011	3.39585	2.587037	2.317018	2.365113	1.967782
2012	3.435207	2.50637	2.424718	2.279895	1.988559
2013	3.471585	2.709953	2.215558	2.452785	2.189518
2014	3.491222	2.59489	1.687975	2.2.361029	2.046456
2015	3.429268	2.542514	2.203631	2.355662	1.918973
2016	3.337659	2.445526	2.199042	2.169439	1.837588
2017	3.294246	2.734152	2.308586	2.517117	2.224429
2018	3.307068	2.87707	2.445511	2.649578	2.308394
2019	3.348305	2.997469	2.642326	2.771778	2.422738
2020	3.379487	2.848682	2.488113	2.609584	2.288719

Source: Author's Computations.