Government Expenditure and Economic Development in Nigeria

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Abstract
The study examined the effect of government expenditure on economic development in Nigeria. To achieve the objectives of the study ex-post facto research design was adopted. Secondary data was used to generate data from CBN statistical bulletin. The data covered from 1990 to 2021. Data was analyzed using error correction regression model. The findings revealed that Government expenditure (capital expenditure, recurrent expenditure) has no significant effect on gross domestic product in Nigeria but no significant effect on per capital income in Nigeria. Based on the findings, the study recommended that public expenditure is an important fiscal instrument; therefore government can use it to control the economy by ensuring that budget allocation towards capital and recurrent expenditure are well utilized for increase in gross domestic product in Nigeria. The study also recommended that government should devise ways of maintaining an effective control to avoid wastage and misappropriation of funds for expenditure purposes. This will help in enhancing per capital income of the country.

Keywords: Government Expenditure, Economic Development, Per Capital Income, Capital Expenditure, Recurrent Expenditure and Gross Domestic Product

INTRODUCTION
1.1 Background to the Study
The need to better the lots of citizens through government expenditure has raised questions on the impact of government expenditure on economic development and growth of nations. In Nigeria and other developing economies, over the years, there has been a steady increase in government spending without an appreciable increase in economic growth and development (Amadi & Alolote, 2020). These have led to several researches and interest on the role of government spending in the long term growth of national economics by economists. The interest in growth theories has also revived interest among researchers in verifying and understanding the link between government fiscal policies and economic growth (Echekoba & Amakor, 2020).

In Nigeria for instance, despite the huge amount of public expenditures, there is still an insignificant level of development witnessed. Public expenditure on all sectors of the Nigerian economy is expected to lead to economic growth in the sense that capital and recurrent expenditure will boost the productive base of the economy which in turn will lead to growth. The interest by economists in Nigeria and other jurisdictions on the role of government expenditure is still inconclusive (Mohammed & Ibrahim, 2019). Barro (2022), endogenize government spending in a growth model and analyze the relationship between size of government and rates of growth and saving. He concluded that an increase in resources devoted to non-productive services is associated with lower per capita growth. Therefore, government expenditure which enhances economic growth should be tailored towards productive services.

The traditional objective of government expenditure is to exercise it as an instrument of State policy to preserve a region by providing law, order and justice (Sobhan, Fulin, Hussein, Xavier, 2021). However, contemporary view on government expenditure provides a much broader objective. Nowadays, government expenditure includes matters like development in infrastructure, improvement and accessibility of health care and promotion of structural economic development. To which extent the superfluous objectives are fulfilled depends on the political course of the State (Taofik & Taiwo, 2023).

Therefore, Government expenditure (like expenditure by private sector firms) can be categorised into either current expenditure or capital expenditure. Current expenditure is recurring spending or, in other words, spending on items that are consumed and only last a limited period of time. They are items that are used up in the process of providing a good or service. In the case of the government, current expenditure would include wages and salaries and expenditure on consumables - stationery, drugs for health service, bandages and so on (Okere, et al, 2019). By contrast, capital expenditure is spending on assets. It is the purchase of items that will last and will be used time and time again in the provision of a good or service. In the case of the government, examples would be the building of a new hospital, the purchase of new computer equipment or networks, building new roads and so on (Okoro, 2023).

In Nigeria, the rise in government expenditure in Nigeria over these years, there are still public outcries over decaying infrastructural facilities. Also, merely few empirical studies have taken holistic examination of the effect of government expenditure on economic development regardless of its importance for policy decisions. More so, for Nigeria to be ready in its quest to become one of the largest economies in the world by the year 2030, determining the effect of public expenditure on economic development is a strategy to fast-track growth in the nation's economy (Echekoba & Amakor, 2020)..

Also, for a resource- and cash- rich country (Nigeria) having nearly 70% of its population living in relative poverty conditions, whose infrastructures are in a state of decay, whose health, education and other growth-promoting and welfare - enhancing institutions are in a state of near-collapse, whose roads (most of them) have become death traps due to their deplorable conditions, whose power sector is in a state of declining, whose rates of unemployment, illiteracy rate, poverty rate (evidenced in the number of people living in shanties, with little or no access to quality

education, medi-care, potable water, etc.) is increasing as the clock ticks, whose human development index its continuously reducing, etc (Echekoba & Amakor, 2020).

Amidst all these problems the government has continuously increased her expenditure. Therefore one would expect that there will be a comparable achievement on economic growth in Nigeria, but otherwise has been the case. Government Expenditure in Nigeria remain problematic both in the areas of preparation and implementation, thus, the needed adequate control aimed at improving effective resources utilization and productivity becomes difficult and rendered the economy weak. This does not only affect government performance but also affect the private sector which is seemed to the drive force of the economy and since budget is a fiscal policy instrument that can be used to lessen short-run fluctuations in output and employment, poor resource allocation may affect macroeconomic issues such as high unemployment, inadequate national savings, excessive budget deficits, and large public debt burdens. During the global economic recession of the 1930s, the government sectors of both developed and developing economies played a vital role in stimulating economic growth and development through adequate budgetary allocation in cushioning the negative effects of such recession. Every economy promotes its economic growth through increasing government expenditures and reducing taxes. Public expenditure is a fundamental instrument that influences sustainability of public finances via fiscal balances and government debt (Okoro, 2023).

The main objective of the study is to determine the effect of government expenditure on economic development in Nigeria. The specific objectives are as follows: to determine the effect of government expenditure (capital expenditure and recurrent expenditure) on gross domestic product in Nigeria and to determine the effect of government expenditure (capital expenditure and recurrent expenditure) on per capita income in Nigeria.

The research hypotheses stated in null form are as follows:

$H0_1$: Government expenditure (capital expenditure, recurrent expenditure) has no significant effect on gross domestic product in Nigeria.

$H0_2$: Government expenditure (capital expenditure, recurrent expenditure) has no significant effect on per capita income in Nigeria.

REVIEW OF RELATED LITERATURE
2.1 Conceptual Framework
2.1.1 Government expenditure
A government spends money towards the supply of goods and services that are not provided by the private sector but are important for the nation's welfare (Okere, Uzowuru & Amako, 2019). Government spending goes to the nation's defense, infrastructure, education, health and welfare benefits. Government expenditure refers to the purchase of goods and services, which include public consumption and investment, and transfer payments consisting of income transfers (pensions, social benefits) and capital transfer. Meanwhile, the public sector is that portion of the society controlled by national or federal, state and local governments. The general view is that public expenditure either recurrent or capital expenditure, notably on social and economic

infrastructure can be growth-enhancing (Olubokun, Ayooluwade & Fawehinmi, 2016). The public sector encompasses defence, homeland security, public protection, fire fighting, urban planning, taxation and various social programs..

2.1.2 Economic development in Nigeria

The term development until recently meant growth measured by Gross National Product (GNP), Gross Domestic Product (GDP) or rise in per capital income, but development is not growth. Development can be seen as growth coupled with social justice (Bassanini, Scarpetta & Hemmings, 2021). Liu, Hsu, and Younis (2018) suggested that economic development implies changes that lead to improvement or progress because it is believed that an economy that raises its per capita level of real income over time without transforming its social and economic structure in unlikely to be perceived as developing. Okolo, Edeme and Emmanuel (2018) defined economic developments as achieving a set of social goals, since goals are bound to change over time, economic development is, to some extent, a process. An economy in the process of economic development is likely to experience a combination of three sets of change; first, an advancement in utility which a major factor contributing to advance in well being in real income per capita. Also, an advancement where need be in the realms of education, health and general quality of life. Lastly, a self-esteem and self-respect which pertains a growing sense of independence from domination by other countries or at times from the state which is a major characteristic of an economy that can be said to be developed..

2.1.3. Gross domestic product (GDP) as an economic development indicator

It is already established that economic development is all about a sustainable economic growth. Babatunde (2018), defines economic growth as the expansion of a country's potential GDP or output. This definition outrightly captures the sustainable economic growth projection. For instance, if the social rate of return on investment exceeds the private return, then tax policies that encourage can raise the growth rate and levels of utility. Growth models that incorporate public services, the optimal tax policy lingers on the characteristic of services. Economic growth has provided insight into why state grow at different rates over time; and this influence government in her choice of tax rates and expenditure levels that will influence the growth rates. For instance, exponential growth model is used when the rate of increase is proportional to the amount of quality present. Emerenini and Okezie (2019) defined a country's economic growth as a long-term rise in capacity to supply increasingly diverse economic goods to its population, this growth capacity based on advancing technology and the institutional and ideological adjustment that it demands.

2.1.4 Per capita income as an economic development indicator

There are many publications issued on GDP per capita and its relationships with population, land area, transparency score, transparency ranking, GDP, GDP growth rate, inflation, youth unemployment rate, population below poverty line, compulsory education period and type of government either democratic or non-democratic (Gutak & Ogboro, 2017). GDP per capita being

an economic development indicator; under normal circumstances one can expect that ceteris paribus the higher the population the lower the GDP per capita (Idris & Bakar, 2017).

GDP per person is an informative indicator of welfare across a broad spectrum in a country (Loizides & Vamvoukas, 2005). Nevertheless, there are economically important differences between GDP per person and consumption equivalent welfare (Nurlina, 2015). GDP per capita as an economic development indicator can`t be measured without GDP and population this is the most reasons authors like Onakoya and Somoye (2023), have argued that it is the best possible way of measuring economic development of a country since it's citizens income is measured on an average. One might expect that the higher the economic growth rate the higher the GDP per capita since growth is an economic catalyst for higher GDP (Edame & Nwankwo, 2016). The concept of GDP per capita itself is self-explanatory. However, it is noteworthy that we used both GDP per capita and GDP growth in our models to estimate the country's income inequality. This is because it is believed that GDP growth and GDP per capita can tell the country's economy from different perspectives (Chude & Chude, 2023).

2.1.5. Government expenditure and economic development
Theoretical prepositions on the relationship between composition of government expenditure and economic growth unlike many other theories originated from empirical findings (Zareen & Qayyum, 2014). The explosion of empirical studies on the endogenous models led to the division of government expenditure into productive (Capital) and consumption (Recurrent) items with cogent look at economic development (Gruening, 2021). The capital expenditure is assumed to be positively correlated with economic development while the recurrent expenditure is assumed to be negatively related to economic development (Iheanacho, 2016; Jelilov & Musa, 2016). The most comprehensive theoretical model known is that of Devarajan, Swaroop and Heng-fu-Zou (1996) in which the conditions under which a change in the composition of government expenditure could enhance higher steady economic growth which translates to economic development. They concluded that the generally assumed capital expenditure could become unproductive if the amount allocated to them is too small or too much. But Jiranyakul and Brahmasrene (2007), argued that there is no consensus yet in the literature about which government expenditure is productive or unproductive.

In developed countries, through economic stabilization, stimulation of investment activity and so on, government expenditure maintains a rate of growth which is a smooth one (Herath, 2022). In an underdeveloped country, public expenditure has an active role to play in reducing regional disparities, developing social overheads, creation of infrastructure of economic development in the form of transport and communication facilities, education and training ,growth of capital goods industries, basic and key industries, research and development and so on

2.1.6 Capital expenditures and economic development
According to Kimaro, Keong and Sea (2017), Government capital expenditure includes all government investment spending but excludes transfer payments made by a state. Government capital expenditure can be for acquisition of goods and services intended to create future benefits such as infrastructure investment and the expenditures can represent transfers of money, such as social salaries and cost of administration. Nnenna, Stanley and Ijeoma (2017), posit that

government expenditure is determined by rapid population growth and subsequent demographic transitions, increase in income and taste of the people in a country that had led to increase in demand for government goods and services, increase in technological requirements for industrialization, increase in urbanization, increase in inflation over time, balance in productivity growth between public and private sector, and the need to address natural disasters among other things.

2.2 THEORETICAL REVIEW
2.2.1 Keynesian theory
Keynesian theory was propounded by John M. Keynes in 1936). Keynesian theory state that increase in government budget has an expansionary effect on income and employment through the multiplier effects on economic development On the other side, government expenditure crowds out private investment as a result of increase in the rate of interest and this slows down economic growth and reduces the rate of capital accumulation in the long run. Keynes also considered government expenditure as an exogenous variable that contributes positively to economic development (Johnson and Wasiu, 2016). Hence, an increase in government expenditure would likely lead to increase in employment, per capita income, human capital development and economic development With the introduction of government expenditure (G) by Keynes, the national income determination model is expanded which becomes;
AD=C+I+G

Where,

AD represents aggregate demand which equals the sum of consumption (C), Investment (I), and government expenditure (G). The government expenditure has direct and positive impact on the GDP. An increase in government expenditure will boost aggregate demand, resulting in higher level of national income. All things being equal, an increase in government spending has an expansionary effect on output and income while a decrease has contractionary effect on output and income (Johnson and Wasiu, 2016).

The neoclassical growth models argued that government fiscal policy does not have positive effect on the growth of an economy. On the contrary a significant number of scholars have agreed that fiscal policy is a potent tool in promoting growth and improving failures arising from the inefficiencies of the market. Hence, government fiscal policy could be a vital tool of militating against failure arising from market inefficiencies (Johnson and Wasiu, 2016)

Keynesian theory relate to the study on the ground that the study stated that increases in government expenditure will likely lead to increase in economic development, per capita income and human capital development index of a particular country

2.3 EMPIRICAL REVIEW
Onifade, Çevik, Erdoğan, Asongu, and Bekun (2023), examined the impact of public expenditures on economic development in Nigeria. This was done with respect to capital expenditure, recurrent expenditure and the government fiscal expansion in line with support for the budgetary allocations to various sectors. They employed the use of Pesaran's ARDL approach to carry out the impact

analysis using annual time-series data from 1981 to 2017. The study empirical findings support the existence of a level relationship between public spending indicators and economic development in Nigeria. Incisively, recurrent expenditures of government were found to be significantly impacting on economic development in a negative way while the positive impacts of public capital expenditures were not significant to economic growth over the period of the study. Their results further reviewed that the Granger Causality Test shows that fiscal expansion of the government that is hinged on debt financing is strongly granger causing public expenditures and domestic investment with the latter also Granger causing real growth in the economy.

Duruibe, Chigbu, Ejezube, and Nwauwa, (2023), investigated the effect of government public expenditures on Nigeria's economic development using the sectorial economic function approach. They employed the real Gross Domestic Product (GDP) as a proxy for r economic development while government's expenditures on administrative services, economic services, social and community services, and transfers were used as the predictor variables in the study. Surprisingly, the results from the cointegration test and Vector Error Correction Model estimate reveal that all the predictor variables, apart from expenditure on administration, have a positive relationship with economic growth. While expenditures on economic services and social and community services have positive and significant relationship with economic growth, government transfers has a positive but insignificant relationship with economic development. Emphatically, expenditure on administrative services has a significant negative relationship with economic development

Amadi and Alolote (2023), examined the effects of government infrastructural expenditure on economic development in Nigeria. Secondary data sourced from reported annual spending on selected infrastructure and annual Gross Domestic Products were statistically analyzed. The data treatment used for the secondary data were unit root and co- integration tests using Augmented Dickey–Fuller and Phillip–Perron model. Weighted least square was also used to test the sample of 37-year annual time series using vector error correction model. The data analysis was done with descriptive statistics. Findings from the study revealed that, government spending on transport, communication, education, and health infrastructure have significant effects on economic growth; spending on agriculture and natural resources infrastructure recorded a significant inverse effect on economic growth in Nigeria. An element of fiscal illusion was observed in the government spending on agriculture and natural resources indicating that government is not contributing as much as the private sector in spending on agriculture and natural resources infrastructure in Nigeria.

Okere, Uzowuru & Amako (2022), examined the relationship between government expenditure and economic development in Nigeria. The main objective of the study is to determine the impact of government expenditure on the economic growth in Nigeria. Data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin and covers the period of 1981-2016. The Granger Causality method of econometric and error correction model (ECM) technique are used. The result for stationarity shows that the series are integrated at first difference 1(1). Johansen Cointegration test was also employed and reveals the existence of long-run relationship among the variables. The result of Granger Causality revealed bi-directional causality between economic growth and government expenditure on administration and between economic growth and government

expenditure on economic services. There is also a unidirectional causality between economic growth and Community Services. This study therefore recommends that government expenditure should be monitored. The audit should be carried on any project as this will act as a watch dog to the executive arm of the government. Effort should also be made to increase government funding on education and health to curtail the level of strike in our education and health sector.

2.4 Gap in Literature Reviewed

A lot of scholars have reviewed related works to this study. These include but not limited to Onifade, Çevik, Erdoğan, Asongu, and Bekun (2020), who examined the impact of public expenditures on economic development in Nigeria. Amadi and Alolote (2020), who examined the effects of government infrastructural expenditure on economic development in Nigeria. However, none of these scholars breakdown economic development into gross domestic product, per capital income and human capital development index , hence, there exist methodology gap in the study. This the gap the researcher   intend to fill.

METHODOLOGY

3.1 Research Design
This study used an ex-post facto research design. Ex-post facto is a systematic empirical enquiry in which the scientist does not have direct control of independent variables because they are inherently not manipulated. At the time of the study, the government expenditures have already taken place.

3.2 Sources of Data
In carrying out this research work, secondary sources of data was used. The sources include Central bank of Nigeria's statistical bulletins, Debt Management Office publications, journals, etc.

3.3 Model Specification
Gutak and Ogboro (2017), was modified by the researcher by adding one more model based on the stated objectives in chapter one of the study. Hence, the researcher model is sated below;
Model 1: $GDP_t = B_0 + B_1 CE_t + B_2 RE_t + u_t$
Model 2: $PCI_t = B_0 + B_1 CE_t + B_2 RE_t + u_t$
Where:
> GDP = Gross Domestic Product,PC = Per Capita Income, CE = Capital Expenditure, RE = Recurrent Expenditure ,B_0 = Unknown constant to be estimate, B_1 - B_2 = Unknown coefficients to be estimated, U_t = Stochastic error term

3.4   Data Analysis Techniques
The study adapted the empirical methodological framework. The data obtained was tabulated and statistically analysed using the e-view version 10. The valida

Table 3.1 Measurement of Variables

Variable	Type	Acronym	Measurement
Capital expenditure	Independent	CE	Logarithm value of capital expenditure reported in CBN statistical bulletin
Recurrent expenditure	Independent	RE	Logarithm value of recurrent expenditure reported in CBN statistical bulletin
Gross domestic product	Dependent	GDP	Value of GDP of current yr minus that of the previous year, divided by the value of the previous yr.
Per capital income	Dependent	PCI	Value of PCI of current yr minus that of the previous year, divided by the value of the previous yr.

DATA PRESENTATION AND ANALYSIS

4.2   Data Analysis

4.2.2 Stationarity/ unit root tests

Table 4.1: Summary of ADF test results

Variables	ADP @ Level 1(0) T-Stat	P-Value	ADF@ First Diff 1(1) T-stat	P-Value Integration	T-Stat	p-Value	Order of
GDP	-0.776118	0.9919	-1.892952	0.330	-0.774463	0.000	1(2)
PCI	-2.557579	0.1124	-6.212149	0.000			1(1)
CE	-1.938429	0.3112	-4.116563	0.0034			1(1)
RE	-1.657266	0.4411	-11.72980	0.0000			1(1)

Source: EViews computations, (2022).

The results of the ADF test revealed that some of the variables were integration of order one i.e. I(0), I(1 and 1(2),   For instance, the ADF test results showed that the HDI was stationary at level 1(0),, PCI, CE and RE were all stationary at first difference 1(1) while GDP was stationary at second difference 1(2). Hence, the Johansen co-integration and vector error correction mechanism was applied.

4.2.3 Cointegration test results

H$_{01}$: There is no long-run relationship government expenditure and gross domestic product.
Table 4.2: Cointegration test
Series: GDP CE RE
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.368967	27.28271	29.79707	0.0949
At most 1	0.349831	13.47082	15.49471	0.0986
At most 2	0.018334	0.555112	3.841466	0.4562

Trace test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

We have just one asterisk where the trace statistic is greater than the critical value. Since none of the variables is cointegrated where the trace statistic is less than the critical value we can say that there is no co-integrating equation. This indicates the possibility of accepting the null hypothesis that says there are no co-integrating vectors at 5 percent level of significance. This implies that there is no long run relationship between government expenditure and gross domestic product. This implies that there is need to carry out an error correction model.

H$_{02}$: There is no long-run relationship between government expenditure and per capital income.
Table 4.3: Cointegration test
Series: PCI CE RE
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.381595	24.81930	29.79707	0.1680
At most 1	0.292473	10.40094	15.49471	0.2511
At most 2	0.000718	0.021542	3.841466	0.8832

Trace test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

We have no asterisk where the trace statistic is greater than the critical value. Since in all situation the trace statistic is less than the critical value we can say that there is no co-integrating equation. This indicates the possibility of accepting the null hypothesis that says there are is a co-integrating vectors at 5 percent level of significance. This implies that there is no long run relationship between government expenditure and per capital income. Hence, there is need to carry out an error correction model.

4.3.1 Model 1: Testing for the effect of capital expenditure and recurrent expenditure on gross domestic product of Nigeria.

Table 4.3: Long run and short run shocks correction for model 1

Long run equilibrium	Coefficient	Short run equilibrium	Coefficient
GDP (-1)	1.0000	GDP (-1)	-0.050541
CE (-1)	0.089267	CE (-1)	0.102433
RE (-1)	0.297458	RE (-1)	0.252608
Cont Eq	0.103727		

Source: Extracted from table 15 in appendix 1

Table 4.8 above presents result of the long run and short run shocks correction for model 1 to test for long run and short run shocks correction as a result of non co-integration of the data set in model 1 above. The various coefficient values of the short run equilibrium is compared against the long run equilibrium to ascertain the level of bounce backs in addressing non long run co-integration issues of the model.

After 1st differences, the adjustment coefficient (Cont Eq) value of 0.103727 shows that, the previous period deviation from long run equilibrium is corrected in the short run at an adjustment increased speed of 0.103727. For CE coefficient, a unit change in CE is associated with a 0.102433 unit increase in GDP in the short run *Ceteris Paribus* against the long run coefficient of 0.089267. For RE coefficient, a unit change in RE is associated with a 0.252608 unit increase in GDP in the short run *Ceteris Paribus* against the long run coefficient of 0.297458.

Table 4.4: Error Correction Model Regression for Model 1

VAR Variable	Coefficient	Probability	Statistic	Value
GDP (C2)	0.040866	0.8795	R^2	0.034998
CE (C3)	0.154995	0.5226	R^2 Adjusted	-0.119402
RE (C4)	-0.068647	0.6365	Fisher Statistic	0.226670
Constant (C5)	-0.048666		F Probability	0.920880
			DW	1.846341

Source: Extracted from Tables 16 in Appendix 1

To ensure that the set of data was free from serial auto-correlation, the Durbin Watson statistic for the model specified was computed. The Durbin Watson statistics for the model specified is estimated at 1.846341. The Durbin Watson statistics for the series data is below the standard of 2 indicating the absence of auto-correlation. The Durbin Watson statistics ensures that the residuals of the proceeding and succeeding sets of data do not affect each other to cause the problem of auto-correlation. Gujarati and Sangeetha (2007) explained that the value for Durbin Watson should not be above the standard of 2. Thus, this model exhibit low risk of potential autocorrelation problem as the model shows a DW statistics below 2.

For model fitness, the R^2 value is used to establish the level of overall fluctuation the study independent variables (CE and RE) can collectively cause GDP as the dependent variable to change. The R square value of 0.034998 shows that CE and RE cause GDP to fluctuate at approximately 3.5%; this means that 96.5% fluctuation of Nigerian GDP is caused by other factors not considered in this study. The R^2 adjusted value of -0.1194 revealed shows that, there will be a 0.35 (0.035 – -0.1194) variation from the sampled result of R square if the other omitted factors are considered. The Fisher statistic reveal a value of 0.226670 with a probability value of 0.920880 which prove that the model is statistically insignificant.

The constant value of -0.048666 revealed that, if all the independent variables are held constant, the GDP value of will decrease by 0.048666. Furthermore, a unit change in CE and RE will cause GDP to change at 0.154995 and -0.068647 units respectively.

Ho₁: Government expenditure (capital expenditure, recurrent expenditure) has no significant effect on change in gross domestic product in Nigeria.

Since the calculated Probability values for CE against GDP is 0.920880; which is greater than the accepted probability value of 0.05. The null hypothesis is accepted and the alternative rejected. Therefore, government expenditure (capital expenditure, recurrent expenditure) has no significant effect on change in gross domestic product in Nigeria.

4.3.2 Model 2: Testing for the effect of capital expenditure and recurrent expenditure on per capital income of Nigeria.

Table 4.5: Long run and short run shocks correction for Model 2

Long run equilibrium	Coefficient	Short run equilibrium	Coefficient
PCI (-1)	1.000000	PCI (-1)	-0.312509
CE (-1)	0.045430	CE (-1)	-0.106047
RE (-1)	0.299322	RE (-1)	-0.188630
Cont Eq	-0.446624		

Source: Extracted from table 17 in Appendix 1

Table 4.5 above present result of the long run and short run shocks correction for model 2 to test for long run and short run shocks correction as a result of non-co-integration of the data set in model 2 above. The various coefficient values of the short run equilibrium is compared against the long run equilibrium to ascertain the level of bounce backs in addressing non-long run co-integration issues of the model.

After 1st differences, the adjustment coefficient (Cont. Eq) value of -0.446624 shows that, the previous period deviation from long run equilibrium is corrected in the short run at an adjustment speed of -0.446624. For CE coefficient, a unit change in CE is associated with a 0.106047 unit decrease in PCI in the short run *Ceteris Paribus* against the long run coefficient of 0.045430. For RE coefficient, a unit change in RE is associated with a 0.188630 unit decrease in PCI in the short run *Ceteris Paribus* against the long run coefficient of 0.299322.

Table 4.6: Error Correction Model Regression for Model 2

VAR Variable	Coefficient	Probability	Statistic	Value
PCI (C2)	-0.203408	0.3710	R^2	0.482913
CE (C3)	-0.053910	0.8409	R^2 **Adjusted**	0.400180
RE (C4)	-0.401746	0.0082	**Fisher Statistic**	5.836950
Constant (C5)	0.006366		**F Probability**	0.001849
			DW	1.633471

Source: Extracted from Tables18 in Appendix 1

To ensure that the set of data was free from serial auto-correlation, the Durbin Watson statistic for the model specified was computed. The Durbin Watson statistics for the model specified is estimated at 1.633471. The Durbin Watson statistics for the series data is below the standard of 2 indicating the absence of auto-correlation. The Durbin Watson statistics ensures that the residuals of the proceeding and succeeding sets of data do not affect each other to cause the problem of auto-

correlation. Gujarati and Sangeetha (2007) explained that the value for Durbin Watson should not be above the standard of 2. Thus, this model exhibit low risk of potential autocorrelation problem as the model shows a DW statistics below 2.

For model fitness, the R^2 value is used to establish the level of overall fluctuation the study independent variables (CE and RE) can collectively cause PCI as the dependent variable to change. The R square value of 0.48 shows that CE & RE cause PCI of Nigeria to fluctuate at approximately 48%; this means that 52% fluctuation of Nigeria PCI is caused by other factors not considered in this study like. The R^2 adjusted value of 0.40 revealed shows that, there will be a 0.08 (0.48 – 0.40) variation from the sampled result of R square if the other omitted factors are considered. The Fisher statistic reveals a value of 5.836950 with a probability value of 0.001849 which showed that the model is statistically significantly.

The constant value of 0.006366 revealed shows that, if all the independent variables are held constant, the PCI value of Nigeria will increase by 0.006366. Furthermore, a unit change in CE and RE will cause PCI to change at -0.053910 and -0.401746 units respectively.

Ho2: Government expenditure (capital expenditure, recurrent expenditure) has no significant effect on change in per capita income in Nigeria.

To test the significance of the individual variables, the decision rule stated in chapter 3 is used. Since the calculated Probability values for CE and RE against PCI is 0.001849; which is less than the accepted probability value of 0.05. The null hypothesis is rejected and the alternative rejected. Therefore, government expenditure (capital expenditure, recurrent expenditure) has a significant effect on change in per capita income in Nigeria.

4.4 Discussion On Findings
The findings from hypothesis one revealed that government expenditure (capital expenditure, recurrent expenditure) has no significant effect on change in gross domestic product in Nigeria. The finding is consistent to the findings of Duruibe, Chigbu, Ejezube, and Nwauwa, (2020), that investigated the effect of government public expenditures on Nigeria's economic growth and development using the sectorial economic function approach. They employed the real Gross Domestic Product (GDP) as a proxy for economic growth while government's expenditures on administrative services, economic services, social and community services, and transfers were used as the predictor variables in the study. The result showed that expenditures on economic services and social and community services have positive and significant relationship with economic growth, government transfers has a positive but insignificant relationship with economic growth. Emphatically, expenditure on administrative services has a significant negative relationship with economic growth.

The finding from hypothesis two revealed that government expenditure (capital expenditure, recurrent expenditure) has a significant effect on change in per capita income in Nigeria. The findings is contrary to the findings of Onifede (2020), who examined the relationship between public spending indicators and economic growth in Nigeria using annual time-series data from 1981 to 2017. The study was carried out using secondary data. The data were analyzed using regression analysis. Empirical findings support the existence of a level relationship between public

spending indicators and economic growth in Nigeria. Incisively, recurrent expenditures of government were found to be significantly impacting on economic growth in a negative way while the positive impacts of public capital expenditures were not significant to economic growth over the period of the study. Also, Okere, Uzowuru & Amako (2020), examined the relationship between government expenditure and economic growth in Nigeria. The main objective of the study is to determine the impact of government expenditure on the economic growth in Nigeria.

CONCLUSION AND RECOMMENDATIONS

5.1.Summary of Findings

The following are the summary of the major findings of this study arrived at through the test of the research hypotheses earlier formulated in this study.

Government expenditure (capital expenditure, recurrent expenditure) has no significant effect on change in gross domestic product in Nigeria.

Government expenditure (capital expenditure, recurrent expenditure) has a significant effect on change in per capita income in Nigeria.

5.2.Conclusion

The study has established that government spending in the Nigeria economy increases the level of output. It shows the expenditure of the public authority is aimed at protecting the citizen and promoting their economic and social welfare. Government spending raises national income and economic stabilization. In the light of that, this study concludes that Gvernment expenditure (capital expenditure, recurrent expenditure) has no significant effect on change in gross domestic product in Nigeria aGovernment expenditure (capital expenditure, recurrent expenditure) has a significant effect on change in per capita income in Nigeria.

5.3. Recommendations

Nigerian Government should as matter of urgency make proper use of capital and recurrent expenditure to enhance the real gross domestic product in the country

Nigerian Government should also ensure funds allocated to capital expenditure are properly utilize to the benefit of the citizenly since this will enhance the per capita income of the country

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