Government Capital Expenditure and Economic Growth in Nigeria: A Disaggregated Analysis (1981-2021)

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ABSTRACT

The study examined the nexus between government capital expenditure and economic growth in Nigeria for the period 1981 to 2021. Nigerian economy is facing challenges of dwindling revenue from crude oil on which the country highly rely for sustenance and inadequate diversification of the productive sectors of the economy. This economic downturn is adversely affecting funding of projects hence there is reliance on borrowing to help finance her infrastructural needs. This could be why the desired economic growth is not being observed. The dependent variable was gross domestic product, while independent variables were administration, social & community services, economic services and transfers capital expenditures. The specific objectives were to determine the relationship of: administration capital expenditure (ADCAEXP) and gross domestic product; social & community services capital expenditure (SCSCAEXP) and gross domestic product; economic services capital expenditure (ESCAEXP) and gross domestic product and transfers capital expenditure (TRCAEXP) and gross domestic product. The model used was $GDP_t = b_0+b_1 ADCAEXP_t+b_2 SCSCAEXP_t+b_3 ESCAEXPt+b_4 TRCAEXP + e_t$. *The research design was ex-post-facto, data sourced from the CBN statistical bulletin and analyzed using ordinary least square regression. The hypotheses were tested at 5% level of significance using Eviews10 software. The findings showed that administration capital expenditure had positive and significant effect (prob. - 0.0114) on gross domestic product; social & community services capital expenditure had negative and non-significant effect (prob. – 0.8073) on gross domestic product; economic services capital expenditure had negative and non-significant effect (prob. – 0.2325) on gross domestic product; transfers capital expenditure had a positive and significant effect (prob. 0.0028) on gross domestic product. Also, the R-squared value was 0.8957. The probability f-statistic value showed 0.000000, which implied that the independent variables are jointly significant to gross domestic product in Nigeria for the period reviewed. The researchers hence recommended among others*

that: (1) The Nigerian government should ensure proper channeling of her social & community services capital expenditures to the relevant sub-sectors so as to trigger production of goods and services hence stimulating economic growth. (2) The Nigerian government should ensure that her capital expenditure on economic services should be properly channeled and monitored to help achieve economic growth in Nigeria. (3) Capital expenditures therefore need to be properly monitored, evaluated before approval to avoid fraud, misappropriation and wastages.

Introduction:

Government expenditure comprises all government consumption and investment (Barro & Grilli as cited in Oyediran, Sanni, Adedoyin & Oyewole., 2016, p. 2). It can also be referred to as government spending in the various sectors of the economy. This spending is broadly classified into capital expenditure and recurrent expenditure. Government capital expenditure are payments for acquisition of fixed capital assets, stock, land or intangible assets. In other words, capital expenditure are government spending on capital projects or activities that will lead to future generation or production of goods and services in the economy. Government capital expenditures are divided into four sectors namely: general administration, social & community services, economic services and transfers. Such expenditures are meant to be carried out over some years depending on how big the government project is. Kimberly (as cited in Odubuasi, Ifurueze, & Ezeabasili, 2020, p. 4) defined economic growth is an increase in the productive capacity of a state in terms of production of goods and services over a specific period of time.

Government expenditure stimulates aggregate demand and causes some real gross domestic product (GDP) growth. This leads to job creation and more workers earns more income. The new income hence spurs consumer spending which drives aggregate demand upwards and causes additional real GDP growth.

The general view is that public expenditure either recurrent or capital expenditure, notably on social and economic infrastructure can be growth-enhancing. Nevertheless, financing of such expenditure if not properly managed can retard growth. Understanding the linkages between government expenditure and economic growth has raised huge debates theoretically and empirically. It is therefore necessary for governments to review the relationship of her expenditure and economic growth. This is crucial because it is a common belief that the government plays a significant role in the development of a country. Increase in government expenditure may result in

the growth of the economy by increasing the national income, especially when it is injected in development programs.

Nigerian government capital expenditure have been on the rise due to the increased demand for public goods (utilities) like roads, communication facilities, power, education and health. In addition, there is increasing need to provide both internal and external security for the people and the nation. Unfortunately, this rising expenditure has not translated into meaningful growth and development, as Nigeria ranks among the poor countries in the world. It is therefore seen as a paradox that despite the rising levels of government expenditure, which in most cases are financed through local and international debts, many Nigerians are yet to feel the real effect of this rising expenditure.

Most of the previous studies on the subject area have focused on examining the impact of total government expenditure or capital and recurrent expenditures on economic growth. This study however, assessed the growth nexus of components of government capital expenditure on gross domestic product of Nigeria. It is however worthy to note that some government expenditure are based on political consideration instead of on concise economic considerations. Olukoye (as cited in Oyediran et al., 2016, p. 1) further stated that public expenditure which can be recurrent or capital have the capability to enhance the nation's economic growth in as much as it is expended on socio-economic facilities. Oyediran et al (2016) further added that the determinant of how effective government expenditure is as it concerns economic expansion cum growth is dependent largely on whether it is productive or not.

Most scholars in this area of study are of the opinion that government public expenditure on socio-economic and physical infrastructure leads to economic growth. Despite the forgoing assertion, it appears that Nigeria is facing serious difficulties in programming and management of her public expenditure. Government expenditure is an important macro-economic management tool that help control demand and money supply in Nigerian economy. It can help put an economy on the positive trajectory to sustainable growth and development if it is well managed. It helps government provide fundamental infrastructural facilities needed for growth in health, education, power, agriculture, transportation, road construction, etc. Prudent government spending through an efficient allocation of its resources to the different sectors of the economy can be veritable tool for stimulating economic growth.

The pattern of government expenditure over the years seem not to have achieved this aim of growth as expected (Akanbi as cited in Odubuasi et al., 2020, p. 3). Nigerian economy is facing challenges of dwindling revenue from crude oil on which the country highly rely for sustenance. This economic downturn is adversely affecting Nigerian government who now rely more on borrowing to help finance her infrastructural needs, hence leading to inadequate funding of her projects. It seems as if the desired growth and development is not being seen in the economy due to non-proper utilization of government capital expenditures in the right way.

It is expected that government expenditure increase will stimulate aggregate demand in the economy leading to growth of real GDP. The after effect of this growth includes job creation, increased output among others. Public expenditure as one of the instrument of fiscal policy influences economic activities in desired ways with the allocation of resources and their use for the attainment of stability and growth. Due to the forgoing expectation, Akpokerere and Ighoreje (2013) opined that it is disheartening that the level of government expenditure seems not to have been replicated in Nigeria economic growth.

The huge government expenditure seem not to be reflecting in the economy as we are still faced with poor power supply, bad roads, white elephant projects, abandoned projects, unproductive projects, devaluation of the naira, high dependence on imports, misappropriation, corruption. The forgoing has led to closure of companies, high unemployment rate, poor standard of living. It is against this backdrop that this study examined the disaggregated relationship of government capital expenditure and economic growth in Nigeria for the period 1981 to 2021.

The broad objective of the study was to assess the growth nexus of government capital expenditure and economic growth in Nigeria for the period 1981 to 2021.

Specifically the study was carried out to: ascertain the relationship between administration capital expenditure and gross domestic product in Nigeria; assess the relationship between social & community services capital expenditure and gross domestic product in Nigeria; ascertain the relationship between economic services capital expenditure and gross domestic product in Nigeria; examine the relationship between transfers capital expenditure and gross domestic product in Nigeria.

This led to the formulation of four research hypotheses expressed in null forms as: there

was no positive and significant relationship between administration capital expenditure and gross domestic product in Nigeria; there was no positive and significant relationship between social & community services capital expenditure and gross domestic product in Nigeria; there was no positive and significant relationship between economic services capital expenditure and gross domestic product in Nigeria; there was no positive and significant relationship between transfers capital expenditure and gross domestic product in Nigeria.

This study covered the period from 1981 to 2021 (41 years) and used four independent variables and one dependent variable.

Conceptual review

John (2017) opined that government expenditure refers to expenses incurred by the government for the statutory maintenance and provision of public welfare, goods, services and works needed to foster or promote economic growth and improve the wellbeing of its citizens in the society. Odubuasi *et al* (2020) stated that government expenditure can be incurred to acquire goods and services for current use or on those intended to create future economic benefits such as infrastructure and investment. Capital expenditure hence can be seen as investments that should increase assets of the state and as such lead to economic growth and development. It is meant to be carried out over some years depending on how big the government project is.

Oyediran et al (2016) defined public expenditure as the value of goods and services provided through the public sector. They further explained that capital expenditure on its part is government spending on tangible non-current assets which are for the purchase or investment in items that will be in use for years and be for the provision of goods and services. Government expenditure are expected to enhance the provision of essential amenities and infrastructures as good roads, security, education pipe borne water, health, electricity, etc. Oyediran et al (2016).

Capital expenditure refers to the amount spent in the acquisition of fixed (productive) assets (whose useful life extends beyond the accounting or fiscal year), as well as expenditure incurred in the upgrade/improvement of existing fixed assets such as lands, building, roads, machines, equipment, intangible assets (John, 2017). It is therefore expenditure that we expect should create future benefits as there could be some time difference between when it is incurred and when its effect is felt in the economy. Anyiwe and Oziegbe (as cited in Yerima, Nymphas, Sani, Auta,

Amos, & Abwage, 2022, p. 4) opined that economic growth connotes increase in outputs in various sectors, national product, national income, improved level of technology, health, education and urbanization. It is imperative therefore, that government expenditure is one of the key determinants of not just the size of any economy but of economic growth as well. It is expected accordingly that productive government expenditure would have positive and significant effect on economic growth.

Government capital expenditure is divided into four sectors namely: general administration, social & community services, economic services and transfers. The general administration covers defence, internal security and national assembly; social & community services covers education, health, other social & community service; economic services covers agriculture, road & construction, transport & communication, other economic services while transfers covers public debt servicing, pensions & gratuities, FCT/other CFR charges, contingencies/subventions.

Theoretical Review

The theoretical underpinning of this work is the Wagner's Law of increasing state activity which was developed by the German political economist - Adolph Wagner. The proponent of the theory had argued that government growth is a function of increased industrialization and economic development. Also, that public spending is an endogenous factor, which is determined by the growth of national income, that is, as national income increases it will cause public expenditure to increase. The Wagner's Law tends to be a long-run phenomenon: the longer the time-series, the better the economic interpretations and statistical inferences. Government public expenditure therefore is seen as an endogenous factor not exogenous (Ogar, Eyo, & Arikpo, 2019).

Empirical Review

Yerima *et al* (2022) in their study assessed the impact of government expenditure on economic growth in Nigeria for the period 1986 to 2020. They obtained time series data for the study and used structural vector auto-regression (SVAR) model as well as pair-wise causality test. They found out that government expenditure in health and education had an insignificant impact

on economic growth while public debt had an insignificant impact on economic growth for the period reviewed.

Aluthge, Jibir and Abdu (2021) investigated the impact of Nigerian government expenditure (capital and recurrent) on economic growth for the period 1970 to 2019. Data was obtained from CBN statistical bulletin. The independent variables were capital and recurrent expenditures while the dependent variable was gross domestic product growth rate. The autoregressive distributed lag (ARDL) model was used for the analysis. They found out that capital expenditure had positive and significant impact on economic growth both on the short and long-run, while recurrent expenditure does not have significant impact on economic growth in the short-run and long-run.

Bennee, Okoye and Amahalu (2021) ascertained the relationship between public expenditure and economic growth in Nigeria. They obtained data from CBN bulletin and NBS. The dependent variable was real gross domestic product while independent variables were health care expenditure and national defence. They adopted longitudinal (ex-post-facto) research design. Regression analysis was used to test the data using Eviews10 software. They found out that a significant and positive relationship exist between national defense expenditure and real gross domestic product, while a negative and non-significant relationship exist between health care expenditure and real gross domestic product for the period reviewed.

Onifade, Cevik, Erdogen, Asongu and Bekun (2020) did an empirical retrospect of the impacts of government expenditure on economic growth in Nigerian for the period 1981-2017. The independent variables used were capital expenditure, recurrent expenditure and government fiscal expansion. Pesaron's ARDL approach was used to analyse the time series data obtained. They found out that recurrent expenditure had significant impact on economic growth, while public capital expenditure had positive but non-significant impact on economic growth.

Odubuasi, Ifurueze and Ezeabasili (2020) assessed the effect of government expenditure on economic growth in Nigeria for the period 2004 to 2018. Time series data was used for the analysis. The independent variables were recurrent expenditure, expenditure on highways, safety costs and education costs, while the dependent variable was real gross domestic product. Ex-post-facto research design was adopted and regression model used for the analysis. They found out that government expenditure on highway and safety had positive and significant effect; recurrent

expenditure had positive but non-significant impact; expenditure on education had a negative sign and was non-significant to economic growth for the period reviewed.

Ogar, Eyo and Arikpo (2019) assessed the impact of government expenditure on the economic growth of Nigerian. Their independent variables were capital expenditure, recurrent expenditure and fiscal deficit, while the dependent variable was gross domestic product. They used ex-post-facto research design and sourced secondary data from the Central Bank Nigeria statistical bulletin. Data was analysed using the VAR technique. Their findings showed that government capital expenditure had a positive but insignificant effect; government fiscal deficit had insignificant negative effect while government recurrent expenditure had an insignificant positive effect on the growth of the Nigerian economy for the period reviewed.

Oyediran, Sanni, Adedoyin and Oyewole (2016) ascertained the relationship between government expenditure and economic growth in Nigeria. The study employed ordinary least square (OLS). Dependent variable was GDP, while independent variables were capital expenditure (CAPEXP) and recurrent expenditure (REXP). Time series data for the period 1980 to 2013 were collected from National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN) statistical bulletin. Their findings showed that government expenditure had significant relationship with economic growth.

Ebong, Ogwumike, Udongwo and Ayodele (2016) examined the impact of government capital expenditures on economic growth in Nigeria using time series data for the period 1970 to 2012. The independent variables used to proxy capital expenditure were agriculture, education, health, economic infrastructure, while GDP proxied economic growth. The OLS technique was used to analyze the data. They found out that capital expenditures on agriculture did not exert any significant influence on growth; health capital expenditures had negative and insignificant effect; expenditures on economic infrastructure had significant positive impact.

Methodology

The *"ex-post facto"* research design was adopted in this study. Quantitative time series annual data as regards the Nigerian economy was sourced from Central Bank of Nigeria statistical bulletin, 2021 edition. The secondary data used was for the period 1981 to 2021. The study used multiple regression model and the relationship expressed as:

$Y_t = b_0+b_1X_1+b_2X_2+b_3X_3 \ldots + bnXn + e$

Where: Y = dependent variable
b_0 = intercept term
b_1, b_2, b_3 = parameters or coefficients of the model
X_1, X_2, X_3 = independent or explanatory variables.
e = error term

The functional relationship of effect of government capital expenditure on Nigeria's economic growth can be specified in the following model:

GDP = f(ADCAEXP, SCSCAEXP, ESCAEXP, TRCAEXP)

The models were explicitly defined as follows:

$GDP_t = b_0+b_1 ADCAEXP_t+b_2 SCSCAEXP_t+b_3 ESCAEXPt+b_4 TRCAEXP + e_t$

Where:

GDP = Gross domestic product

ADCAEXP = Administration capital expenditure

SCSCAEXP = Social and community services capital expenditure

ESCAEXP = Economic services capital expenditure

TRCAEXP = Transfers capital expenditure

The independent variables used to proxy capital expenditure were administration (ADCAEXP), social & community services (SCSCAEXP), economic services (ESCAEXP) and transfers (TRCAEXP) while gross domestic product (at current basic prices) was the dependent variable and used to proxy economic growth.

Administration capital expenditure (ADCAEXP) is total government administration expenditure on general administration, defence, internal security, national assembly. Social and community services capital expenditure (SCSCAEXP) is total government capital on education, health, other social and community services. Economic services capital expenditure (ESCAEXP) is total government capital expenditure on agriculture, road & construction, other economic services. Transfers capital expenditure (TRCAEXP) is total government capital expenditure on public debt, debt servicing, pensions & gratuities, FCT/other CFR charges, contingencies/subventions. Gross domestic product (GDP) is the total output of goods and services produced in the Nigerian economy for a given period of time usually one year.

Ordinary least square regression analysis was used to test the hypothesis at 5% level of significance. The processing software used was Eviews10. The *a priori* expectations of the study

are that the independent variables (ADCAEXP, SCSCAEXP, ESCAEXP and TRCAEXP) will have positive and significant effect on the dependent variable (GDP).

Decision Criteria: The hypotheses were tested based on 5% level of significance. The decision rule was to accept the null hypothesis if the t-statistic is less than 2.0 or p-value greater than 0.05. Null hypothesis was rejected if the t-statistic is greater than 2.0 or p-value is less than 0.05.

Presentation of Data:

The table below showed the data obtained for the dependent and independent variables.

YEAR	ADCAEXP (₦'B)	SCSCAEXP (₦'B)	ESCAEXP (₦'B)	TRCAEXP (₦'B)	GDP (₦'B)
1981	0.72	1.30	3.63	0.92	139.31
1982	0.39	0.97	2.54	2.52	149.05
1983	1.10	1.03	2.29	0.47	158.75
1984	0.26	0.24	0.66	2.94	165.85
1985	0.46	1.15	0.89	2.96	187.83
1986	0.26	0.66	1.10	6.51	198.12
1987	1.82	0.62	2.16	1.78	244.68
1988	1.90	1.73	2.13	2.59	315.62
1989	2.62	1.84	3.93	6.65	414.86
1990	2.92	2.10	3.49	15.55	494.64
1991	3.35	1.49	3.15	20.36	590.06
1992	5.12	2.13	2.34	30.18	906.03
1993	8.08	3.58	18.34	24.50	1,257.17
1994	8.79	4.99	27.10	30.04	1,768.79
1995	13.34	9.22	43.15	55.44	3,100.24
1996	14.86	8.66	117.83	71.58	4,086.07
1997	49.55	6.90	169.61	43.59	4,418.71
1998	35.27	23.37	200.86	49.52	4,805.16
1999	42.74	17.25	323.58	114.46	5,482.35
2000	53.28	27.97	111.51	46.70	7,062.75
2001	49.25	53.34	259.76	76.35	8,234.49

2002	73.58	32.47	215.33	0.00	11,501.45
2003	87.96	55.74	97.98	0.01	13,556.97
2004	137.77	30.03	167.72	15.73	18,124.06
2005	171.57	71.36	265.03	11.50	23,121.88
2006	185.22	78.68	262.21	26.27	30,375.18
2007	226.97	150.90	358.38	23.04	34,675.94
2008	287.10	152.17	504.29	17.33	39,954.21
2009	291.66	144.93	506.01	210.20	43,461.46
2010	260.20	151.77	412.20	59.70	55,469.35
2011	231.80	92.85	386.40	207.50	63,713.36
2012	190.50	97.40	320.90	265.90	72,599.63
2013	283.65	154.71	505.77	164.27	81,009.96
2014	229.63	111.29	393.45	48.75	90,136.98
2015	226.81	82.98	348.75	159.82	95,177.74
2016	147.72	68.80	278.95	158.14	102,575.42
2017	328.94	167.66	542.19	203.51	114,899.25
2018	446.25	203.42	753.49	278.94	129,086.91
2019	591.26	264.69	994.19	438.86	145,639.14
2020	417.14	186.74	701.40	309.61	154,252.32
2021	635.73	303.66	1,102.46	480.61	176,075.50

Source: CBN statistical bulletin

Descriptive Statistics

	GDP	ADCAEXP	SCSCAEXP	ESCAEXP	TRCAEXP
Mean	37550.91	140.1835	67.62812	254.0765	89.88425
Median	8234.494	53.27950	30.03252	200.8619	30.17550
Maximum	176075.5	635.7288	303.6626	1102.465	480.6115
Minimum	139.3105	0.262700	0.237600	0.656300	0.000000
Std. Dev.	50434.86	167.3193	80.03301	277.2859	121.2011
Skewness	1.284324	1.293415	1.185235	1.278570	1.703950
Kurtosis	3.459285	4.102039	3.634651	4.326509	5.253613
Jarque-Bera	11.63186	13.50638	10.28743	14.17676	28.51644
Probability	0.002980	0.001167	0.005836	0.000835	0.000001
Sum	1539587.	5747.525	2772.753	10417.13	3685.254
Sum Sq. Dev.	1.02E+11	1119830.	256211.3	3075499.	587588.6

Observations	41	41	41	41	41

The descriptive statistics showed a mean value of 77,550.91; 140.1835; 67.62812; 254.0765 and 89,88425 for gross domestic product, administration capital expenditure, social and community services capital expenditure, economic services capital expenditure and transfers capital expenditure respectively. The data used was for a period of 41years.

Regression output and interpretation.

Dependent Variable: GDP
Method: Least Squares
Date: 08/16/23 Time: 18:53
Sample: 1981 2021
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-237.7909	3753.345	-0.063354	0.9498
ADCAEXP	305.3656	114.5290	2.666273	0.0114
SCSCAEXP	-51.49996	209.6165	-0.245687	0.8073
ESCAEXP	-63.47059	52.26137	-1.214484	0.2325
TRCAEXP	162.3276	50.61368	3.207188	0.0028

R-squared	0.895724	Mean dependent var	37550.91
Adjusted R-squared	0.884138	S.D. dependent var	50434.86
S.E. of regression	17167.27	Akaike info criterion	22.45325
Sum squared resid	1.06E+10	Schwarz criterion	22.66222
Log likelihood	-455.2916	Hannan-Quinn criter.	22.52934
F-statistic	77.30959	Durbin-Watson stat	1.240442
Prob(F-statistic)	0.000000		

Estimation Command:
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LS GDP C ADCAEXP SCSCAEXP ESCAEXP TRCAEXP

Estimation Equation:
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GDP = C(1) + C(2)*ADCAEXP + C(3)*SCSCAEXP + C(4)*ESCAEXP + C(5)*TRCAEXP

Substituted Coefficients:
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GDP = -237.790920673 + 305.365640865*ADCAEXP - 51.4999624979*SCSCAEXP - 63.4705896542*ESCAEXP + 162.327594479*TRCAEXP

The analysis showed that the constant coefficients of B was -237.790920673.

In view of the model used for this study:

$GDP_t = b_0 + b_1\ ADCAEXP_t + b_2\ SCSCAEXP_t + b_3\ ESCAEXPt + b_4\ TRCAEXP + e_t$ ……

The summary of the linear regression result obtained from the study can be stated as:

GDP = -237.790920673 + 305.365640865*ADCAEXP -51.4999624979*SCSCAEXP -63.4705896542*ESCAEXP + 162.327594479*TRCAEXP ……

The above regression model on the effect of government capital expenditure on economic growth of Nigeria showed that GDP averages -237.79 over time. Keeping all other variables constant except administration capital expenditure, a unit change in administration capital expenditure will result to a 305.37 increase in gross domestic product. Barring all other variables constant except social & community services capital expenditure, a unit change in social & community services capital expenditure will result to a 51.50 decrease in gross domestic product. Keeping all other variables constant except economic services capital expenditure, a unit change in economic services capital expenditure will result to a 63.47 decrease in gross domestic product. Also, keeping all other variables constant except transfers' capital expenditure, a unit change in transfers' capital expenditure will result to a 162.33 increase in gross domestic product.

The regression analysis showed the probability values of the independent variables of administration capital expenditure (0.0114), social and community services capital expenditure (0.8073), economic services capital expenditure (0.2325) and transfers capital expenditure (0.0028). The R-squared value of 0.895724 which implies that 89.6% changes in the dependent variable (gross domestic product) are explained or influenced by the independent variables (administration capital expenditure, social and community services capital expenditure, economic services capital expenditure and transfers capital expenditure). The probability (f=statistic) value of 0.000000 showed that the independent variables are jointly significant to gross domestic product. The F-statistic regression value is 77.30959. The Durbin Watson statistic value of 1.249442 is closer to 2 than 0 thereby signifying that there is no first order correlation among successive residuals.

Test of Hypotheses

Decision rule: Accept the null hypothesis if the significance probability value is greater than the level of significance (5%), otherwise reject.

Summary statistics for hypothesis testing:

Hypothesis	Variable	Coefficient	Std. Error	t-statistic	Probability	Decision
One	ADCAEXP	305.3656	114.5290	2.666793	0.0114	Reject null
Two	SCSCAEXP	-51.49996	209.6165	-0.245687	0.8073	Accept null
Three	ESCAEXP	-63.47059	52.26137	-1.214484	0.2325	Accept null
Four	TRCAEXP	162.3276	50.61368	3.207188	0.0028	Reject null

Hypothesis One: H0: Administration capital expenditure has no significant effect on gross domestic product in Nigeria.

The outcome of the regression analysis showed a positive coefficient and t-statistic probability of 0.0114 which is lower than the 0.05 level of significance, hence we reject the null hypothesis and accept the alternate hypothesis. We therefore conclude that administration capital expenditure has a positive and significant effect on gross domestic product in Nigeria for the period reviewed.

Hypothesis Two: H0: Social and community services capital expenditure has no significant effect on gross domestic product in Nigeria.

The outcome of the regression analysis showed a negative coefficient and t-statistic probability of 0.8073 which is higher than the 0.05 level of significance, hence we accept the null hypothesis. We therefore conclude that Social and community services capital expenditure has a negative and non-significant effect on gross domestic product in Nigeria for the period reviewed.

Hypothesis Three: H0: Economic services capital expenditure has no significant effect on gross domestic product in Nigeria.

The outcome of the regression analysis showed a negative coefficient and t-statistic probability of 0.2325 which is higher than the 0.05 level of significance, hence we accept the null

hypothesis. We therefore conclude that economic services capital expenditure has a negative and non-significant effect on gross domestic product in Nigeria for the period reviewed.

Hypothesis Four: H0: Transfers capital expenditure has no significant effect on gross domestic product in Nigeria.

The outcome of the regression analysis showed a positive coefficient and t-statistic probability of 0.0028 which is lower than the 0.05 level of significance, hence we reject the null hypothesis and accept the alternate hypothesis. We therefore conclude that transfers capital expenditure has a positive and significant effect on gross domestic product in Nigeria for the period reviewed.

Discussion of findings

This study disaggregated the capital expenditure of the government and assessed their individual relationship with gross domestic product. The finding showed that administration capital expenditure had a positive and significant relationship with gross domestic product in Nigeria for the period reviewed. This finding is in line with the *apriori* expectation of the study. This also agrees with the finding by John (2017) and Odubuasi (2020).

The finding on social & community services capital expenditure showed that it had a negative and non-significant relationship with gross domestic product. This is in agreement with the finding of Odubuasi et al (2020) and Yerima et al (2022). It however differ from that of John (2017) who found a positive and significant relationship. The finding as regards hypothesis two differs from the *apriori* expectation of this work. Government hence need to re-appraise her social & community services capital expenditure pattern and processes so as to reverse the current trend.

The finding on economic services capital expenditure showed a negative and non-significant relationship with gross domestic product. This disagrees with John (2017) who found a negative and significant relationship as well as with Odubuasi et al (2020) who found a positive and significant relationship. The finding as regards hypothesis three disagrees with the *apriori* expectation of this study. It therefore calls for attention on what is causing this negative and non-significant effect of economic services capital expenditure on gross domestic product in Nigeria.

The finding that transfers capital expenditure had a positive and significant relationship with gross domestic product agrees with the finding by John (2017). The finding of this study agrees with the *apriori* expectation hence the current trend should be sustained.

Conclusion

This study examined the growth nexus of disaggregated government capital expenditure and economic growth in Nigeria for the period 1981 to 2021. The study showed that these components of capital expenditure are good indices for measuring economic growth of the Nigerian economy. Therefore, there is the need to encourage and ensure proper use of capital expenditures so as to help achieve the desired positive and significant effect on gross domestic product in Nigeria.

Recommendations

1) The Nigerian government should ensure that the administration capital expenditure is properly used to continue its positive and significant effect on the economy.

2) The Nigerian government should ensure proper channeling of her social & community services capital expenditures to the relevant sub-sectors so as to trigger production of goods and services hence stimulating economic growth.

3) The Nigerian government should ensure that her capital expenditure on economic services should be properly channeled and monitored to help achieve economic growth in Nigeria.

4) The Nigerian government should ensure that the transfers capital expenditure is properly used to continue its positive and significant effect on the economy.

5) Capital expenditures therefore need to be properly monitored, evaluated before approval to avoid wastages.

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