

A Disaggregated Analysis of Government Sectorial Expenditure on Economic Growth in Nigeria

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Abstract

The study investigated a disaggregated analysis of government sectorial expenditure on economic growth in Nigeria within a period of 35 years spanning (1987-2023). Data collected were from the Central Bank of Nigeria (CBN) Statistical Bulletin, where government expenditure on agriculture, government expenditure on health, government expenditure on education as the independent variables and real gross domestic product as the dependent variable. Multivariate model was developed in this analysis and Ordinary Least Square (OLS) regression analyze was used for the analysis, The Unit root test, co-integration approach and error corrections model were used for the analysis. It was also revealed from the result of our estimated model that government expenditure on education has a positive and insignificant impact on the Nigerian economy. It was also discovered that government expenditure on health has a positive and significant impact on the Nigerian economy. It was also discovered that government expenditure on agriculture has a positive and significant impact on the Nigerian economy. The study recommend that CBN should do more to encourage borrowing by bringing the lending rate to single digit to boost agricultural production in the rural settings.

Keywords: *government expenditure, economic growth, government expenditure on agriculture, government expenditure on health, government expenditure on education, real gross domestic product*

Introduction

A fundamental question in macroeconomic literature and traditional theory of growth is whether increasing government spending promotes economic growth (Alshahrani & Alsadiq, 2014). A review of relevant literature suggests that there is an extensive debate on whether government spending on specific social and economic services is growth-enhancing, or growth-retarding. Government expenditure is the total of the federal, state and the local government spending including transfers to parastatals and the other levels of government (Anyato, 2016). The term economic growth is described as the positive and sustained increase in aggregate goods and services produced in an economy within a given time period.

The relationship between government expenditure and economic growth has continued to generate series of debate among scholars. Keynes (1936) maintains that government could reverse economic downturns by borrowing money from the private sector and then returning the money to the private sector through various spending programs. High levels of government consumption are likely to increase employment, profitability and investment via multiplier effects on aggregate demand. Thus, government expenditure, even of a recurrent nature, can contribute positively to economic growth (Chude & Chude, 2013). On the contrary, a number of prominent authors of the neoclassical school argued that increased government expenditure may slow down the aggregate performance of the economy because in an attempt to finance rising expenditure government may have to increase taxes and or borrowing (Amassoma, Nwosa, and Ajisafe, 2017) (Iweriebor, Egharevba, & Adegboye, (2015). (Chukwubudom & Okoro, 2017), (Ademola, 2012).

Government expenditure has remained one of the most important macroeconomic management tools for the controlling of the level of demand and money supply in an economy. If well managed, it can put an economy on the path of sustainable growth and development. Government has the responsibility to provide essential goods and services (protection and provision of basic infrastructure/amenities) to the citizens who are normally implemented through ministries, departments and agencies (MDA's) (Razzolini & Shughart, 2017). This necessitates each ministry to prepare their estimated revenue and expenditure to be able to perform their responsibilities as expected by citizens.

Government expenditure is a vital instrument of government to control the economy. It plays an important role in the functioning of an economy whether developed or underdeveloped (Okoro, 2013). Government expenditure was born out of revenue allocation which refers to the redistribution of fiscal capacity between the various levels of government or the disposition of responsibilities between tiers of the government. In any economy, government expenditure can be categorized into capital and recurrent expenditure. The recurrent expenditures are governments' expenses on administration (Okoro, 2013), such as wages, salaries, interest on loans, maintenance, whereas expenses on capital projects, like roads, airports, health, education, infrastructure, environment, telecommunication, electricity generation, are referred to as capital expenditure (Okoro, 2013; Obina, 2003).

Government expenditure remains an important instrument utilised in the process of development. It plays a pivotal role in the functioning of any economy at almost all stages of growth and

development. Most developing and developed countries today use public expenditure to improve income distribution, direct the allocation of re- sources in desired areas, and influence the composition of national income (Assi et al., 2019; Vtyurina, 2020; World Bank, 2008). In developing countries for instance, the variation in government spending pattern is not only projected to guarantee stabilization but also to spur economic growth and expand employment opportunities (World Bank, 2015). Government expenditure are to improve the quality of the socio-economic institutions, structure and composition of an economy and overall welfare of their residents.

Such efforts are in recognition of the part played by government spending and determining economic activities level and thus the general welfare of the residents of a country. In Nigeria, such efforts led to an increase in government expenditure from 903.90 and 1,463.60 million Naira in 1970 and 1972, to 191,228.90 and 248,768.10 million Naira in 1993 and 1995, and to 1,907,580.50 and 2, 237,900.00 million Naira in 2010 and 2011. Between 2012 to 2022, it rose to 239,454.99billion (Central Bank of Nigeria, 2022). However, even with the loftiness of the Nigerian government efforts since the country obtained its political independence from Britain, economic development remains elusive regardless of the total government expenditure across economic sectors. The continuous increases in the expenditure of the Nigerian government have not resulted in the expected or assumed substantial development, leading the country into being categorized among the worlds' poorest countries. Available statistics show that total government spending has continued to rise steadily all through the years observed (Desmond et al, 2012). The total government recurrent expenditure has consistently been on the increase with about 18 percent rise from 1970-1985 and about 10 percent increases from 1990-2005; in the same manner the capital expenditure has maintained similar upward trend. Whether this continuous increase has accentuated the level of growth of the Nigerian economy has necessitated the need for this research work. This research therefore investigated the effect of government spending on economic growth in Nigeria.

Objectives of the Study

The main objective of the study is to examine A disaggregated analysis of government sectorial expenditure on economic growth in Nigeria. The specific objectives are to:

- i. Assess the degree to which government expenditure on agriculture affects economic growth in Nigeria.
- ii. Examine the extent to which government expenditure on education affects economic growth in Nigeria.
- iii. Find out the extent government expenditure on health has affected economic growth in Nigeria.
- iv. Determine the extent government expenditure on telecommunication has affected economic growth t in Nigeria.

Statement of Hypotheses

The following hypotheses are formulated for the study;

Ho: Government expenditure on agriculture has no significant effect on economic growth in Nigeria.

Ho: Government expenditure on education has no significant effect on economic growth in Nigeria.

Ho: Government expenditure on health has no significant effect on economic growth in

Nigeria.

Ho: Government expenditure on telecommunications has no significant effect on economic growth in Nigeria.

Review of Related Literature

Theoretical Framework

Law of Increasing State Activities (Adolf Wagner, 1917) Adolf Wagner a noted German political economist (1835-1917) propounded an empirical law to analyses and explains the trend in the growth of public expenditure. Wagner argued that a functional, cause and effect relationship exists between the growth of an industrializing economy and the relative growth of its public sector. According to Wagner, relative growth of the government sector is an inherent characteristic of industrializing economies. He illustrates this with the examples of Great Britain, U.S.A, France, Germany and Japan. He came to the conclusion that as per capita income and output increases in industrializing nations, the public sectors of these nations necessarily grow as a proportion of total economic activity.

Wagner hypothesized a functional relationship between industrialization and the relative importance of public sector activity. He then set out to test his hypothesis by examining the industrialization process in various European countries and Japan. His observations led to what is now called as Wagner's Law of Increasing State Activity. Wagner's law postulates that: (i) the extension of the functions of the states leads to an increase in public expenditure on administration and regulation of the economy; (ii) the development of modern industrial society would give rise to increasing political pressure for social progress and call for increased allowance for social consideration in the conduct of industry (iii) the rise in public expenditure will be more than proportional increase in the national income (income elastic wants) and will thus result in a relative expansion of the public sector. This theory was used to anchor our research work because of its relevance in disclosing the relationship that should exist between government expenditure and economic development.

Review of Empirical Literature

Agu, Inyama and Ubesie, (2024) examined the effect of government expenditure on human capital index in Nigeria. Government expenditure on administration, economic services, and social community services were the independent variables of the study, while human capital index was the dependent variable. The specific objectives were structured as follows: To ascertain the effect of government expenditure on administration on human capital index in Nigeria; to examine the effect of government expenditure on economic services on human capital index in Nigeria; and to investigate the effect of government expenditure on social community services on human capital index in Nigeria. The study adopted an ex-post-facto research design, covering the period between 2001 and 2021. Multiple regression technique was used for the data analysis. In line with the specific objectives of the study, it was revealed that Government expenditure on administration has a significant negative effect on human development index in Nigeria with a p-value of 0.0444 and t-statistics of -2.194267; Government expenditure on economic services has a non-significant positive effect on human development index of Nigeria with p-value of 0.3785 and t-statistics of 0.907474 and Government expenditure

on social community services has a significant positive effect on human development index of Nigeria with p-value of 0.0403 and t-statistics of 2.245271. This implies that among the explanatory variables x-rayed, Government expenditure on administration and social community services are the major determinants of human development index in Nigeria. The study recommended therefore that the government should strive to block all the financial loopholes available to corrupt public officers and also ensure that any official caught perpetuating corruption should be prosecuted by relevant agencies. The government should increase the budgetary allocations made for agriculture, construction, transportation, communication. These expenditures increase human development in Nigeria. The government should ensure they increase the funds allocated to education, health, electricity and other social and community services. Such expenditures have proven to affect human development positively and significantly.

Chukwuma, et. al. (2023) examined the relationship between government expenditure and economic development in Nigeria. From various empirical works reviewed, there is still an insufficient all-inclusive study on government expenditure and economic development indices like industrial progress, per capita income, per capita consumption and capital formation. The specific objectives of this study are to examine the relationship between government expenditure on education (EXED); government expenditure on health (EXH); government expenditure on defense (EXD); government expenditure on infrastructure (EXI); government recurrent expenditure (GRE) and government capital expenditure (GCE) and economic development indices in Nigeria. The study was anchored on theory of Wagners Law which states that increasing state activity improve economic development. The hypotheses of the study were stated in null form and the study used ex post facto design by collating data from Central Bank of Nigeria (CBN) and subjected them to Auto Regressive distributed lag model (ARDL) to test the interaction between independent variables and the dependent variables. The findings revealed that f-statistics showed a significant relationship between the combined government expenditure and all the economic development indices within the period under study in Nigeria. Thus, the study concluded that government expenditure to the different sectors of the Nigerian economy have significant relationship with economic development in Nigeria. Hence, the study recommended among others that the government expenditure to different sector of the economy in health, defense, education, infrastructure, capital and recurrent should be utilized to trigger productivity which will improve gross national income and per capita income within the economy.

Elaigwu and Ali (2024) examined the effect of government expenditure on Nigerian economic growth (2005-2022). The ex-post facto research design was used while data was generated from Central Bank of Nigeria Statistical Bulletin and World Development Indicator. The hypotheses were tested using multiple linear regression analysis. The study revealed that capital expenditure has a significant positive effect on Gross Domestic Product per capital in Nigeria. Also, recurrent expenditure has a significant positive effect on Gross Domestic Product per capita in Nigeria. The study recommended that the government should increase and direct its capital expenditure towards the productive sectors of the economy, in order to enhance the growth of the economy. It should ensure that funds meant for development of these sectors are properly utilized. Also, the government should also maintain and increase recurrent expenditure on projects and programmes that would attract economic growth in Nigeria.

Nwobia, Nnachi, Eze and Onwe, (2023) estimated the short run relationship between government spending on healthcare, education and economic growth of Nigeria. It adopted series of standard econometrics method using the Autoregressive Distributed Lag model (ARDL) to estimate to estimate the effect of government spending on healthcare and education on Nigeria's GDP as well as to estimate the short and long run relationship between government spending on health, education and economic growth in Nigeria. The result obtained was subjected to several post estimation test to confirm the robustness of the result obtained for accurate policy forecast and prediction. The result obtained from the study revealed that government spending on health has significant positive effect on economic growth. Also, government spending on education showed significant positive effect on economic growth in Nigeria. The co-integration result showed the existence of a short run relationship among the variables studied. Finally, the findings revealed a significant positive relationship between government expenditure on education and economic growth. It further indicated one per cent increase in government expenditure on education leads to 0.17 per cent increase in GDP growth. In the same vein, primary enrollment contributed significantly to economic growth; one per cent increase in school enrollment brought about 0.019 rise in Nigeria's GDP. On the other hand, the ARDL short run result obtained indicated a negative and significant relationship between government healthcare expenditure and economic growth. The study there recommends that government at all levels should step up their budgetary allocations in healthcare and education to boost productivity and quality of lives of the people.

Igwe and Inyama (2024) investigated effect of government recurrent expenditure on economic prosperity in Nigeria. The specific objectives of the study were to examine effect of administration expenditure, economic services expenditure, and social and community services (which are proxies for government recurrent expenditure) on gross national product (proxied by economic prosperity) in Nigeria. The study adopted ex-post facto research design and secondary data were extracted from the CBN Statistical Bulletin for the period 1981–2022. The multiple regression was used for the test of hypotheses. Findings showed that, recurrent expenditure on administration (GREA) have a statistically non-significant positive effect on Gross National Product (GNP) in Nigeria with a t-statistic of -0.710148 and p-value of 0.4821. On the other hand, recurrent expenditure on economic services (GREES) has a statistically significant positive effect on GNP in Nigeria with a t-statistic of 2.106309 and p-value of 0.0420. In line with recurrent expenditure on administration, recurrent expenditure on social and community services (GRESGS) have a statistically non-significant positive effect on GNP in Nigeria with a t-statistic of 1.835944 and p-value of 0.0744. This implies that only recurrent expenditure on economic services can be used to predict economic prosperity in Nigeria. The study recommended that administrative efficiency should be improved through the reduction of unnecessary costs and streamlining of processes, supported by regular performance evaluations and the adoption of modern technology. Secondly, investments should prioritize critical infrastructure projects like transportation, energy, and telecommunications, aiming to stimulate economic growth and job creation. Lastly, targeted social programs are encouraged to address specific challenges such as poverty reduction, healthcare access, and education, ensuring adequate funding and effective reach to beneficiaries, while also investing in healthcare infrastructure and supporting community development projects that reduce inequality and promote social stability, resulting in long-term benefits for citizens' well-being.

Okoroigwe, (2024) examined the effect of Government Expenditure on the Economic Growth in Nigeria. The specific objective of the study examined the effect of government expenditure on agriculture, government expenditure on education, government expenditure on health and government expenditure on security on the gross domestic product in Nigeria. The study utilized an ex-post facto research design. The study used panel data which was largely obtained from secondary sources. The data covered a 7-year period, from 2016 to 2022 sourced from the publications of the Central Bank of Nigeria (CBN). Descriptive and inferential statistics were used to measure the central tendency and dispersion, which together provided information on the mean, standard deviation, minimum and maximum values observed during the period under investigation. Multiple Regression and Correlation Analysis was applied in hypotheses testing. The study found that government expenditure on agriculture, government expenditure on education, government expenditure on health and government expenditure on security all have positive and significant effect on the gross domestic product in Nigeria. The results of provided further empirical evidence on the effect of government expenditure on critical sectors of the economy such as education, health, agriculture and security as the most critical sectors that government need to give more attention in order to improve its gross domestic product. However, the study discovered corruption and nepotism as the most aggressive threats to the impact of government expenditure on these critical sectors. It will take the reduction of corruption and nepotism in government expenditure on agriculture, education and security to realize the actual effect of such expenditure in the economy at large. It recommended a holistic fight against corruption and nepotism, especially at points of resource allocation, policy implementation, and enforcement of directives and delivery of service. Government should also prioritize adequate funding of education and health sector with the best blend of recurrent and capital expenditures by increasing yearly budgetary allocation to the two sectors since they are requisite for welfares of its citizen and economic growth.

Jolaiya, (2024) ascertained the effect of government expenditure on economic growth in Nigeria. Data was collected from the CBN statistical bulletin which was available in the Nigerian exchange group. The study employed the use of multiple regression analysis to ascertain the causal relationship that exists between the variables. From the result of the analysis carried out it was observed that government expenditure on health was found to have a negative impact on economic growth. Government expenditure on environment was found to have a negative impact on economic growth. Government expenditures on education was found to have a positive impact on economic development. Government expenditures on agriculture was found to have a positive impact on economic development. The study therefore recommended that policymakers should consider increasing investments in the agricultural sector, It was also recommended that policymakers should embrace a comprehensive approach to economic policy formulation, taking into account the many sectors and their interconnectedness.

Methodology

Research Design

The type of research design adopted in this study is *ex-post facto* research.

Nature and Sources of Data

The data used for this research work is mainly secondary data which were collected from the Central Bank of Nigeria's Statistical Bulletin 2023

Model Specification

The fundamental linear equation which forms the model is drawn from the theoretical and empirical literature reviewed in the previous chapter. It is observed that there is a causal link between government expenditure and the Nigerian economy. In this section, we pursued the same objective further by specifying our model. The model is then used to verify the government expenditure determinants on the Nigerian economy. The Study modified the work of Kumar & Dkhar (2019) which examined the short and long run relationship between government expenditure on agriculture. Their model was adapted by this present study. Their model is stated as:

$$AGO=f(EDX, TRPE)$$

Where

AGO = Real gross domestic product

EDX = Government expenditure on education

TRPE = Government expenditure on transport

Our present study modified the above model to suit our objectives as follows:

$$RGDP=F(GOA, GOE, GOH, GOM).$$

Where

RGDP = Real gross domestic product

GOA = Government expenditure on Agriculture

GOE = Government expenditure on Education

GOH = Government expenditure on Health

GOT = Government expenditure on Telecommunication

F = Functional notation

The econometric form of the model can be expressed as;

$$RGDP = B_0 + B_1GOA + B_2GOE + B_3GOH + GOT + \mu$$

Where;

B_0 is the constant intercept which shows the level of RGDP.

β_1 =coefficient of parameter GOA

β_2 = coefficient of parameter GOE

β_3 =coefficient of parameter GOH

β_3 =coefficient of parameter GOT

μ_1 = the stochastic error term or disturbance variable.

The model can be re-written in a logged form

$$\text{LogRGDP} = B_0 + \text{Log}B_1GOA + \text{Log}B_2GOE + \text{Log}B_3GOH + \text{Log} B_3GOT + \mu$$

Where

Log=logged values of the variables

Tool of Analysis

The evaluation technique applied in this study is the use of econometric estimation method of the ordinary least square which Koutsoyannis (1997) remark as the best linearly unbiased estimator (BLUE). The estimates of the model were obtained through the statistical package of E-view version 8.0. Therefore, diagnostic statistics like the coefficient of determination, adjusted R-square, t-statistic, Durbin Watson statistics and standard error test was employed to test the plausibility of our parameter. Unit root test was also conducted to check the stationarity of our variable before the regression will be concluded.

RESULTS AND INTERPRETATION OF DATA

Descriptive Statistics

	RGDP	GOA	GOE	GOH	GOT
Mean	37421.52	19.06091	125.4712	75.18182	3134.025
Median	28957.71	9.990000	64.78000	33.27000	1127.230
Maximum	69810.02	65.40000	465.3000	296.4400	13671.13
Minimum	15237.99	0.020000	0.230000	0.040000	38.65000
Std. Dev.	20465.35	20.39829	148.9263	93.25835	4000.498
Skewness	0.565143	0.748773	0.995444	1.039088	1.318694
Kurtosis	1.685317	2.250823	2.457347	2.628988	3.489874
Jarque-Bera	4.133160	3.855374	5.854898	6.127636	9.894216
Probability	0.126618	0.145484	0.053533	0.046709	0.007104
Sum	1234910.	629.0100	4140.550	2481.000	103422.8
Sum Sq. Dev.	1.34E+10	13314.89	709729.2	278307.8	5.12E+08
Observations	33	33	33	33	33

The summary statistics show that the average mean of real gross domestic product is about 37421.52, The average mean for government expenditure on agriculture is 19.1, while averages mean of government expenditure on health, education and telecommunication rate were 125.4712, 75.18182 and 3134.025 respectively. The standard deviations of government expenditure variables such as government expenditure on Agriculture, government expenditure on health, government expenditure on education and government expenditure on telecommunication are 20.39829, 148.9263, 93.25835 and 4000.498. The values of the standard deviations indicate that there is wide spread of government expenditure in Nigeria.

This is also evident in the wide gap between the maximum and minimum values. For example, the maximum value of government spending on agriculture is 65.40 while the minimum is 0.020, with difference of 65.38. Similarly, the maximum of government spending on education is 465.30 while the minimum is 0.230. These performance variations are rather at the high side. Even in the case of government spending on health the maximum is 296.440 and the minimum is 0.040. It is equally observed that government spending on telecommunication varied widely over time. For instance, exchange rate is 13671.13 while its minimum value is 38.650. The wide

variation over time indicates high level of fluctuation of government spending which affects real gross domestic product in Nigeria.

Interpretation of Result

Unit Root Test

It is necessary to verify the stationary properties of the variables in order to determine their order of integration. The ADF unit root test has been carried out on levels and differences of relevant variables. Each variable is tested for a unit root by employing the dickey –fuller approach with an intercept term. The null hypothesis underlying the unit root is that the variables under investigation have no unit root, while the alternative hypothesis is that it does. The table 4.1 below shows the stationary properties of the interested variables.

Table 4.1 Result of Unit Root Test

Variable	ADF		Order of integration	Significance
	At Level	1 st Diff		
RGDP	-0.98522	-5.362484	I (1)	1% (1)
GOA	-2.690927	-7.295785	I (1)	1% (1)
GOE	-0.167851	-5.536559	I (1)	1% (1)
GOH	-1.062458	-6.456130	I (1)	1% (1)
GOT	-2.843773	-4917703	I (1)	1% (1)

Source: Computation using E-view version 9.0

From table 4.1 above, it was discovered that total government expenditure on agriculture, health and education as well as, real gross domestic product none were integrated at level, and all the mention variables become integrated at 1st difference at 1% level of significance respectively.

Co-Integration Test

The co-integration test is performed using the Johansen likelihood estimation equation which is done to test whether a long-run relationship exists amongst the variables. If it show at least one co-integration equations exist amongst the variables under consideration, then a long-run equilibrium relationship exist amongst them. The table below shows the summary of Johansen co-integration tests conducted.

Table 4.2 Johansen Co-integration Rank Test (Frace)

Hypothesized no of (ECS)	Eigen value	Trace statistics	5% Critical value	Prob**
Non*	0.970145	221.1748	69.81889	0.0000
At most 1*	0.796969	101.7870	47.85613	0.0000
At most 2*	0.590183	47.57749	29.79707	0.0002
At most 3	0.359603	17.24800	15.49471	0.0270
At most 4	0.059766	2.095310	3.841466	0.1478

Source: computation using e-view 9 version.

Unrestricted Co-integration Rank Test (Trace)

Hypothesized no of (ECS)	Eigen value	Trace statistics	Critical value	Prob**
None*	0.970145	119.3878	33.87687	0.0000

At most 1	0.796969	54.20947	27.58434	0.0000
At most 2	0.590183	30.32949	21.13162	0.0019
At most 3	0.359603	15.15269	14.26460	0.0361
At most 4	0.059766	2.095310	3.841466	0.1478

Source: Computation using E-view 9 version

Max-eigen value test indicates 4 co-integrating equation(s) at the 0.05 level. *denotes rating of the hypothesis at the 0.05 level **Mackinnon – Haug-Michelis (1999) p-values.

The result of the co-integration in Table 2 shows that there are four co-integration relationships among the variables included in the model. This is confirmed by the results of both Trace test and the Max-eigenvalue test shown in Table 2. Specifically, the result of the co-integration test suggests that the variables have long-run equilibrium relationship with each other.

Error Correction Model

Table 4.3 Regression Result for the Model

Variables	Coefficient	Std-Error	T-statistics	Prob
C	6.721934	0.070548	95.28185	0.0000
LGOA	0.006009	0.005202	1.155143	0.2569
LGOE	0.002390	0.001467	1.629492	0.1133
LGOH	0.015711	0.002177	7.216736	0.0000
LGOT	0.015759	0.003708	4.250395	0.0002
ECM(-1)	-0.745965	0.047217	-2.003427	0.0000

Source: E-view 9.1 version.

R-Squared	=	0.784338
Adjusted R ²	=	0.771812
F-statistics	=	389.6582
Durbin-Watson	=	1.624904

The R² which is the coefficient of determination or the measure of goodness of fit shows the degree of variation in the dependent variables. The closer R² is to 100%, the better the fit of the model. From the regression result, R² is 0.78%. This implies that the independent variable can explain about 78% of the variations in the dependent variable, leaving the remaining 22% which would be accounted for by other variables outside the model as captured by the error term.

The adjusted R² is 77% meaning that even with an adjustment in the dependent variables, they can still explain about 77% of the change in the dependent variable. The F-statistics measures the overall significance of the explanatory parameter. From the result in table 4.3 above, our computed value F-statistics is 389.6582 while the probability is 0.0000, Since the probability of the F-statistics in the computed output is less than the desired 0.05 level of significance, we accept and state that there is a significant relationship between the variance of the estimate and that of the dependent variable.

The specific objectives are addressed using the coefficient of regression and its corresponding t-statistics were use to test the hypothesis of the study. The result is as shown on the equation

below:

$$RGDP = 6.721934 + 0.006009 LGOA + 0.002390 LGOE + 0.015711 LGOH + 0.015759 GOT$$

Extent Government Expenditure on Agriculture Affects Economic Growth in Nigeria

From the estimated coefficient result of the regression in table 4.3 above, we find out that government expenditure on agriculture has a positive relationship with real gross domestic product given its value as 0.006009, this in conformity with a priori expectation because a unit increase in government expenditure on agriculture increase RGDP by 6 unit. However, government expenditure on agriculture is 1.155143; this implies is statistically insignificant in affecting Nigeria economy, This further suggest that the government spending on agriculture has not translated to the meaningful growth on the real gross domestic product of the economy. This finding provides us opportunity to reject alternative hypothesis and accept null hypothesis which states that Government Expenditure on Agriculture has no significant effect on Economic Growth in Nigeria

Extent government expenditure on education affects gross domestic product in Nigeria.

The coefficient of regression (0.002390LGOE) indicates that health (HE) has positive effect on the Nigeria economic development. Government expenditure on education has a positive impact given its value as 0.002390; this is in conformity with our a priori expectation, this further implies that increase in government expenditure on education increases the real gross domestic product by 2%. Government expenditure on health is statistically insignificant on the Nigeria economy, this were as a result of low t-statistics and high probability value. However this result laid credence of low government expenditure on education in Nigeria and as a result we reject alternative hypothesis and accept null hypothesis which states that government expenditure on education has no significant effects on gross domestic product in Nigeria

Extent government expenditure on health affected gross domestic product in Nigeria.

From the result of our regression in table 4.3 above, it is discovered that government expenditure on health has a positive impact on Nigerian economy given its value as 0.015711 this is in conformity with theoretical expectation because increase in government expenditure on health increase the RGDP by 15%. From the t-statistics Colum it was discovered that Government expenditure on health is statistically significant (7.216736) at 10% level of significant on the Nigeria economy. The result implies that government spending on health has translated to meaningful growth in Nigeria. The result from t-test compels us to reject null hypothesis and accept alternative hypothesis which implies that government expenditure on health has significant effect on gross domestic product in Nigeria

Extent government expenditure on telecommunication affects Nigerian economic growth

Government expenditure on telecommunication has a positive impact on the Nigerian economic growth given its value as 0.015759; this is in conformity with theoretical expectation, however

the increases on government spending on telecommunication, this will increase the performance of real gross domestic product in Nigeria. From the t-statistics Colum it was discovered that Government expenditure on telecommunication is statistically significant (4.250395) at 10% level of significant on the Nigeria economy. The result implies that government spending on telecommunication has translated to meaningful growth in Nigeria. As a result of this findings null hypothesis will be rejected while the alternative will be accepted which states that government expenditure on telecommunication has significant positive effects on Nigerian economic growth

The Durbin-Watson statistics is used to test for the presence or otherwise of autocorrelation in our model. When the value of Dw is closer or a little above 2, it means the absence of autocorrelation amongst the explanatory parameters (Koutsoyiannis 1997). From table 4.3 above, it is discovered that the Durbin Watson is (1.6.), and this does satisfy the above stated condition. This means the absence of autocorrelation among the explanatory variables. Finally, the Error Correction Mechanism (ECM) which is used to correct for disequilibrium from of estimated result is ECM (-1) is significant with an appropriate negative sign. Its negative coefficient of (-0.745965) shows that there is a stable long-run equilibrium relationship between the variable. The ECM shows also that changes in the independent variables will cause the dependent variable to converge on its equilibrium path.

Discussion of findings

Government Expenditure on Agriculture: The study found that Government Expenditure on Agriculture has no significant effect on economic growth in Nigeria. The nature of the effect on agriculture has no translated into a meaningful growth in Nigeria. For any country to experience economic growth, investment in agriculture and innovation is inevitable. That is why it's very important for both the public and private sector to motivate people to be innovative. However, diversifying an economy properly in other non-oil sector is likely to influence the economic growth via the following three ways; performance of the agricultural sector, manufacturing sector and solid mineral.

The implication of these findings is that, for agricultural sector to be functional, productive and to achieve their aim and purposes, the agricultural sector need to satisfy the expected needs of the individual, and earn much revenue for government. Agricultural output growth can increase growth in the non-agricultural sector of the economy via diverse means some of which are direct and indirect. This further disagreed with the findings of Idoko, and Jatto, (2018) who found a positive and significant relationship between government expenditure on agriculture and economic growth in Nigeria. The findings also corroborate with the findings of Iganiga and Unemhilin (2011) that Agricultural output is a pertinent determinant to economic performance in Nigeria.

Government Expenditure on education: The study found that government expenditure on education has a insignificant positive effect on economic growth in the Nigeria. The Government spending on education has not spur economic growth from the finding. A nation with highly educated and skilled people would likely enjoy a better economic development. To promote

economic growth, factors of production such as capital and labour are used. But the efficient use of labour and capital resources for greater productivity requires that the workers are well trained and skilful. The training and skills acquisition are mainly accumulated through education. Education is an economic good because it is not easily obtainable and therefore need to be apportioned or traded. The implication is that education is essentially the capacity to understand new information and adapt one's behavior accordingly; economies that have the greatest number of highly-skilled workers will more rapidly adopt and implement the most efficient technologies. The finding is not in line with the study of Mohd., Muhammad, and Razak, (2012) government expenditure on health has a positive effect on economic growth of Nigeria.

Government Expenditure on Health: The study found that Government Expenditure on Health in Nigeria. Government spending on health spurs economic growth in Nigeria. Further to this is that healthcare sector output is an endogenous variables and determinants of growth in successive healthcare sector output in Nigeria. This explains that growth and quality of healthcare is an accumulative of efforts and success of previous years. Thus, continuous development in healthcare resources in forms of human capital (personnel) and equipment is apt to growing the Nigerian economy. Thus, the right form of manipulation for health sector will manifested to greater economic growth. However, money supply rightly impacts growth positively but credit to private sector, though positive, had no significant effect in the model. Improved in government spending on health would translate to increased economic growth. Edeme, Emecheta, and Omeje. (2017) corroborates this findings by stating that, public health expenditure and health outcomes have long-run equilibrium relationship. This means that, health system indicators and technological advances may also have impact on health expenditure as has been documented in previous literature.

Government Expenditure on Telecommunication: The study found that government expenditure on telecommunication has a significant positive effect in Nigeria. This implies that a reliable telecommunications networks can improve the productivity and efficiency of other sectors of the economy and enhance the quality of life in generally.

Furthermore, the endogenous influence of telecommunications sector itself ignites positive growth effects on the sector. The individual contributions of the telecommunications sector variables are quiet interesting and the efforts at optimising telecommunications sector output would require to spur growth of the Nigerian economy. Ajiboye (2007) also argued that telephone penetration has a positive impact on gross domestic product (GDP) because it provides a stimulant to economic growth and that as economies become more highly developed, they need more communications.. Nwakanma, Asiegbu, Eze, and Dibia (2015) found that Government Expenditure, Number of Telecom Subscribers and Private Investment collectively have significant impact on Economic growth in Nigeria.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The major tenet of this study is to critically examine the impact of government expenditure on Nigerian economy. The study period spanned from 1987-2023. This study specifically examines the nature of government expenditure on the Nigerian economy. Thus, it was hypothesized that government expenditure has a significant impact on the Nigerian economy.

A linear regression model was employed to analyze the data, The result of our estimated model revealed some important issues that need to be stressed.

- a. It was discovered that government expenditure on agriculture has positive short run effect and insignificant impact on the Nigerian economy.
- b. It was also revealed from the result of our estimated model that government expenditure on education has a positive short run and insignificant impact on the Nigerian economy.
- c. It was also discovered that government expenditure on health has short run positive effect and significant impact on the Nigerian economy.
- d. It was also discovered that government expenditure on telecommunication has short run positive and significant impact on the Nigerian economy
- e. Lastly, our variables when tested for co-integrated using the Johansen co-integration test, were found to be co-integrated and as such the Error Correction Mechanism was employed to correct for the long-run equilibrium relationship between the variables.

In the light of these research findings, the following recommendations are presented.

- i. CBN should do more to encourage borrowing by bringing the lending rate to single digit to boost agricultural production output.
- ii. There is also need for more visible involvement of the private sector in education investment; this can be achieved if the enabling environment and necessary incentives are provided
- iii. The Federal Government of Nigeria (FGN) should increase and restructure the public expenditure allocation to the health sector in order to provide more health facilities, drugs, laboratories, equipment, amongst other things). This can be achieved via the right channeling of funds to the productive arms, adequate management of funds and resources in order to prevent corruption and to aid the development of health services
- iv. It is also recommended that steady power supply be provided by the Nigerian government since that is the major problem facing telecom operators, which in turn will reduce operating cost for the telecom operators as well as reduce the cost of using the services offered by the telecom industry.

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