E-ISSN: 1115 - 8530 P-ISSN: 3026-8958

MPRI-JFRBD | INTERNATIONAL JOURNAL OF FINANCIAL RES. AND BUSINESS DEVELOPMENT VOL. 08 NO. 7 – APRIL, 2025

DYNAMICS OF GOVERNMENT EXPENDITURE ON ECONOMIC SERVICES AND ECONOMIC GROWTH IN NIGERIA

***ESIYEDE BENSON EJEROMEDAYE; *PROSO TIMOTHY (PhD); & **AGUNUWA EKOKOTU VINCENT (PhD)**

*Department of Accountancy, Delta State Polytechnic Otefe – Oghara. **Department of Banking and Finance, Delta State Polytechnic Otefe – Oghara

DOI: https://doi.org/10.70382/mejfrbd.v8i7.032

Abstract

The main objective of this research work is to evaluate the dynamics of government expenditure on economic services and economic growth in Nigeria between the period of 1996 and 2023. This has become important because despite the huge funds allocated for economic services in Nigeria, the impact of such had not been significantly felt on the level of economic growth. The regression analysis with special use of the Error Correction Model (ECM) were used to analyze the data. The findings revealed that a long run equilibrium relationship existed among the variables. The results also showed that the expenditure on economic services had a significant and positive impact on the level of economic growth [redacted] in Nigeria. The expenditure on education also had positive and significant impact on the level of economic growth. On the basis of the above findings, more budgetary allocations to economic services and the educational sector, under proper supervision is therefore recommended amongst others.

Keywords: Expenditure on economic services, Economic growth, Expenditure on education, Co-integration, Long run equilibrium, Budgetary allocation.

EDITOR-IN-CHIEF

Prof. R. Rena [South Africa]

Introduction

This study is focused on the dynamics of government expenditure on economic growth services and economic growth in Nigeria. In the words of Alina and Ali (2011) the role of public expenditure include payments to defend a nation against external and internal invasion; maintenance of law and order; financing of schools and universities; provision of health and medical care, pension scheme and social welfare for the old and the needy; and also, provision of entertainment and other infrastructural facilities.

In Nigeria, government expenditure has continued to rise due to the huge receipts from production and sales of crude oil, and the increased demand for public (utilities) goods like education, electricity, road construction, health, oil refineries, transport and communication, etc. Besides, there is the increasing need to provide both internal and external security for the people and the nation. Available statistics show that total government expenditure (capital and recurrent) and its components have continued to rise in the last three decades (Yerima, Etal, 2022). As shown in a table below:

Table 1: Summary of Federal Government Capital and Recurrent Expenditure (₦'b)

Year	2000	2005	2010	2015	2022
Total Recurrent Expenditure	144.53	434.70	1,117.44	1,228.99	2,456.33
Economic Services	28.59	64.20	562.75	275.36	561.08
Total Capital Expenditure	239.45	519.47	883.87	818.35	3,133.82
Economic services	111.51	265.03	412.20	348.75	1,369.66

Source: CBN Statistical Bulletin, 2022

Furthermore, the various components of capital expenditure (that is) education, electricity, road construction, health, oil refineries, agriculture, defense, internal security, transport and communication, economic services, etc, also show a rising trend during the period under review. The concern of scholars in this regard is the

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

extent to which the rise in government expenditure has impacted on economic growth in Nigeria.

The concern of economic theories is not on the ideal size of government expenditure, but the concern of economic theories is that costs and benefits should be examined in order to determine whether resources are allocated in a manner that increases or decreases economic growth. Thus, the basic economic policy of the society is public expenditure in step with future economic growth and welfare of the society.

However, some schools of thought are not in favour of this theory. As such, several works have been carried out in this area of study, but these research findings have not been in consensus. Therefore, the importance of this study cannot be over emphasized. (Yerima, etal, 2020)

Statement of the Research Problem

The size of government expenditure has taken an astronomical growth rate over the years. The notion is that government intervention through planned expenditure can change the general level of economic activities, investments, employments and income in an economy and hence an enhanced level of economic growth and development generally. However, over the years the growth in government expenditure has not generated commensurate growth rate in domestic productivity in the real sector of the economy. Consequently the economy is import dependent. Thus the rate of inflation is over bearing, unemployment rate is rising on daily basis, thereby accelerating the growth rate of poverty in the society. The state of infrastructural facilities are frightening, poor road networks, epileptic power supply, dilapidated public schools and health institutions, etc. to this end, the need for further investigation into government expenditure pattern cannot be overemphasized.

Objective of the Study

The general objectives of this study is the investigation of the effect of government expenditure on economic services and economic growth in Nigeria, however, the specific objectives include:

a) To determine the effect of government expenditure in economic services on the level of domestic productivities and economic growth in Nigeria.

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

b) To determine the effect of government expenditure in education on the level of domestic productivities and economic growth in Nigeria.
c) To evaluate the effect of fiscal deficit on the level of domestic productivities and economic growth in Nigeria.
d) To ascertain the effect of exchange rate on domestic productivities and economic growth in Nigeria.

Research Hypotheses

Hoa: Government expenditure in economic services has no significant effect on the level of domestic productivity and economic growth in Nigeria.

Hob: Government expenditure in education has no significant effect on the level of domestic productivities and economic growth in Nigeria.

Hoc: Fiscal deficit has no significant effect on the level of domestic productivities and economic growth in Nigeria.

Hod: Exchange rate has no significant effect on the level of domestic productivities and economic growth in Nigeria.

Review of Related Literature

Conceptual and Theoretical Framework

The focus of this study is to investigate the dynamics of government expenditure on economic services and economic growth in Nigeria. Understanding the relationship between government expenditure on economic services and economic growth, several relevant concepts, terms, principles etc. require definitions and explanations in the context in which the uses featured. In the light of the above, some of such relevant words are hereunder defined or explained in the context of this study.

Government Expenditure

The word expenditure connote expenses incurred in carrying out a process, an operation, in acquisition of an assert, obtainance or engagement of services, in provision of goods, grants, assistance, facilities, protection, consumption, tec. Individuals or households, businesses, institutions, association, governments, etc. are always involved in making expenditures in their day to day activities.

Governments all over the world is the agency saddled with the responsibility of the management and administration of its economy or nation: The Society

(Individuals, businesses, corporate entities, associations, institutions etc.) is liable to various forms direct and indirect, taxes, levies,, fees, rents, royalties, etc. from which a revenue base is established by the government to finance its operational and administrative expenditures. (Modebe, Onwumere & Imo, 2012)

Types of Government Expenditure

Government expenditure can be broadly grouped into two as follows:

a) **Capital Expenditure**

Capital expenditures are expenses incurred on durable assets and equipments which are used to enhance administrative activities, encourage domestic investment, including inflow of foreign investments and promote productivity in both public and private sectors, provide and strengthen internal security, discouraging external aggression, thereby facilitating the pace of economic growth and development. Examples include: Government Secretariat and Quarters, Office Equipment and Vehicles, Road Construction, Bridges and Flyovers, Railway Lines, Electricity Grids, Hospitals, Educational Institutions, Airports, Seaport, Housing Estates, Industrial Factories, Industrial Estates, Technical Training and Skill Acquisition Centers, Refineries, Industrial laboratories, etc.

b) **Recurrent Expenditure**

Recurrent expenditures are expenses incurred regularly on daily, monthly or periodic bases in the process of operational activities. These include Fueling, Power Supply, Repairs, Maintenance and Servicing, salaries and Wages, Pensions, other relevant logistics, etc. (Modebe, Onwumere & Imo, 2012)

Economic Services

Economic services are those activities which are functionally involved in enhancing the rate of production, distribution and consumption of goods and services. Economic services provide operational skilled manpower, capable of self – employment in their various industries. Thereby facilitating the growth rate of investments at the grass root level, which in turn has a high tendency to accelerate the rate of economic growth in an economy, all things being equal, According to the classification of Central Bank of Nigeria (CBN) Statistical Bulletin, 2002, the most common types of economic services include:

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

a) Information and Communication Technology (ICT) Services

If government purposefully, significantly and effectively invest in ICT services, with adequately equipped large capacity training and educational institutions, as well as standard or viable skill acquisition centers in all regions. The quality of manpower and labour supply in the ICT industry will be enhanced. This will in turn generate a higher level of investments and employments consequently the growth rate of economic activities in the economy will be accelerated all things being equal. (Alshammari & Haruna, 2023)

b) Transport Services

Government investment in transport services include, building and development as infrastructures such as railways, seaports and airports, roads and bridges, urban and rural public transit system etc. So as to facilitate mobility of people, manpower, businesses, goods and services etc. at a reasonable or affordable cost that will support and encourage investments in the economy. Economic growth is largely dependent on survival of micro businesses which is the engine room of economic activities at the grass root level. The ease and cost of movement of goods and services in an economy is crucial to the survival of all forms of businesses and a sine-quanon to an enviable rate of economic growth in a nation. (Zhou, 2025)

c) Agricultural Services

Government investments in agricultural services include building and development of agricultural infrastructures such as irrigation systems, storage facilities, rural development in form of rural access roads, boreholes for good water and electricity, etc in order to improve livelihoods in rural communities. Facilities for pest control to improve crops yields and harvesting. Others including training and advisory services on new farming technology and equipments, including modern farming techniques initiating programmes for export promotion, in order to expose farmers to international markets. Provision of financial instance in form of subsidies for seeds fertilizers, subsidized or soft loans for farm inputs, modern tools and equipments. Etc. (Dappah, 2023; Ngobeni & Muchopa, 2022)

d) Industrial Services

The areas of main focus of government investments in industrial services include establishment of industrial parks with good access roads, prioritized

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

power supply including viable communication and internet network infrastructures to aid stable connectivity for seamless transactions domestically and internationally. Establishment of Research and Development Fund (RDF) to facilitate products, innovation and new production technologies in manufacturing, mining, assembling and construction processes. Others including provision of financial assistance in forms of grants, aid, including incentives for Small and Medium Enterprises (SMEs) which are the engine rooms of industrial activities at the grass root level. On the other hand establishment of vocational training and educational programmes for improved manpower and skillful work force is also a sine-quanon for effective functioning of industrial community. Besides, good policies, such as tax incentives, export incentives for exposure into international markets, selective credit control guidelines, capable of profiting the volume and cost of credit distribution to the industrial sector etc, are catalyst for accelerated industrial growth. (Soekotjo, Lestari, Pawirosumarto & Damaris, 2025; Xu & Shi, 2023)

Theoretical Framework

The role of government expenditure on economic growth has been an issue of much debate in the literature. To this end, several theories have been propounded by various scholars on the relationship between government expenditure and economic growth. In this section, some of these theories will be examined one after the other, in order to determine the theory upon which this study is anchored.

a) **The Keynesian Theory of Public Expenditure**

According to this theory, public expenditure on infrastructural facilities, such as roads and bridges, train stations and railways, seaports and airports, power plant, electrical grids and stations, water supply systems and reservoirs, hospital and health care centers, educational institutions, information and communication technology infrastructures, etc, is capable of creating jobs, boost demand, and stimulate investments, thereby enhancing economic growth through its multiplier effect, all things being equal. On the basis of this theory, the budget of most economies, especially developing economies, has been expanding astronomically over the years, in an attempt to provide

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

solution for the challenges of economic growth of their economies. (Tang, 2009)

b) The Neoclassical Growth Theory

The opinion of neoclassical economists summarily, is at variance with the Keynesian theory. It holds that the effect of government expenditure on economic growth is only on the short run. It is off the view that the economic growth of an economy on the long run is determined by its volume of capital accumulation, labor or manpower supply and technological progress. It emphasized that government spending at certain point is associated with diminishing return, of which the effect of further spending on economic growth may become insignificant. On the other hand, accordingly, particularly when government expenditures are financed by borrowed funds, it may probably lead to higher interest rate, which can in turn crowd out private investments and reduce the level of economic growth on the long run. (Tang, 2009)

c) Wagner's Law

According to this theory, naturally there is a consistent growth in every economy as a result of societal expansion. And in response, government expenditure on economic services increases in line with the societal expansion. In other words, economic development as a function of societal expansion, creates higher demand on public goods and services, such as hospital or health care, educational institutions, security etc. This in turn, creates expansion on government expenditure. This, increase in government expenditure is a function of the growth of the economy and a driver of economic growth, all things been equal. (Peacock & Scott, 2000)

d) Endogenous Growth Theory

According to this theory, the role of government policies and expenditure is to promote long term sustainable economic growth in an economy. Therefore, government expenditure and investments on infrastructural facilities, such educational institutions, research and development (R & D), health care, etc, are capable of promoting technical and skillful manpower, or viable workforce. The multiplier effect is that, the growth rate of productivity in public and private sector will be accelerated and thus, enhance sustainable growth and development in an economy. (Yerima, etal, 2022)

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

e) Modern Monetary Theory (MMT)

This theory is of the view that government expenditure is important in ensuring full employment in an economy. It emphasized that government expenditure should be focused mostly on the needs of the economy, such as public services and employment generating facilities. The nation is that sovereign government with the authority to ensure their currency can be spent more freely than individuals and businesses, but the expenditures should be focused on the needs for sustainable growth of the economy, rather than embracing budget deficit in a short term. (Ogbochukwu, 2023)

f) Public Choice Theory

This theory is focused on the behavior of politicians and bureaucrats, where government expenditure may be politically motivated rather than economic efficiency, as a result of rent seeking attitude of leaders whom may allocate resources for the benefit of setting up themselves, region or group at the expense of the overall growth of the economy. In this regard, budget figures may be large, but the expected results may not be achieved. (Eugene, 2016)

g) Supply Side Economic

The focus of this theory is on the advantage of driving the economy through the activities of the private sector. It is of the view that, with lower tax rate, and other incentives for the growth of individual and corporate businesses, reduced government expenditure, regulations and interventions, the private sector, in a competitive free market economy can efficiently allocate resources for the achievement sustainable long term economic growth in an economy. (Okafor & Eiya, 2011)

Obviously the relationship between government expenditure on economic services and economic growth has been theoretically explained by various scholars. However, the theory on which this study is anchored is the Keynesian Theory of Public Expenditure.

Empirical Framework

Ogochukwu (2023) Investigated the effect of government expenditure on poverty reduction in Nigeria. The data spanned between 2000 – 2022, using Ordinary Least Squares (OLS) regression method. Results showed that government expenditure on both health and education had a negative significant relationship with poverty reduction in both short and long run in Nigeria for the period under review.

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

Yerima, U. etal (2022) Examined the impact of government expenditure on economic growth in Nigeria. The data spanned between 1986 to 2020, using Structural Vector Auto-Regression (SVAR) model and the Pair-Wise Casualty Test. Findings show that government expenditure on health and education had insignificant impact on economic growth. Likely public debt had insignificant impact on economic growth for the period under review.

Chandana, Adamu and Musa (2021) Examined the impact of government expenditure on economic growth in Nigeria. The data covered the period of 1970 – 2019, using Autoregressive Distributed Lag (ARDL) model. Findings showed that capital expenditure had a positive and significant impact on economic growth while recurrent expenditure had no significant impact on economic growth for the period under review.

Francis (2019) Examined the effect of sectoral public expenditure on economic growth in Nigeria. The data spanned from 1981 – 2016, using Error Correction Modelling and Granger Casualty Test. The result showed that government expenditure on health and agriculture showed a unidirectional casualty between them and economic growth. This result implies that government expenditure on health and agriculture have a significant positive relationship with economic growth on the long run, for the period under review.

Eugene (2016) Evaluated the contribution of government expenditure on economic growth in Nigeria. A disaggregated approach using Johansen Co-integration and Error Correction approach. Results show that recurrent expenditure is the major driver of economic growth in Nigeria, and it has a positive and significant relationship with economic growth in the short run. However, both recurrent and capital expenditure individually had a negative significant relationship with economic growth on the long run, while collectively they have a positive relationship with economic growth.

Okafor and Eiya (2011) Investigated the determinant of growth in government expenditure. An empirical analysis of Nigeria. The study examined four growth factors of government expenditure which include: Inflation Rate, Tax Revenue, Public Debt and Population Growth. Findings shows that while inflation rate has a negative and significant relationship with growth in Government Expenditure, Public Debt, Tax Revenue, and population Growth have a positive and significant relationship with growth in Government Expenditure.

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

Summary of Literature Review

There are several studies on the relationship between government expenditure on economic services and economic growth in the literature. However, the results of the various studies are not in consensus, to this end, the importance of this study cannot be overemphasized.

Materials and Methods

Nature and Sources of Data

The data to be used in this study are secondary in nature and will be collated mainly from the various issues of the World Bank Development indicators

Model Specification

The model to be used in the estimation of the dynamics of government expenditure on economic services and economic growth in Nigeria is stated functionally as follows:

RGDP = f (EES, EED, FD, EXR)

This can be stated linearly as follows:

$$RGDP = b_0 + b_1 EES + b_2 EED + b_3 FD + b_4 EXR + ut$$

$$b1, b2 > 0, b3, b4 \gtrless 0$$

Where:

RGDP = Real Gross Domestic Product

EES = Expenditure on Economic Services

EED = Expenditure on Education

FD = Fiscal Deficit

EXR = Exchange Rate

ut = error term

The Error Correction Mechanism will be used to analyze the data. This will come after preliminary statistics has been carried out. These preliminary tests included the descriptive statistics, the correlation analysis, the Augmented Dickey Fuller (ADF) unit root test etc.

The result of the descriptive statistics is shown in table 1 below:

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

Table 1: Summary of Descriptive Statistic Result

	LRGDP	LEED	LEES	LFD	LEXR
Mean	50.41429	9.857143	9.152204	7.910714	48.58324
Median	45.80000	9.000000	9.275824	5.550000	13.85000
Maximum	94.50000	26.00000	12.86230	32.00000	113.2000
Minimum	29.10000	3.500000	5.890262	1.400000	0.200000
Std. Dev.	14.91245	5.780887	1.928137	7.037852	49.40729
Skewness	0.991261	0.868000	0.157754	2.096454	0.247731
Kurtosis	3.782887	3.230419	2.329356	7.277503	1.164753
Jarque-Bera	5.300524	3.577919	0.640860	41.85708	4.215880
Probability	0.070633	0.167134	0.725837	0.000000	0.121488

Source: Author's Computation

The mean for RGDP is 50.41 which is higher than the median with a value of 45.80 which implies that the RGDP improved over the study period. The maximum value for RGDP is 94.50 while the minimum value is 29.10. The mean for EED is 9.86 and the standard deviation is 9.0000. An indication that the EED marginally improved during the study period. The highest and lowest value for EED are 26.00 and 3.50. The average value for EES and the median are 9.1. An indication of a very small decline in the EES over the study period. The mean for FD is 7.91 and the median value is 5.55. This insinuates that the FD increased over the study period. The EXR had a mean and median value of 48.58 and 13.85 units. This indicated that the EXR depreciated over the study period.

The result of the correlation matrix is shown in table 2 below:

Table 2: Result of Correlation Analysis

	LRGDP	LEED	LEES	LFD	LEXR
LRGDP	1				
LEED	0.22730948583	1			
LEES	0.13850199226	0.98370205121	1		
LFD	-0.11234421238	-0.11164240811	-0.08893070714	1	
LEXR	0.14063935710	0.71083454152	0.73503450873	0.20652223236	1

Source: Author's Computation

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

The correlation coefficient between RGDP and EED is 0.23 which is a low and positive correlation. The correlation coefficient between EES and RGDP is 0.14 which is also a low and positive correlation. The correlation coefficient between FD and RGDP is 0.11 which amounts to a weak but negative correlation. The correlation coefficient between EXR and RGDP is 0.14 which represents a weak and positive correlation. On the whole, the result of the correlation analysis suggest the absence of any form of multi-co-linearity among the variables.
The result of the static OLS is shown in table 3 below:

Table 3: Summary of OLS Result Dependent Variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEES	5.754354	0.918787	6.262987	0.0000
LEED	5.345435	1.481820	3.607344	0.0015
LFD	-38.55875	14.08950	-2.736701	0.0118
LEXR	1.284415	1.040221	1.234752	0.2294
C	4.486934	2.354297	1.905849	0.0692

R^2 = 0.75, Prob (F-Statistic) = 0.0000, DW = 2.24
Source: Author's Computation

The coefficient of determination indicated that 75 percent of the total variation in the RGDP had been explained by the EES, EED, FD and EXR. This is good since only 25 percent of the total variation was explained outside the model. The result indicated further that EES, EED and EXR had a negative relationship with the RGDP. An increase in the EES, ED and EXR by 1 unit each increased the RGDP by 5.75, 5.35 and 1.28 unit. The result indicated that an improvement in revenue on economic services improved the level of economic growth in Nigeria. The result indicated that the FD had a negative impact on the RGDP. An increase in FD by 1 unit reduced the RGDP by -38.56 units.
The relevant hypotheses will be tested using the t-statistics and the relevant probabilities. The result indicated that EES with a t-value of 6.26 and probability of 0.0000 is statistically significant in explaining the changes in the RGDP. An indication of the validation of the alternative hypothesis that expenditure on economic services had a significant relationship with the level of economic growth. The EED and FD with t-values of 3.61 and -2.73 with probabilities of 0.0015 and 0.0118 were statistically significant. This indicated a validation of the relevant alternative hypotheses. The EXR was not statistically significant.

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

The result of the ADF unit root test is shown in table 4 below:

Table 4: Summary of ADF Unit Root Test Result

Variables	Level data	First Difference	Order of Integration
EED	0.41	-3.66^{oo}	I (1)
RGDP	-0.42	-3.57^{oo}	I (1)
EES	-1.94	-7.34^{o}	I (1)
FD	-2.24	-6.82^{o}	I (1)
EXR	-0.95	-4.78^{o}	I (1)

NB:

1. I (1) implies stationary after first difference.
2. ^{o} & ^{oo} indicates significance at the 1 percent and 5 percent levels.
3. 1% & 5% critical values are -3.78 and -2.98.

Source: Author's Computation

The result of the unit root test indicated that the EED and RGDP were stationary at the 5 percent level. The remaining variables were stationary at the 1 percent level. The result indicated that all the variables became stationary after taking the first difference. Thus, they were all integrated at order 1 or ECD.
The result of the Johansen Co-integration Test is shown in table 5 below:

Table 5: Summary of Johansen Co-integration Test Result

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.989170	166.4740	69.81889	0.0000
At most 1*	0.550725	48.81194	47.85613	0.0405
At most 2	0.437319	28.00883	29.79707	0.0793
At most 3	0.275617	13.05772	15.49471	0.1127
At most 4*	0.164551	4.674428	3.841466	0.0306

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistics	0.05 Critical Value	Prob.**
None *	0.989170	117.6621	33.87687	0.0000
At most 1	0.550725	20.80311	27.58434	0.2883
At most 2	0.437319	14.95111	21.13162	0.2923
At most 3	0.275617	8.383295	14.26460	0.3411
At most 4*	0.164551	4.674428	3.841466	0.0306

Source: Author's Computation

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

The Johansen Test indicated that there exists a long run equilibrium relationship among the variables as revealed by the trace and max-eigen statistics which had two co-integrating equation each.
The result of the Overparameterized and Parsimonious ECM are shown in tables 6 and 7 below:

Table 6: Summary of Over-parameterized ECM Result.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEES	3.144008	3.068185	1.024713	0.3257
LEES(-1)	14.91292	6.228739	2.394211	0.0339
LEES(-2)	11.25251	6.856809	1.641071	0.1267
LEED	0.612951	0.322280	1.901923	0.0815
LEED(-1)	5.754354	0.918787	6.262987	0.0000
LEED(-2)	0.057624	0.280991	0.205073	0.8410
LFD	-5.213673	0.863257	-6.039534	0.0000
LFD(-1)	0.030586	0.204011	0.149924	0.8833
LFD(-2)	0.052105	0.181209	0.287541	0.7786
LEXR	0.415470	0.778812	0.533466	0.5988
LEXR(-1)	0.021062	0.069818	0.301678	0.7656
LEXR(-2)	-0.105796	0.753652	-0.140377	0.8898
ECM(-1)	-0.123783	0.049600	-2.495635	0.0214
C	0.396793	0.478792	0.828739	0.4158

R^2 = 0.86, AIC = 24.64, SC = 25.32, DW = 2.15

The result above was developed to extract the Parsimonious ECM with the guide from the Akaike Information Criterion (AIC) and Schwarz Criterion (SC). The result of the Parsimonious ECM is shown in table 7 below:

Table 7: Summary of Parsimonious ECM Result. Modeling: LRGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEES(-1)	6.046883	1.994664	3.031530	0.0063
LEED(-1)	0.055857	0.011700	4.773901	0.0001
LFD	-0.034806	0.009832	-3.540065	0.0019
LEXR	20.05954	16.71227	1.200288	0.2434
ECM(-1)	-0.019151	0.004666	-4.104397	0.0005
C	0.097305	0.089560	1.086474	0.2885

R^2 = 0.87, AIC = -24.22, SC = -25.51, DW = 2.07

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

Interpretation and Test of Hypotheses:

The result did not deviate significantly from the static long run results. The result of the dynamic short run indicated that 87 percent of the total change in the RGDP was explained by the EES(-1), EED(-1), FD and EXR taken together. The result indicated that the EES(-1), EED(-1), and EXR had a positive relationship with the RGDP. An increase in the EES(-1), EED(-1) and EXR by 1 unit each increased the RGDP by 6.05, 0.06 and 20.06 units. An increase in the FD by 1 unit reduced the RGDP by 0.035 units.

The test of the relevant hypotheses as shown by the t-statistics and probabilities did not differ from the long run static result. The result indicated that the EES(-1), EED(-1) and FD with t-values of 3.03, 4.77 and -3.54 with probabilities of 0.0053, 0.0001 and 0.0019 were statistically significant in explaining the changes in the RGDP. This indicated the validation of the respective alternative hypotheses that there is a significant relationship between the dependent and independent variables. The result indicates further that the EXR was not statistically significant. The ECM showed a good speed of adjustment.

The result of the diagnostic checks are shown in table 8 below:

Table 8: Summary of Diagnostic Checks Result

Test Type	F-Statistics	Probability
Jarque-bera	1.96	0.3761
Breuch Godfrey serial correlation LM test	0.70	0.8063
White Heteroskedasticity test	0.49	0.7805

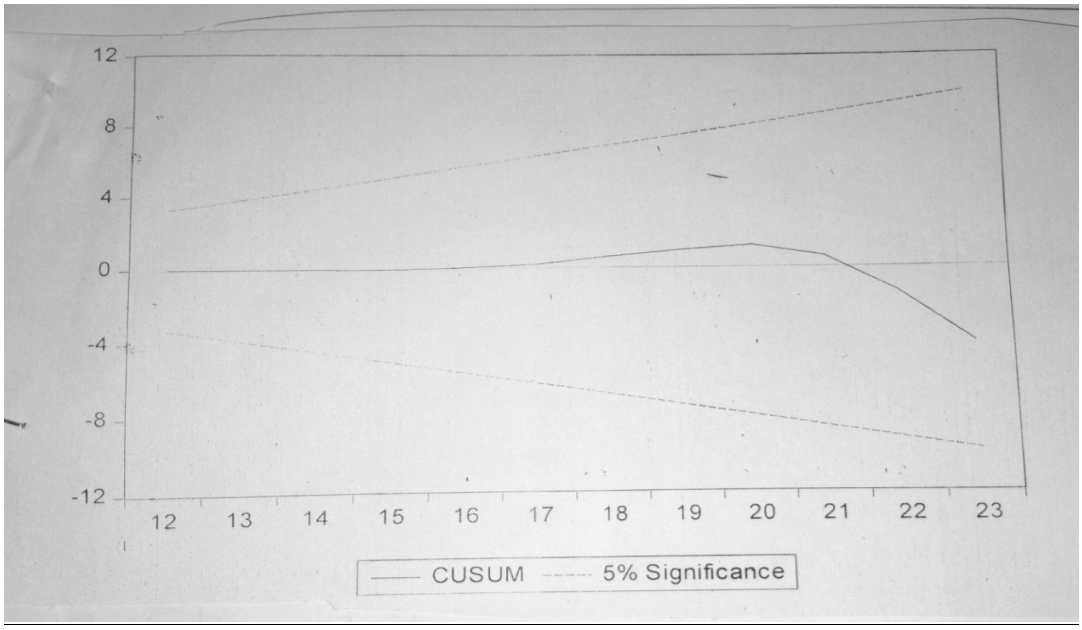
Source: Author's Computation

The result of the jarque-bera with a probability of 0.3701 indicated that the residuals were normally distributed. The result of the Breusch-Godfrey Serial Correlation LM Test with probability of 0.8063 indicated that the residuals were not serially correlated. The results of the heteroskedasticity test indicated that the residuals are homoskedastic with a constant variance as shown by a probability of 0.7805.

The result of the Cumulative Sum of Recursive Residuals (CUSUM) stability test is shown in figure 1 below:

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

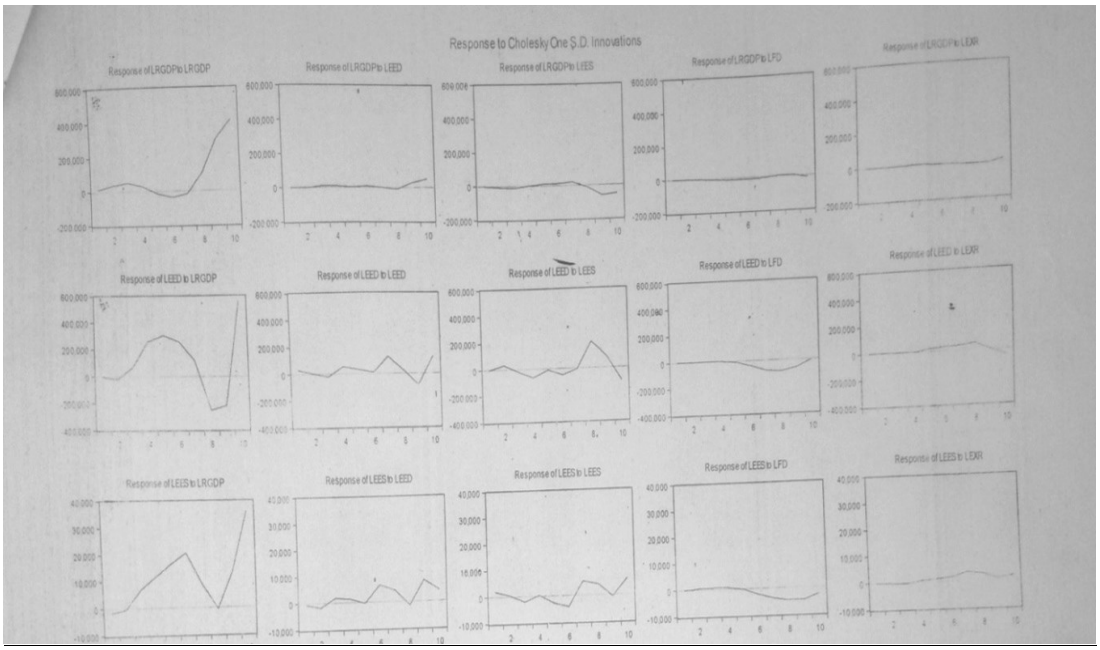
Figure 1: CUSUM Stability Test



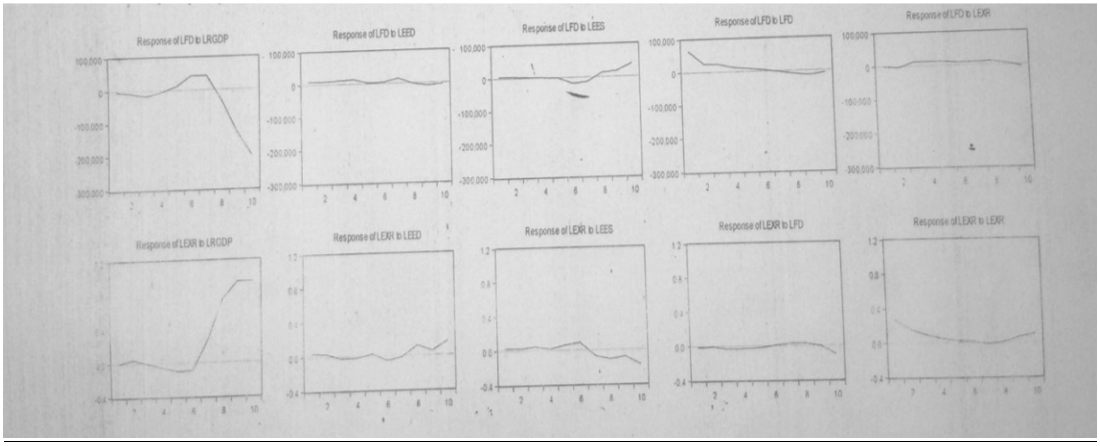
Source: Author's Computation

The result indicated residual stability since the CUSUM line did not cross any of the two 5 percent lines. The result of the impulse response is shown in figure 2 below:

Figure 2: Impulse Response Result



EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]



Source: Author's Computation

The result indicated the dominance own shocks. A 1 percent standard deviation shocks to RGDP had a positive impact on itself. A percent standard deviation shocks to EED, EES, FD and EXR had positive impact on each of the own individual variables. The result showed further that a one period standard deviation shocks to EED had a positive impact on the RGDP. A one period standard deviation shocks to the FD had a negative impact on the RGDP and a one period standard deviation shock on the EXR had a positive impact on the RGDP.

Conclusion

This paper is focused on the mechanism through which changes in government expenditure on economic services could translate to economic growth in Nigeria. Adequate fund well managed, spending on relevant economic services had been the key to success of many countries, including the Asian Tigers and many European Countries. The case of Nigeria had been a case of mismanaged and non-prioritization of expenditure on economic services. The findings from the study enabled us to conclude that the expenditure on economic services, if well managed could transform the level of economic progress in Nigeria. It was also revealed that expenditure on education has been pivotal to sustaining the level of economic growth.

Recommendation

The study, on the basis of the above results, recommends as follows:

a) That more funds should be channeled to economic services. If well managed such funds could go a long way on the long run, in transforming the level of economic growth in Nigeria.
b) That such increased allocation to economic services should however be well managed with the active participation of the ICPC and the EFCC which must be unbiased on the discharge of such prudential monitoring responsibilities.
c) That government should increase budgetary allocation to the educational sector in order to upgrade and expand the educational institutions to international standard, so as to enhance the contribution of the sector to national productivity and compete favourably with foreign educational institutions.
d) That there is need to balance government expenditure with government income, in order to avoid fiscal deficit, so as to prevent excessive borrowing with it's inherent huge debts services bunden.

ACKNOWLEDGEMENT

First and foremost, our gratitude goes to God Almighty, through His divine inspiration the Tertiary Education Trust Fund (TETFUND) was established.

To this end, we have our sincere appreciation to the management of TETFUND through whose sponsorship this research work was carried out.

References

Abayomi, T. S. and Agbatogun (2013) Government expenditure in Nigeria: A Sine-qua-non for economic growth and development. *International Journal of Development and Sustainability. 2(4), PP. 2382 – 2395.*

Akobi, K.C; Umeora, C.C. & Atueyi, C.L (2021) Government expenditure and inflation rate in Nigeria. *International journal of Business Systems and Economics 13(14), PP. 276 – 293.*

Alina, I. & Ali, C. (2011) *The Incidence of Public Capital Spending on Economic Growth Lasi*, Lasi University Press

Alshammari, M. and Haruna, S. I. (2023) Sustainable traffic Management for smart cities using internet-of-things-oriented intelligent transportation systems (ITS): Challenges and Recommendations. *Sustainability, 15(3), 9859.*

Central bank of Nigeria (CBN). *Statistical Bulletin December 2022.*

Chandana, A; Adamu, J. & Musa, A (2021) Impact of government expenditure on Economic Growth in Nigeria. *CBN Journal of Applied Statistics, 12(1), PP. 139 – 174.*

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

Dappah, I. (2023) *Public Expenditure on Agriculture and its Impact on Economic Growth in Ghana,* Ghana, Oxford University Press

Ezebuilo, R. U. (2015) determinants of the size of public expenditure in Nigeria. *SAGE: D01:10. 1177/2158 – 244015621346*

Eugene, I. (2016) Contribution of government expenditure on economic growth of Nigeria. A disaggregated approach. *Research Gate: D01:10. 4172/2162 – 6359.1000369*

Francis, A. O. (2019) Effect of sectoral public growth in Nigeria; East African Scholars. *Journal of Economics, Business and Management, 2(3), PP.155 – 161.*

Gujarrati, D. N. (2003) *Basic Econometrics.* (4e), New York, McGraw – Hall Inc.

Johansen, S. & Juselius, K. (1992) Testing Structural Hypotheis in a Multivariate Co-integration analysis of the PPP and the UIP for UK. *Journal of Econometrics, 53: 211 – 244.*

Johansen, S. (1991) Estimation and Hypothesis Testing of Co-integration Vectors in Gaussian. Vector Autoregressive Models. *Econometrica. 59: 1551 – 1580.*

Modebe, N. J, Okafor, J. U, Onwumere, J. and Imo, G. I. (2012) Impact of recurrent and capital expenditure on Nigeria's economic growth. *European Journal of Business and Management, 4(19), PP. 2222 – 2839.*

Ngobeni, E. and Muchopa, C. L. (2022) The impact of government expenditure in agriculture and other selected variables on the value of agricultural production in South Africa (1983 – 2019): A vector autoregressive approach. *Economies, 10(9), 205.*

Ogochukwu, E. N (2023) Government expenditure and poverty reduction in Nigeria (2020 – 2022). *International Journal of Research and Scientific Innovation (IJRSI), 10(7), PP. 168 – 177.*

Okafor, O. & Eiya. O (2011) Determinants of growth in government expenditure. An empirical analysis of Nigeria. *Research Journal of Business Management, 5(1) PP: 44 – 50.*

Olalekan, C. O.; Imran, U. S.; Olumide, A. A. & Olayide, O. O. (2024) Effect of government expenditure on real economic growth in ECOWAS: assessing the moderating role of corruption and conflict.

Peacock, A. and Scott, A. (2000) The curious attraction of Wagner's Law. *Public Choice, 102(1), PP. 1 – 17.*

Stephen, T. O.; Savas, C.; Savas, E.; Simplice, A. & Festus, V. B. (2020) An empirical restrospect of the impacts of government expenditures on economic growth: new evidence from the Nigerian economy. *Journal of Economic Structures: https//doi.org110.1186/540008 – 020 – 0186 – 7*

Soekotjo, S, Lestari, S. D, Pawirosumatro, S. and Damaris, A. (2025) Trends and opportunities in sustainable manufacturing. A system review of key dimensions from 2019 – 2024. *Sustainability, 17(2), 789.*

Suwandaru, A, Alghamdi, T. S. and Nurwanto, N. (2021) Empirical analysis of public expenditure for education and economic growth: Evidence from Indonesia. *Economies, 9(4), 146.*

Tang, T. C. (2009) *Wagner's Law versus Keynessian Hypothesis: An Impresionistic View,* Malaysia, Monash University Publications.

Tawose, J. (2012) Effects of public expenditure on industrial sector productivity in Nigeria. Canadian Social Sciences, 8(1), PP. 204 – 214.

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]

Xu, B. and Shi, M. (2023) Synergistic industrial agglomeration and new quality productive forces: A reginal development perspective. *Journal of Industrial Economics, 62(4), PP. 543 – 567.*

Yerima, U. etal (2022) Impact of government expenditure on economic growth in Nigeria: Sapientia foundation. *Journal of education, sciences and Gender Studies (SFJESGS) 4(5) PP. 151 – 163.*

Zhou, D. (2025) Digital twin technology in transportation infrastructure: A comprehensive survey of current applications, challenges and future directions. *Applied Sciences, 15(4), 1911.*

EDITOR-IN-CHIEF
Prof. R. Rena [South Africa]