



Research Paper

An Assessment of the Impact of Government Recurrent Expenditure on Economic Growth of Nigeria

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Abstract

Government Expenditure is a potent tool for enhancing economic growth globally. This study examined the impact of government recurrent expenditure on economic growth of Nigeria for the period 1981 – 2020. Secondary time series data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin. Real gross domestic product (RGDP), proxy for economic growth was adopted as the dependent variable while government recurrent expenditure on administration, education, health, agriculture and pensions and gratuities were adopted as the independent variables. The Augmented Dickey-Fuller (ADF) unit root test was employed to test the stationarity of the variables while the Johanson Cointegration test was adopted to test the long run relationship among the variables. All variables in the model became stationary at $I(1)$, thus the Vector Error Correction Model (VECM) was used to estimate the short run and the long run analysis of the study. Findings of the study revealed that government recurrent expenditure on administration, health, agriculture and pensions and gratuities had negative and insignificant impacts on economic growth in the short run while government recurrent expenditure on education had a negative and insignificant impact on economic growth of Nigeria in the both the short run and the long run. Government recurrent expenditure on health and agriculture had negative and significant impact on economic growth of Nigeria in the long run but government recurrent expenditure on administration had a positive and significant impact on economic growth in the long run. Government recurrent expenditure on pensions and gratuities had a positive and insignificant impact on economic growth of Nigeria in the long run. The study therefore, recommended amongst others that Government recurrent expenditure on administration especially in the area of security should be sustained to improve the enabling environment and hence economic growth. The educational and health sectors require increased funding to take care of the workforce of the sectors in terms of salaries, allowances and other welfare packages in order to enhance productivity. There is also need for government to improve the funding of agricultural sector recurrent expenditures in terms of providing the enabling environment for employees of the sector to put in their best towards improved productivity and growth of the economy, while pensions and gratuities of retired citizens should be paid as at when due to enable them play active part in the economy and thus, contribute their quota to economic growth of the nation.

Keywords: Economic Growth, Recurrent expenditure, Education, Health, Agriculture, Administration, Pensions and Gratuities.

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I. Introduction

Public expenditure is a major fiscal instrument deployed by government across the globe to influence economic growth. Public expenditure tends to raise national income, employment, output and price (Jhingan, 2009). In other words, public expenditure could affect economic growth as stated above. It also has the effect of raising disposable income, thereby increasing consumption and investment expenditure of citizens. In Nigeria today, public expenditure items broadly include expenditure on administration, social and community services, economic services and transfers (Shakirat 2018). Generally, government spends on areas such as national security and defence, national assembly, education, health, agriculture, construction, public debt servicing and pensions and gratuities.

Public expenditure is classified into capital expenditure and recurrent expenditure. According to Nwaeze (2016), capital expenditure include expenses of government on the acquisition of things of permanent nature such as roads, building constructions, hospitals and other infrastructures. On the other hand, recurrent

expenditure must be incurred on a regular basis if the functions and machinery of government must go on unhindered. They are expenses of government which occur regularly throughout the year and include; salaries of employees, expenses on maintenance and repairs of facilities, money spent on administration etc.

However, the Keynesian ideology acknowledges the effective contribution of capital expenditure to economic growth than recurrent expenditure. Till date, these expenditures have been on the increase, over and above the capital expenditure of government. Thus, many citizens have continued to criticize the situation and consider it unproductive.

In this work, the recurrent expenditures of interest are administration, education, health, agriculture and pensions and gratuities. Despite increasing government expenditure over the years, the welfare of citizens seem not to have improved. Many citizens argue that increasing public expenditures has not translated in real terms to economic growth and development. This is the problem of this study. Nigeria ranks amongst the poorest countries in the world today (Nwamuo, 2020). Security is nothing to write home about, power is irregular and epileptic, the education and health sectors are in comatose while the level of agricultural productivity is too low to feed our teeming population. The picture painted above, has created a research lacuna and also motivated this study.

On the above background, this study specifically investigated the impact of government recurrent expenditure on administration, education, health, agriculture and pensions and gratuities on economic growth of Nigeria for the period 1981-2020.

II. Literature Review

Conceptual Framework

The concepts below are considered in this work:

Concept of Economic Growth

Olayemi (2017) sees economic growth as an increase in the net national product of a country in a given period of time. Economic growth brings about better welfare and standard of living of the people. This results from improvement in infrastructure, housing, education, health and improved agricultural productivity. Therefore, it is a pivot tool for sustainable growth and development in nations across the globe.

Canons of Expenditure

Like in revenue where there are certain principles governing taxation as a source of revenue, there are principles that also govern public expenditure decisions. According to Njoku (2003), they include the following:

1. Canon of Sanction

This particular canon of expenditure advocates that public funds could only be used by proper authorization and for the purpose for which it is approved. In a democratic set up, it is the legislature that sanctions the expenditure on demand by the executive authorities. In Nigeria, the National Assembly, which comprises of the Senate and House of Representatives approve and authorize funds meant for public expenditures. The rationale behind this is that such a restriction would avoid unscrupulous and unwanted expenditure and it would also serve as a check against misappropriation of public fund.

However, since the society is dynamic and there exists, emergencies and delays in getting the sanction of the legislature for expenditures to be made, there is therefore the need for a level of flexibility in such cases up to a certain level.

2. Canon of Economy

It is well known that the resources of the economy are always scarce relative to the need for them. Therefore, no wastage should be permitted. This canon simply suggests that necessary care must be taken to avoid wasteful usage of public funds. The process of public expenditures should not involve the use of resources more than what are just necessary. This is very essential. However, as the level of government activities increases, both in coverage and quality, it becomes all the more difficult to judge the exact type and extent of wasteful expenditure. Therefore, greater care and a scientific approach towards the assessment of the required expenditure are still needed. Techniques such as programme and performance budgeting have been developed to meet these objectives.

3. Canon of Benefit

Expenditure is to be incurred only if it is beneficial to the society. Expenditure is therefore justified by the benefit that would accrue from it. However, the beneficial nature of public expenditure could manifest itself in the form of various effects on income, wealth distribution and production, etc. This canon of expenditure is clearly related to the canon of economy.

4. Canon of Surplus

This canon emphasizes on the fact that government should avoid deficit budgeting at least for the greater part of the time, i.e. persistent one. Government should be prudent and try to meet its current expenditures from current revenue. Government should not spend beyond its available resources and run into a debt. However, in modern day governments, public borrowing which is the origin of public debt is a major source of fund to government.

Therefore, since it may not be possible to avoid some deficits completely, it would be better if the general effort is directed at achieving a moderate surplus. Such moderate surplus during some years would take care of reasonable but unavoidable deficits during other years. If, for instance, a large deficit has to be incurred on account of a war, then the government should try to pay off its debts as soon as possible.

Theoretical Review

The Keynesian theory and the Wagner's theory of increasing state activities were chosen in this study. However, this study is hinged on the Keynesian theory.

The Keynesian Theory

Of all economists who discussed the relation between public expenditure and economic growth, Keynes was among the most noted with his apparently contrasting viewpoint on this relation. Keynes regarded public expenditure as an exogenous factor which could be utilized as a policy instrument to promote economic growth. From the Keynesian thought, public expenditure could contribute positively to economic growth. Hence, an increase in government consumption was likely to lead to an increase in employment, profitability and investment through multiplier effects on aggregate demand. As a result, government expenditure augmented the aggregate demand, which provokes an increased output depending on expenditure multipliers.

Wagner's Theory of Increasing State Activities

Over one hundred years ago, Adolph Wagner, a leading German economist of the time, formulated a "law of increasing state activities" otherwise called the "Functional Theory" which pointed to the growing importance of government activity and expenditure as an "inevitable" feature of a "progressive" state. He studied the German economy over time and observed a correlative growth of national economy and public expenditure in the economy. According to Wagner, there were inherent tendencies for the activities of different tiers – federal government, state and local governments to increase both intensively and extensively. There was a functional relationship between growth of an economy and growth of government activities so that the later grew faster than that of the economy.

This theory was able to explain government expenditure according to functions. In addition, he was able to explain influence of industrial development on government functions and expenditure. In accordance to the views expressed by Wagner, government functions include:

1. Administrative and protective functions
2. Cultural and welfare functions
3. Direct provision of social and public goods, etc.

Wagner argued that the development of the industrial sector would bring a structural change which will compel government to spend more money in carrying out the itemized functions above. Wagner's theory was supported by other writers like T. S. Nitti, Nitti showed that the law also applies to various other countries like it does to Germany.

Empirical Review

The relationship between government expenditure and economic growth has continued to generate series of controversies among scholars in economic literature.

Nworji, et al (2012) studied the effect of public expenditure on economic growth in Nigeria: A disaggregated time series for the period 1970 – 2009. Tool of analysis was ordinary least square (OLS) multiple regression model, specified on perceived causal relationship between government expenditure and economic growth. The major objective of this paper was to analyze effect of government expenditure on economic growth in Nigeria based on time series data on variables considered relevant indicators of economic growth and government expenditure. Therefore, time series data included in the model were those on gross domestic product (GDP), and various components of government expenditure such as economic services, social and community services and transfers. Analysis was based on data extracted from the Statistical Bulletin of the Central Bank of Nigeria. Results of the analysis showed that capital and recurrent expenditure on economic services had a negative and insignificant effect on economic growth during the period of the study. Also, capital expenditure on transfers had a positive and insignificant effect on growth. But capital and recurrent expenditures on social and community services and recurrent expenditure on transfers had a positive and significant effect on economic growth. Consequently, the study recommended more allocation of expenditures to the services with significant positive effect.

Ojonugwa, Esther and Hindatu (2016), examined the relationship between government expenditure and economic growth in Nigeria for the period 1970 to 2010. Recurrent expenditure and capital expenditure were adopted as proxies for government expenditure while real gross domestic product was proxy for economic growth. Unit root test, cointegration test, Pair-wise cointegration test and Granger-causality test were empirical tools. The study showed that both capital expenditure and recurrent expenditure had positive and significant

relationship with economic growth in the short run. Recurrent expenditure exhibited positive and significant relationship with economic growth in the short run while capital expenditure had a negative but significant relationship with economic growth in the short run. The Pair-wise Granger-causality test showed that there was a unidirectional causality running from economic growth to both capital and recurrent expenditures showing that economic growth determined both capital and recurrent expenditure in Nigeria.

Nwaoha, Onwuka and Ejem (2017), examined the effect of aggregated and disaggregate government expenditure on economic growth in Nigeria for the period 1980 to 2015. The study adopted aggregated government expenditure (proxied by total federal government expenditure). Disaggregated expenditure was proxied by recurrent expenditure and capital expenditure while real gross domestic product served as proxy for economic growth. All of total government expenditure, recurrent expenditure and capital expenditure served as the independent variables while real GDP served as the dependent variable. The study employed the error correction mechanism (ECM) as the empirical tool for its tests and analysis. Findings showed that total federal government expenditure and capital expenditure had positive and significant effect on economic growth in Nigeria. On the other hand, the study revealed that recurrent expenditure had a positive and insignificant effect on economic growth in Nigeria.

Debekeme and Briggs (2017), empirically examined relationship between expenditure pattern and economic growth in Nigeria from 1990 – 2014. To achieve the objective, secondary data were collected from annual reports of Central Bank of Nigeria (CBN), Nigeria capital market (NCM) and millennium development goal centre (MDGC). The data collected were analyzed using regression analysis with the aid of Statistical Package for Social Science (SPSS) version 20. The results indicated a coefficient (R) of 0.632 and 0.589, respectively for the hypotheses. These justified an existence of a positive and moderating relationship between government expenditure pattern and economic growth in Nigeria. Also, the test of significance showed their relationship was significant with t-cal (3.92) and (3.50) comparatively higher than t-tab (2.06). This finding presented statistical evidence to reject the null hypothesis that there is no significant relationship between government expenditure and real gross domestic product (economic growth) in Nigeria and accept the alternative that there is a significant relationship between government expenditure and real gross domestic product (economic growth) in Nigeria. Hence, the study recommended that government expenditure pattern be sustained to the extent of sustaining economic growth of Nigeria.

Iheanacho (2016), examined the long- and short-run relationships between expenditure and economic growth in Nigeria over the period 1986-2014, using Johanson Cointegration and error correction approach. Two components of public sector expenditure and gross capital formation ratio were derived from Cobb Douglas production function. The result showed that recurrent expenditure was the major driver of economic growth in Nigeria. Controlling for the influence of non-oil revenue, that study showed a negative and significant long-run relationship between economic growth (RGDPC) and recurrent expenditure coexisted with a positive short-run relationship highlighting the dual effects of recurrent expenditure on economic growth in Nigeria. For the capital expenditure, the study documented a negative and significant long-run effect of capital expenditure on economic growth in Nigeria. The variance decomposition also confirmed the collective contribution of public expenditure on economic growth.

Shakirat (2018), investigated government spending on infrastructure. Both primary and secondary data were used for the study. The secondary data comprised of reported annual spending on selected infrastructure and annual GDP for 1980 – 2016 for Nigeria. The data treatments used for the secondary data were unit root and cointegration test using Augmented Dickey-Fuller and Phillip-Perron Model. Weighted Least Squares was used to test the sample of 37 year annual time series using Vector Error Correction models for the primary data, a sample of 242 respondents were utilized for the study. Statistical random sampling was used for the sample selection. The data analysis was done with descriptive statistics. Findings from the study indicated that government spending on transport and communication, education and health infrastructure had significant effect on economic growth. Spending on agriculture and natural resources infrastructure recorded a significant inverse effect on economic growth in Nigeria. An element of fiscal illusion was observed in the government spending on agriculture and natural resources indicating that government was not contributing as much as the private sector in spending on agriculture and natural resources infrastructure in Nigeria.

In the study by Miftahu and Rosin (2017), recent developments in government expenditure and epistemological literature on the relationship between public spending and economic growth in Nigeria were examined. The primary aim of that paper was to explore relationship between government expenditure and economic growth with the view that an Auto Regressive Distributive Lag (ARDL) model would be employed to provide the framework for estimating the existence or otherwise of the equilibrium relationship among the examined variables. However, government as an institution that provided welfare to the populace has a major role to play in deciding where priority spending should be allocated in order to enhance the developmental process and provide sustainable growth in the growing economy. In all submissions that were debated on the relationship between public sector spending and economic growth, Keynesian philosophy was among the most

prominent and celebrated in contrast to Wagner's Law. Keynesians regard government spending as an exogenous factor which could be utilized as a policy instrument to promote economic growth. Despite the diverse and conflicting empirical evidence on the relationship between public sector expenditure and the literature, the empirical findings from the paper based on the estimated results from ARDL model, revealed existence of positive and significant relationship between public spending on economic growth in Nigeria. Undeniably, government expenditures were considered to be highly important in creating opportunities and widening the productive base at which developing countries could grow, Nigeria inclusive.

The objective of the study by Daniel, Okey and Steve (2018), was to investigate empirically impact of government expenditure on construction, transport and communication on economic growth in Nigeria between 1980 and 2016. Time series data were sourced from secondary sources on economic growth proxied by gross domestic product (GDP), government expenditure on construction (CNS), government expenditure on transport and communication (TRC) and state of infrastructure proxied by electricity availability (SIF). The data set were analyzed using the Engle-Granger Co-integration and Error Correction Modelling techniques. The results of the analysis revealed that both government expenditure on construction, transport and communication had a negative relationship with economic growth and also did not impact on it.

Daniel, Simeon and Itode (2018), examined effect of public investment in the social sector on employment generation in Nigeria between 1980 and 2016. Time series data were sourced from secondary sources on unemployment rate (UNE), a proxy for employment generation, government expenditure on education (EDU), government expenditure on health (HEH) and government expenditure on other social and community services (COM). The data set were analyzed based on the Dynamic OLS proposed by Stock-Watson (1993) technique of analysis to estimate the model. The result of the analysis revealed that government expenditure on education (EDU) was rightly signed and was statistically significant while government expenditure on health (HTH) and government expenditure on other social and community services (COM) were wrongly signed and statistically significant at 5 percent level. This implied that government expenditure on health (HTH) and government expenditure on other social and community services had not generated employment in Nigeria within the period under review.

Gabriel and Johnson (2013), examined the partial and joint effects of disaggregated capital expenditures on economic growth of Nigeria. The study was perceived on the causal effect between government expenditure and economic growth. Annual time series data covering 1981 – 2013 for capital expenditure on education, health, agriculture and road construction were analyzed using ordinary least square multiple regression model to predict economic growth. The data were obtained from the Central Bank of Nigeria Statistical Bulletin (2014). Cointegration and Vector Error Correction Models were applied in estimating the data to test the long-run and short-run effect of the variables on economic growth. Granger-causality tests were conducted to ascertain the cause-effect of these variables. Results indicated that there existed long-run positive relationship between economic growth and capital expenditure on education and road; where there was a long-run negative relationship between economic growth and capital expenditures on agriculture and health. Results also indicated there was a unidirectional causal effect running from economic growth to capital expenditure on agriculture and road construction; while at the same time a unidirectional causal effect ran from capital expenditures on education and health to economic growth. The adjusted R^2 is 33% indicating that greater proportion of the issues in economic growth was not explained by capital expenditure in Nigeria. The paper recommended that government should review its monitoring mechanism to ensure adequate and prudent management of funds.

Nazifi (2014), empirically investigated impact of federal capital expenditure on economic growth of Nigeria from 1980-2010. To establish these empirical facts, the researcher employed multiple regression model of ordinary least squares using secondary data. From the result, the total capital expenditure (TCE), capital expenditure on administration (ADM), capital expenditure on social and community services (SCS) and capital expenditure on transfers (TRF) had a positive impact on economic growth in Nigeria. This implied that increases in these variables would cause positive change in economic growth. On the contrary, capital expenditure on economic services (ECO) had a negative impact on economic growth in Nigeria. One of the major challenges of poor utilization of federal capital expenditure was the issue of mismanagement of funds, the author recommended that government should increase its funding of anti-graft or anti-corruption agencies like the Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC) in order to penalize those who diverted and embezzled public funds more especially funds for capital expenditures.

In a study of the responsiveness of economic growth to public expenditure in Nigeria for the period 1980-2016, Uremadu and Nwaeze (2019), adopted the *ex-post facto* design, employing the ordinary least squares (OLS) multiple regression technique for its test and analysis. Recurrent expenditure, capital expenditure and inflation rate served as the dependent variables while real gross domestic product served as the dependent variable. Findings of the study revealed that government recurrent expenditure had a negative and insignificant

impact on economic growth of Nigeria while government capital expenditure exerted a positive and significant impact on economic growth for the period covered by the study. However, inflation rate had the greatest but negative influence on growth of the economy.

Al-Gifari (2015), studied effects of government expenditure on economic growth: The case of Malaysia. In that study, government expenditure was disaggregated into government operating and development expenditure. He also classified government expenditure based on the sector on which it was spent. The study made use of ordinary least square (OLS) technique to find fixed effects of government expenditure on economic growth for the last 45 years. This investigation was made by using time series data during the period 1970 – 2014. Empirical results indicated that there was a negative correlation between government expenditure and economic growth in Malaysia for the last 45 years. Moreover, the classification of government expenditure indicated that only the housing sector expenditure and development expenditure significantly contributed to a lower economic growth. Education, defence, healthcare and operating expenditure did not show any significant evidence of its impact on economic growth. These findings might give some overview of policy implications to Malaysia policymakers on optimizing effects of government expenditure on economic growth.

In the study by Driton and Lirim (2017), they aimed at identifying impact of public expenditure on economic growth of Kosovo over the period 2000 – 2016. The structure of the econometric model was built by two economic theories, Wagner and Keynesian, where these two concepts supported the results of the paper, that public expenditures and economic growth had a positive relation, but public expenditure does not have a direct impact on economic growth; but could have a stimulated effect on the economic growth process. The results of the economic models showed that none of the public expenditure categories in Kosovo had any impact on economic growth of Kosovo over the period 2000 – 2016 studied. The general conclusion was that public expenditure in Kosovo has been characterized by an unproductive public expenditure for the period 2000 – 2016, that effect of public expenditure on economic growth has not had the necessary and reasonable impact on achieving the economic target in Kosovo. The findings of the paper could be used by Kosovo's own government to orient the fiscal policies in Kosovo. The study sought to contribute to the provision of an effective public expenditure structure in Kosovo, with particular emphasis on the best categorization of their impact on Kosovo's economic growth.

In this study, Bernur and Serkan (2017), investigated effects of public spending on economic growth and examined the sources of economic growth in developed countries since the 1990s. That paper analysed whether public spending affected economic growth based on Cobb-Douglas Production Function with the two econometric models with Autoregressive Distributive Lag (ARDL) and Dynamic Fixed Effect (DFE) for 21 developed countries (high-income OECD Countries), over the period 1990 – 2013. In comparison to similar empirical studies, their paper added to existing literature by extending the sample of developed countries and provided the tallest empirical evidence for non-linear and structural breaks. Their model results were found to be parallel to each other and the models supported that public spending had an important role for economic growth. This result was accurate in line with theories and previous empirical studies.

According to Jeffrey (2018), there were many recent studies on African countries about relationship between education and expenditure and economic growth. He posited that the case of Cote d'Ivoire has been neglected. He investigated the relationship for Cote d'Ivoire for the period from 1970 to 2015. He applied the ARDL bounds testing approach and causality test. The study provided evidence of existence of a negative and significant long term effect of government education expenditure on economic growth for the aforementioned period. Moreover, there was a positive and non-significant effect of government education expenditure on economic growth at the short-term. The result showed a unidirectional causality relationship between the two variables, running from education expenditure to economic growth. These findings were consistent with some results in the empirical literature and again, indicated that government education expenditure did not stimulate economic growth in Cote d'Ivoire. This might be due to low levels of government education expenditures and the inefficiency with which these expenditures were converted into human capital stock, and by extension into economic growth.

Gitana and Vilnui (2018), attempted in their paper, to provide more reliable estimates of the relationship between government spending and economic growth in the European Union (EU) during the period 1995 – 2015. The methodology adopted in their study consisted of several different stages. In the first stage for an assessment of dynamics of government spending and economic growth indicators over two decades. Descriptive statistics analysis was employed. Correlation analysis helped to identify the relationship between government expenditures (GEs) and economic growth. In the third stage, for modeling the relationship and the estimation of causality between government expenditure and economic growth, Granger causality testing was applied. Findings of the research indicated that eight EU countries had a significant relationship between government spending and economic growth.

Nwaeze, Nwabekee and Dike (2019) examined the impact of government recurrent expenditure on economic growth in Nigeria for the period 1999 – 2016. The paper adopted real gross domestic product

(RGDP), as proxy for economic growth as the dependent variable and government recurrent expenditure on administration, social and community services, economic services and transfers as independent variables. Inflation rate was adopted as the control variable. The Augmented Dickey Fuller (ADF) unit root test was employed to test the stationarity of the variables while the Johansen co-integration test was used to test the long run relationship among the variables. The Ordinary Least Squares (OLS) multiple regression technique was used in data analysis. Findings of the study revealed that government recurrent expenditure on social and community services, economic services and transfers had positive and significant impact on economic growth in Nigeria, while government recurrent expenditure on administration had a positive and insignificant impact on economic growth in Nigeria for the period studied.

In a study by Ezema (2019), he investigated the responses of pensions and gratuities expenditure on real gross domestic product in Nigeria. Pensions and gratuities served as the independent variables while real gross domestic product served as the dependent variable. The study covered the period 1981 – 2016 and data were collected from the Central Bank of Nigeria (CBN) Statistical Bulletin. The study employed the Ordinary Least Squares (OLS) model and the Error Correction Mechanism (ECM) technique as the analytical tools. Findings showed that pensions and gratuities expenditure of government has a positive and significant response on economic growth in Nigeria in the long run. The study then recommended amongst others, that government should spend more on settling pensions and gratuities as a way to increase aggregate demand and foster more economic growth in Nigeria.

III. Methodology

Research Design

The study adopted the *ex-post facto* research design. The *ex-post* research design is used to foist a link between the dependent and independent variables, relying on already existing secondary data. The beauty of suing the *ex-post facto* research design is that the researcher relied on the already existing data devoid of manipulation of the research (Osuala, 2010). This research design is appropriate and preferred in a cause-effect relationship where there is already an existing data which could not be manipulated by the researcher at the point of research. In this study, data for all the variables involved already exist in Nigeria.

Nature and Source of Data

The study made use of secondary data, mostly time series. The data for this study were obtained from the Central Bank of Nigeria (CBN) statistical Bulletins (2019) and National Bureau of Statistic. Data obtained are on variables such as recurrent expenditure on administration, education, health, agriculture, pensions and gratuities and real gross domestic product for the period covered in this study.

Method of Data Analysis

The study made use of pre-testing method, involving the Augmented Dickey-Fuller (ADF), unit root test which focuses on obtaining overall stationery for the variables and the Johansen Co-integration test which aimed at establishing the existence of long-run equilibrium relationship among the variables. Thereafter, the study adopted the Vector Error Correction Model Technique, to determine the long run and short rum impact of government recurrent expenditures on economic growth of Nigeria.

Model Specification

Nwaeze, Nwabeke, Dike and Nwadike (2019), specified a model which captured impact of government recurrent expenditure on economic growth of Nigeria thus:

$$RGDP = f (ADM, SCS, ECS, TRA, INFR) \dots \dots \dots \text{eqn 1}$$

Where

- RGDP = Real gross domestic product
- ADM = Recurrent expenditure on administration
- SCS = Recurrent expenditure on social and community services
- ECS = Recurrent expenditure on economic services
- TRA = Recurrent expenditure on transfers
- INFR = Inflation rate

The model was adopted and modified as below to suit the objective of the present study:

$$RGDP = f (READM, REED, REHLT, REAGR, REDGR) \dots \dots \dots \text{eqn 2}$$

Where:

- RGDP = Real Gross Domestic Product
- READM = Government recurrent expenditure on Administration
- REED = Government recurrent expenditure on Education
- REHLT = Government recurrent expenditure on Health
- REAGR = Government recurrent expenditure on Agriculture
- REPGR = Government recurrent expenditure on Pensions and Gratuities.

Transforming equation 2 into its econometric form, it becomes:

$$RGDP = \beta_0 + \beta_1 READM + \beta_2 REED + \beta_3 REHLT + \beta_4 REAGR + \beta_5 REPGR + \mu \dots \dots \dots \text{eqn 3}$$

Where:

- β_0 = Constant (intercept) term
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Coefficient parameters of the explanatory variables
- μ = Stochastic term or Error term

Thus, transferring equation 3 into its logarithm form in order to bring the variables to a common base, it becomes:

$$\text{LOGRGDP} = \beta_0 + \beta_1 \text{LOG(READM)} + \beta_2 \text{LOG(REED)} + \beta_3 \text{LOG(REHLT)} + \beta_4 \text{LOG(REAGR)} + \beta_5 \text{LOG(REPGR)} + \mu \dots \dots \dots \text{eqn4}$$

By a priori, $\beta_0 > 0, \beta_1 > 0, \beta_2 > 0$ and $\beta_4 > 0, \beta_5 > 0$.

Description Of Research Variable

Dependent Variable

In this study the dependent variable – Economic growth is proxied by real gross domestic product (RGDP). Real gross domestic is seen as the total money value of all goods and services produced within a country at a given period of time, usually one year.

Independent Variables

The explanatory variables in this study are government recurrent expenditure on Administration, Education, Health, Agriculture and Pensions and Gratuities.

IV. Data Presentation, Analysis and Discussion of Findings

Data Presentation

The nominal values of variables used in this study are presented as below:

Table 4.1: Nominal Values of RGDP, READM, REED, REHLT, REAGR and REPGR (₦BILLION)

YEAR	RGDP	READM	REED	REHLT	REAGR	REPGR
1981	15258.00	0.91	0.17	0.08	0.01	0.21
1982	14985.08	1.04	0.19	0.10	0.01	0.24
1983	13849.73	0.90	0.16	0.08	0.01	0.21
1984	13779.26	1.10	0.20	0.10	0.02	0.25
1985	14953.91	1.43	0.26	0.13	0.02	0.33
1986	15237.99	1.45	0.26	0.13	0.02	0.33
1987	15263.93	3.84	0.23	0.04	0.05	0.09
1988	16215.37	5.78	1.46	0.42	0.08	0.96
1989	17294.68	6.27	3.01	0.58	0.15	0.70
1990	19305.63	6.54	2.40	0.50	0.26	0.74
1991	19199.06	6.95	1.26	0.62	0.21	0.79
1992	19620.19	8.68	0.29	0.15	0.46	19.05
1993	19927.99	30.57	8.88	3.87	1.80	2.65
1994	19979.12	20.54	7.38	2.09	1.18	1.73
1995	20353.2	28.76	9.75	3.32	1.51	2.00
1996	21177.92	46.55	11.50	3.02	1.59	0.00
1997	21789.1	56.18	14.85	3.89	2.06	0.00
1998	22332.87	50.68	13.59	4.74	2.89	0.00
1999	22449.41	183.64	43.61	16.64	59.32	0.00
2000	23688.28	144.53	57.96	15.22	6.34	17.04
2001	25267.54	180.8	39.88	24.52	7.06	30.04
2002	28957.71	266.51	80.53	40.62	9.99	57.08
2003	31709.45	307.97	64.78	33.27	7.54	34.16
2004	35020.55	306.77	76.53	34.20	11.26	72.20
2005	37474.97	434.67	82.80	55.66	16.33	84.05
2006	39995.5	522.20	119.02	62.25	17.92	101.21

2007	42922.41	626.36	150.78	81.91	32.48	106.14
2008	46012.52	731.02	163.98	98.22	65.40	137.90
2009	49856.1	714.42	137.12	90.20	22.44	195.71
2010	54612.26	1117.44	170.80	99.1	28.22	183.48
2011	57511.04	1262.40	335.80	231.80	41.20	131.52
2012	59929.89	1159.40	378.40	197.90	33.30	147.10
2013	63218.72	1111.82	390.42	179.99	39.43	139.73
2014	67152.79	992.84	343.75	195.98	36.70	182.81
2015	69023.93	1228.99	325.19	257.70	41.27	208.11
2016	67931.24	1277.08	339.28	200.82	36.30	184.76
2017	68490.98	1324.30	403.96	245.19	50.26	191.46
2018	69810.02	1584.06	465.30	296.44	58.99	197.77
2019	71387.83	2105.20	593.33	388.37	70.27	307.38
2020	72975.72	2626.34	721.36	480.30	81.55	416.99

Source: CBN Statistical Bulletin Data (Various)

Data Analysis

Descriptive Statistics

Table 4.2: Descriptive Statistics

Statistics	RGDP	READM	REED	REHLT	REAGR	REPGR
Mean	35647.80	512.1718	138.2604	83.75452	19.52264	78.92344
Skewness	0.618935	1.361941	1.425266	1.591340	1.020760	1.336517
Kurtosis	1.787949	4.303192	4.204009	4.869302	2.893557	4.546893
Probability	0.01990	0.000501	0.000342	0.000012	0.030727	0.000353
Observations	40	40	40	40	40	40

Source: Researcher's computation (2022)

Real GDP value had an average of ₦35647.80 billion, a skewness value of 0.618935 and kurtosis value of 1.787949. The skewness value and kurtosis value indicated that real GDP might have abnormal distribution and platykurtic (i.e. $1.787949 < 3$), respectively. With the platykurtic kurtosis, there is evidence that real GDP had presence of high number of lower values than the sample mean score of ₦35647.80 billion. However, the probability value for RGDP was 0.01990 which meant there was minimal volatility in Nigeria's real GDP. On the other hand, recurrent expenditure on administration had a mean value of ₦512.1718 billion with a skewness value of 1.361941 indicating that recurrent expenditure on administration might not have a normal distribution. With a kurtosis value of 4.303192, there is evidence of leptokurtic (positive) kurtosis (i.e. 4.303192) suggesting that recurrent expenditure on administration had high numbers of values that exceeded the sample mean score of ₦512.1718 billion. The probability value of 0.000501 suggested that recurrent expenditure on administration had no volatility. Similarly, recurrent expenditure on education, health and pension and gratuities had kurtosis values exceeding the optimal value of 3 which meant that they were leptokurtic. This suggested that they had high number of nominal values exceeding their sample means of ₦138.2604 billion, ₦83.75452 billion and ₦78.92344 billion, respectively.

Stationarity Test (Unit Root)

Table 4.3: ADF Results

Variables	ADF Values		Critical Values		Order of Integration
	Level	1 st Difference	Level	1 st Difference	
D(LOGRGDP)	-0.175582	-3.466299	-2.941145	-2.941145	I(1)
D(LOGREADM)	-2.204013	-8.181855	-2.943427	-2.941145	I(1)

D(LOGREED)	-2.212047	-7.895946	-2.948404	-2.941145	I(1)
D(LOGHLT)	-1.593568	-10.28219	-2.948404	-2.941145	I(1)
D(LOGREAGR)	-2.036922	-8.692289	-2.943427	-2.941145	I(1)
DLOGREPGR	-1.271894	-3.010437	-2.991878	-2.991878	I(1)

Source: Researcher's computation (2022)

From table 2 above, it could be seen that all the variables were not stationary at level as their ADF values were less than their critical values at 5 percent level of significance. Thus, there was need to subject the variables to first differencing. At first difference, the ADF values of the variables in absolute terms, 3.466299, 8.181855, 7.895946, 10.28219, 8.692289, and 3.010437 for RGDP, READM, REED, HLT, REAGR, and REPGR, respectively were greater than their critical values at 5 percent level of significance. With this, it could be said that the variables were integrated of order 1 (i.e. I(1)).

Cointegration Test

Table 4.4: Johansen Cointegration Test Result

Hypothesized CE(s)	No. of	Trace Statistic	0.05 Critical Value	Max-Eigen Statistic	0.05 Critical Value
None		105.6528	105.75366	40.37914	41.07757
At most 1		92.87363*	69.81889	42.55063*	33.87687
At most 2		40.32300	47.85613	17.51966	27.58434
At most 3		22.80335	29.79707	9.774128	21.13162
At most 4		13.02922	15.49471	7.889079	14.26460
At most 5		5.140140	3.841468	5.140140	3.841466

Source: Researcher's computation (2022)

Both the Trace statistic and Max-Eigen statistic showed that there was one cointegrating equation at 5 percent level of significant. In the Trace statistic, the Trace statistic of 92.87363 was greater than the critical value at 5 percent level. Similarly, the Max-Eigen statistic of 42.55063 was greater than the critical value at 5 percent level. Thus, the study concluded that there was long run equilibrium relationship among the variables.

Vector Error Correction Model

Having established the variables to be integrated of order 1 (i.e. I (1)) and there exist long run equilibrium relationship among the variables using the Trace statistic and Max-Eigen statistic of Johansen cointegration test, the study employed vector error correction modeling (VECM) technique to determine the long run and. short run estimates.

VECM – Short Run Estimates

Table 4.4: VECM Results

Dependent Variable: LOG(RGDP)

Variable	Coefficient	Short run estimates		
		Std. Error	z-statistic	P > z
Δ ECT ₋₁	-.0442298	.0150869	-2.93	0.003*
Δ LOG(RGDP) ₋₁	.4142358	.1563434	2.65	0.008*
Δ LOG(READM) ₋₁	-.0149759	.0376903	-0.40	0.691
Δ LOG(REED) ₋₁	-.0067109	.0211863	-0.32	0.751
Δ LOG(HLT) ₋₁	.0146923	.0206655	0.71	0.477
Δ LOG(AGR) ₋₁	.0040294	.0138962	0.29	0.772
Δ LOG(PGR) ₋₁	-.0018939	.0075548	-0.25	0.802
C	.0044205	.0043066	1.03	0.305

R-squared = 0.6978

Pr (Chi²) = 0.0000

* indicates significant at 5% levels

Δ = change indicator

Source: Researcher's computation (2022) from STATA 13 software package

From the result in table 4.4 above, there was an evidence showing that the adjustment term (-.0442298) was statistically significant at the 5% level, suggesting that previous year's deviation in real gross domestic product in Nigeria from long run equilibrium were corrected for within the current year at a convergence speed of 4.4%.

The result showed that there exists a negative relationship between recurrent expenditure on administration and real gross domestic product in Nigeria in the short run. From the result in table 4.4 above, 1 percent increase in recurrent expenditure on administration led to 0.014 percent decrease in real GDP in Nigeria. The probability value (0.691) was greater than the test significant level (i.e. $p > 0.05$). This indicated that recurrent expenditure on administration had no significant impact on economic growth in Nigeria.

Recurrent expenditure on education had negative relationship with real gross domestic product in Nigeria in the short run. From the result above, 1 percent increase in recurrent expenditure on education led to 0.007 percent decrease in real GDP in Nigeria. The probability value for REED (0.751) was greater than the test significant level (i.e. $p > 0.05$). This indicated that recurrent expenditure on education had no significant impact on economic growth in Nigeria.

Recurrent expenditure on health had negative relationship with real gross domestic product in Nigeria in the short run. From the result, 1 percent increase in recurrent expenditure on health led to 0.015 percent decrease in real GDP in Nigeria. The probability value for REHLT (0.477) was greater than the test significant level (i.e. $p > 0.05$). This indicated that recurrent expenditure on health had insignificant impact on economic growth in Nigeria.

Recurrent expenditure on agriculture had negative relationship with real gross domestic product in Nigeria in the short run. From the result above, 1 percent increase in recurrent expenditure on agriculture led to 0.004 percent decrease in real GDP in Nigeria. The probability value for REAGR (0.772) was greater than the test significant level (i.e. $p > 0.05$). This indicated that recurrent expenditure on agriculture had insignificant impact on economic growth in Nigeria.

Recurrent expenditure on pension and gratuities had positive relationship with real gross domestic product in Nigeria in the short run. From the result above, 1 percent increase in recurrent expenditure on pensions and gratuities led to 0.002 percent decrease in real GDP in Nigeria. The probability value for REPGR (0.802) was greater than the test significant level (i.e. $p > 0.05$). This indicated that recurrent expenditure on pension and gratuities had no significant impact on economic growth in Nigeria.

The coefficient of determination of 0.6978 showed that about 70 percent of changes in real gross domestic product were due to changes in lagged one year real GDP, lagged one year recurrent expenditure on administration, lagged recurrent expenditure on education, lagged one year recurrent expenditure on health, lagged one year recurrent expenditure on agriculture and lagged one year recurrent expenditure on pensions and gratuities in Nigeria. The remaining 30 percent changes in real gross domestic product in Nigeria were due to other factors not included in the model. The probability chi-square (0.0000) was less than the significant level (0.05) and this indicated that the model was significant and reliable and appropriate for sound policymaking in Nigeria.

VECM – Long Run Estimates

Table 4.5: Vector Error Correction Model (VECM) Result

Dependent variable: LogRGDP

Variable	Long run estimates			
	Coefficient	Std. Error	Z-statistic	P > z
Log(readm)	1.346008	0.1858033	7.24	0.000*
Log(reed)	-0.0852941	0.2087944	-0.41	0.683
Log(rehlt)	-0.5191094	0.1782277	6.82	0.004*
Log(reagr)	-0.4534226	0.076967	-5.89	0.000*
Log(repgr)	0.0597437	0.0624211	0.96	0.339

* indicates significant at 5% levels

Source: Author's computation (2022) from STATA 13 software package

In the long run, the result showed that there exists a positive relationship between recurrent expenditure on administration and economic growth in Nigeria. From the result in table 4.5 above, 1 percent increase in recurrent expenditure on administration led to 1.35 percent increase in real GDP (proxy for economic growth) in Nigeria. The probability value (0.000) was less than the test significant level (i.e. $P < 0.05$). This indicated that recurrent expenditure on administration had significant impact on economic growth in Nigeria.

Recurrent expenditure on education had negative relationship with economic growth in Nigeria in the long run. From the result above, 1 percent increase in recurrent expenditure on education led to 0.09 percent decrease in economic growth (proxied by real GDP) in Nigeria. The probability value for reed (0.683) was greater than the test significant level (i.e. $P > 0.05$). This indicated that recurrent expenditure on education had no significant impact on economic growth in Nigeria.

Recurrent expenditure on health had negative relationship with economic growth in Nigeria in the long run. From the result above, 1 percent increase in recurrent expenditure on health led to 0.52 percent decrease in economic growth (proxied by real GDP) in Nigeria. The probability value for REHLT (0.004) was less than the

test significant level (i.e. $P < 0.05$). This indicated that recurrent expenditure on health had significant impact on economic growth in Nigeria.

Recurrent expenditure on agriculture had negative relationship with economic growth in Nigeria in the long run. From the result above, 1 percent increase in recurrent expenditure on agriculture led to 0.45 percent decrease in economic growth (proxied by real GDP) in Nigeria. The probability value for *reagr* (0.004) was less than the test significant level (i.e. $P < 0.05$). This indicated that recurrent expenditure on agriculture had significant impact on economic growth in Nigeria.

Recurrent expenditure on pension and gratuities had positive relationship with economic growth in Nigeria in the long run. From the result above, 1 percent increase in recurrent expenditure on pensions and gratuities led to 0.06 percent decrease in economic growth (proxied by real GDP) in Nigeria. The probability value for *REPGR* (0.339) was greater than the test significant level (i.e. $p > 0.05$). This indicated that recurrent expenditure on pension and gratuities had no significant impact on economic growth in Nigeria.

Discussion of Findings

The study showed that government recurrent expenditure on administration had positive and significant effect on economic growth in Nigeria in the long run. This outcome contradicts Benmwa and Ishmael (2017), which found that government expenditure on administration had negative relationship on economic growth in Nigeria. The reason for this outcome might be associated with the lubricant effect of administrative spending which in driving the different organs of government run daily. As morale of workers are boosted through government prompt payment of salaries and other emoluments, productivity increases thereby enhancing economic growth in Nigeria.

Second, the study revealed that government recurrent expenditure on education had negative and insignificant effect on economic growth in Nigeria in the long run. This finding is in agreement with the position of (Salami, Olabode, Atoyebi, Lawal and Danmola, 2017) which found that recurrent expenditure on education had negative and insignificant impact on economic growth. This finding might be attributed to the poor budgetary provisions for education and poor implementation for same in Nigeria. In Nigeria, the education sector has over the years received less than 10 percent of total government budget which falls far behind what is obtained in other climes such as Ghana and South Africa where about 23 percent and 17 percent of the nation's budget is dedicated for the education sector, respectively. With such paltry spending, the basic requirements needed to have an efficient education sector are lacked thereby undermining Nigeria's economic growth.

Third, the study showed that recurrent expenditure on health negatively and significantly affected economic growth in Nigeria in the long run. It runs contrary to the finding of Yusuf and Nerima (2012) which held that recurrent expenditure on health had positive and significant impact on economic growth in Uganda. Most times, monies meant to cater for the welfare of medical personnel in Nigeria are siphoned or misappropriated resulting in strikes and brain-drain in the health sector. With these strikes and brain-drain syndrome, productivity of the health sector diminishes thereby undermining economic growth in Nigeria.

It was also revealed that recurrent expenditure on agriculture had negative and significant effect on economic growth in Nigeria in the long run. This finding runs contrary to Nurudeen and Usman (2010) which held that recurrent expenditure on agriculture had insignificant effect on economic growth in Nigeria. Perhaps skewed distribution of funds to rural farmers might be held responsible for this. As more of the recurrent government spending on agriculture gets to only a few, economic growth in Nigeria would continue to be undermined.

Finally, the study showed that recurrent expenditure on pensions and gratuities had positive and insignificant impact on economic growth in Nigeria. This outcome contrasts Farayibi (2016) which found that pension and gratuities significantly affected economic growth in Nigeria. Perhaps the positive effect of pensions and gratuities might be attributed to the fact that pension payment increases stock of investible fund. As investible fund increases, aggregate demand increases leading to increase in productivity and ultimately resulting in increase in economic growth in Nigeria. However, the non-payment and at times delayed payment of pensions and gratuities might have made its effect on economic growth insignificant as evidenced in this study.

V. Summary of Findings, Conclusion and Recommendations

Summary of Findings

1. Government recurrent expenditure on administration had a negative and insignificant impact on economic growth in the short run and a positive and significant impact on economic growth in the long run.
2. Government recurrent expenditure on education had a negative and insignificant impact on economic growth of Nigeria on both the short run and long run.
3. Government recurrent expenditure on health had a negative and insignificant impact on economic growth in the short run but a negative and significant impact on economic growth on the long run.

4. Government recurrent expenditure on agriculture had a negative and insignificant impact on economic growth of Nigeria in the short run but a negative and significant impact on economic growth in the long run.
5. Government recurrent expenditure on pensions and gratuities had a negative and insignificant impact on economic growth in the short run and a positive and insignificant impact on the long run.

Conclusion

As earlier stated, the relevance of government expenditure cannot be over-emphasized as it remains a potent tool used by government to enhanced economic growth. According to the Keynesian ideology, capital expenditure tends to make better contribution towards achieving economic growth than the recurrent expenditure. This present study has, based on its findings, made revelations on the extent to which government recurrent expenditures could impact on economic growth of Nigeria. In summary, findings of the study revealed that government recurrent expenditure on administration, health, agriculture and pensions and gratuities had negative and insignificant impacts on economic growth in the short run while government recurrent expenditure on education had a negative and insignificant impact on economic growth of Nigeria in the both the short run and the long run. Government recurrent expenditure on health and agriculture had negative and significant impact on economic growth of Nigeria in the long run but government recurrent expenditure on administration had a positive and significant impact on economic growth in the long run. Government recurrent expenditure on pensions and gratuities had a positive and insignificant impact on economic growth of Nigeria in the long run.

Recommendations

The underlisted are the recommendations made in the study:

1. Government recurrent expenditure on administration especially in the area of security should be sustained to improve the enabling environment and hence economic growth
2. The educational sector requires increased funding to take care of the workforce of the sector in terms of salaries, allowances, and other welfare packages. At the same time, these funds should be effectively monitored to ensure proper usage.
3. Government should increase funding of the health recurrent expenditure and also monitor such appropriations to ensure that they are spent for the purpose meant as health is a pre-requisite for improved productivity and economic growth.
4. There is need for government to improve the funding of agricultural sector recurrent expenditures in terms of providing the enabling environment for employees of the sector to put in their best towards improved productivity and growth of the economy.
5. Pensions and gratuities of retired citizens should be paid as at when due. This will assist in increasing the level of domestic output as these retirees will be active and thus, contribute their quota to economic growth of the nation.

Contributions to Knowledge

This study has contributed to knowledge in the following ways:

1. The study has provided empirical evidence on the impact of government recurrent expenditure on administration, education, health, agriculture and pensions and gratuities on the growth of the Nigerian economy.
2. It has also added to available literature on government recurrent expenditure and economic growth and thus, has extended the frontiers of knowledge in this area and also formed a body of knowledge on which future research can be based on.
3. The study has further bridged the time frame gap as this is a recent work covering the period 1981 – 2020.
4. The findings of this work have provided an opportunity for the government of Nigeria and its agencies to tap useful knowledge in policy formulation and implementation as it concerns the national budget. It will also deepen the knowledge and understanding of government on how the recurrent component of public expenditure affects the growth of the Nigerian economy.

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