Moderating Effect of Public Debt on Protective Expenditure and Economic Growth of Nigeria

OJO, Oladele Oladipo, PhD, CHUKWUMA, Obumneme Eugene and Prof. Suleiman. A. S Aruwa

Department of Accounting Nasarawa State University, Keffi

DOI: https://doi.org/10.51244/IJRSI.2024.11150028P

Received: 22 September 2024; Accepted: 27 September 2024; Published: 26 October 2024

ABSTRACT

This study evaluated the moderating effect of public debt on productive expenditure and economic growth in Nigeria for the period of thirty one years, from 1993-2023. Ex-post facto research design was adopted. Administrative expenditure and transfer payment are proxies for protective expenditure while real gross domestic product is indicator of economic growth. The data used in this study were secondary data derived from the Central Bank of Nigeria Statistical Bulletin while public debt data was sourced from Debt Management Office Annual Reports. The study used multiple regression analysis. The regression result revealed that administrative expenditure has positive significant effect on economic growth but when moderated by public debt showed significant influence on economic growth in Nigeria. Meanwhile, transfer payment has no significant effect on economic growth but when moderated by public debt revealed an insignificant effect on economic growth in Nigeria. The study concluded that administrative expenditure affect economic growth while, transfer payment has no effect on economic growth. The study recommended that Government should direct more of its protective expenditure towards administrative expenditure as they accelerate economic growth. Also, proper management of public funds allocated to the administrative operations as they have the potential of raising the nation's production capacity and providing employment for citizens in the country.

Keywords: Protective Expenditure, Administrative Expenditure, Transfer Payments, Economic Growth, and Public Debt.

INTRODUCTION

Public expenditure is one of the most important instruments governments use to control economic activity. Okoro (2013) opined that the need for efficient allocation of resources among the various arms, organs, or strata of government, as conditioned by their fiscal capacity and responsibility, necessitated public expenditure management.

In the words of Taiwo and Abayomi (2011), the size and structure of public expenditure will determine the pattern and form of growth in output of the economy. In Nigeria, public expenditures are divided into the recurrent expenditures of the government, which include expenses on administration, wages, salaries, interest on loans, maintenance, etc., whereas expenses on capital projects include roads, airports, education, telecommunication, electricity generation, etc. Both capital and recurrent expenditure that constitute the public expenditure recorded a steady increase for the period of 2007 to date. The steady increase would be as a result of the undistorted democracy that was witnessed within the aforementioned period.

Globally, financing governments' budgets requires sustainable funding policies to stimulate economic growth. Usually, when tax revenues fall short of expenditure estimates of governments, they have no option but to increase tax or borrow internally or externally (Owusu-Nantwi & Erickson, 2016). When governments resort to borrowing, which is the alternate way to avoid tax burdens, it leads to public debt (Ogunmuyiwa, 2010). Public debts are, therefore, both short-term and long-term loans sourced by governments to finance public expenditures as a result of inadequate public revenues. These strives had led to the accumulation of public debt for many countries, resulting in the economic recession and debt crises experienced in the early 2000s by many developed and developing countries (Donayre & Taivan, 2017).

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

Public debt levels have steadily increased over the past decades and reached unprecedented levels, especially in Nigeria. The growth impact of this dramatic increase consequently entered centre stage in academic and policy debates over necessary consolidation efforts on causal relationships between public debt and economic growth (Gomez-Puig & Sosvilla-Rivero, 2018). However, public debt constitutes a medium used by countries to bridge their deficits and carry out economic projects that are able to increase the standard of living of the citizenry and promote sustainable growth and development. Public debt also improves total factor productivity through an increase in output, which in turn enhances the Gross Domestic Product (GDP) growth of a nation. Therefore, the importance of public debt cannot be overemphasised, as it is an ardent booster of growth, improving living standards, and alleviating poverty. However, it is widely recognised in the international community that excessive foreign indebtedness in most developing countries is a major impediment to their economic growth and stability (Audu, 2004; Mutasa, 2003). Public borrowing should have a significant impact on the growth and investment of a nation up to a point where a high level of external debt servicing sets in and affects the growth as the focus moves from financing private investment to repayments of debts (Nur et al., 2019; Sasmal & Sasmal, 2018).

In Nigeria, both domestic and external debts have witnessed an increase over the years. Available data showed that domestic debt increased from ₦497.73 billion in 1995 to ₦6537.54 billion in 2012, while external debt increased from ₦716.87 billion to ₦3325.90 within the same period. Between 2015 and 2019, the data also revealed that domestic debt also increased from ₦8837.0 billion to ₦142272 billion while external debt increased from ₦2111.51 to ₦9022.42 billion (CBN statistical bulletin, 2019). Given that one of the objectives of increases in public debt is to stimulate economic growth, this huge increase in public debt is expected to generate a corresponding increase in economic growth in Nigeria; unfortunately, increases in public debt have not been able to generate meaningful growth in Nigeria.

Empirical evidence on the effect of protective expenditure (administrative expenditure and transfer payments) on economic growth, especially for developing economies like Nigeria, presents two opposing views, some suggesting that government protective expenditure (administrative expenditure and transfer payments) has a negative effect on economic growth (Egbetunde, 2012; Igbodika et al., 2016; Favour et al., 2017). In contrast, other studies established that government expenditure on protective administrative expenditure and transfer payments promotes economic growth and development of a country (Udoka & Anyingang, 2015; Elom-Obed et al., 2017; Onwuka, 2021; Olayiwola et al., 2021).

The effect of protective expenditure on economic growth is still an unresolved issue theoretically as well as empirically. Although the theoretical positions on the subject are quite diverse, Few empirical studies report a positive and significant relation between government expenditure on protective and economic growth, while several others find significantly negative or no relation between an increase in government expenditure on protective and growth in real output (Olapade & Olapade 2010).

However, another conflicting result can be attributed to differences in methodological approach, scope, or dataset. Irrespective of which of the arguments may be more convincing, what remains obvious is that there is a need for further studies to go beyond their specifications and methodologies. Thus, the focus of this study is to empirically investigate the moderating effect of public debt protective expenditure (administrative expenditure and transfer payments) on economic growth in Nigeria using the latest data, ADF, and OLS regression models. However, from the foregoing, this study examines the moderating effect of public debt on protective expenditure and economic growth in Nigeria.

LITERATURE REVIEW

Protective Expenditure: Protective expenditures are expenses incurred by the government that are not productive in nature. However, CBN (2017) classified protective expenditures as expenditures that cover federal government expenditure on administration and transfers. However, it must be noted that these protective expenditures would be really necessary for the productive efficiency of the economy. Federal government protective expenditures are decomposed into administration (internal security, national assembly,

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

defence, justice, law and order, general administrative) and transfers payments (public debt servicing, internal and external debt, pensions, gratuities, etc.) used for maintenance of the state are unproductive.

Administrative Expenditure: Government expenditure on administration is cost incurred by government own institutions that are not directly related to a certain function, such as manufacturing, production, or sales. These costs are tied to the organisation as a whole, such as top executive salaries and general service costs, etc. However, administration expenditures are non-technical costs that are required for an entity's basic operation. Thus, administrative costs are usually set in stone and are typically difficult to minimise because they are fixed. Therefore, National Assembly expenses, defence expenses, and internal security expenses are all included in administrative recurrent expenditure (Okeke, & Ukoh, 2023; Chandana, et al., 2020).

Transfer Payment: A transfer expenditure is a payment without corresponding receipt for goods and services by the state. Examples are interest payments on the acquired debt, Internal and external debts comprise the transfer of state debt charges, old-age pension plans, subsidies, unemployment benefits, welfare benefits for the poor, and benefit/allowance paid to the disaster-displaced people (CBN, 2017). In these cases, the government is simply transferring the right or claim to use the goods and services to certain sections of society. The government does not receive anything in exchange for such expenditures; rather, it contributes to the well-being of the people, particularly the weaker members of society. As a result of such spending, monetary incomes are redistributed across society.

Economic Growth: According to Kimberly (2019), economic growth is a rise in a state's ability to produce products and services over a given period of time. Gross domestic product can be used to gauge a country's or state's economic growth. These metrics account for the nation's output and productive capacity. All products and services generated in the nation are consumed as part of the gross domestic product. According to Maingi (2017), there are many factors that contribute to economic growth, but they are more closely linked to higher rates of investment by the public or private sectors than they are to other factors like consumption spending, higher rates of school enrolment, and greater political stability. This argument has challenged the neo-classical theory of growth, which held that economic growth could be fostered and encouraged by proper policies but that it might also emerge from technical change brought about by chance. By taxing consumption, supporting investment and research, reallocating funds from government consumption to government investment, and creating an environment that allows the private sector to drive growth, government policies can be designed to increase economic growth rates. Government actions, however, can limit the rate of economic growth. For instance, government borrowing to support ongoing expenses, high corporate tax rates, a lack of investment in capital stock, high exchange rates, and interest rates are just a few examples. Therefore, according to this study, economic growth is the increase in the capacity of an economy to produce goods and services from one period of time. It occurs when the productivity capacity of a country increases. As an aggregate measure of total economic production for a country, it represents the value of all final goods and services, including private consumption, government purchases, private inventories, paid-in construction costs, and the foreign trade balance.

Public Debt: Public debt is referred to as the aggregate debts owed by a certain country to individuals, corporations, and countries within the country or abroad. Government debts typify all forms of government borrowings at all levels of government (Christabel, 2013). According to Dewett and Navalur (2012), "public debt" refers to borrowing by a government from within the country or from abroad, from private individuals or associations of individuals, or from banking and non-banking financial institutions.

When a government borrows money to cover its deficits or to help its economy grow, this is called public debt. Public debt is an obligation of a government and is also referred to as sovereign or government debt. It is a term for all outstanding debts owed by any branch of government at any given time. Developing countries take on debt to invest in their infrastructure, such as railways, transportation, electricity, and education. Greer (2013) argued that public debt may be used by state and local governments to expand the resources available in order to finance the construction of new buildings and other tangible assets. Meanwhile, Ndikumana and Boyce (2004) argued that public debt can be good or bad from the perspective of the well-being of the citizens of a country. For instance, if the borrowed funds are invested in productive activities that enhance a rapid rate of return, high enough to offset the debt with interest and still break even, then it is a good thing. They argued

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

that even if the borrowed fund is used to procure items for consumption rather than investment, this may be beneficial if it helps the citizens through difficult times and lets them repay when there is an improvement in the economy. In this case, borrowing could be beneficial. However, if the borrowed funds are neither invested productively nor used for consumption needs, then public debt can be very bad, mortgaging future governments and citizens with debt service costs without corresponding gains. This implies that, when used properly, public borrowing can stimulate investment growth and improve people's well-being.

Public debt is of various kinds, which include internal (domestic) debt and external debt. Internal or domestic debt is raised from within the country (Dewett & Navalur, 2012). Jinghan (2010) opined that "internal" or "domestic" debt is that which is raised by the government from individuals within the country. According to Okafor and Obasi (2011), "internal" or "domestic" debt is that which is raised by the government from individuals, firms, and institutions within the country. Anyanwu (2003) defined domestic debt as the total amount of money owed by the governments to the financial institutions, governments, and other bodies residing in the country. Dewett and Navalur (2012) opined that external debt is the debt owed to foreigners or foreign governments or institutions, while according to Jhinghan (2010), in the case of external debt, the government borrows from persons or institutions outside the country. Therefore, this study defined public debt as government-wide debt, including both domestic and overseas debt.

Empirical Review

The study reviewed studies carried out in Nigeria on public debt, government protective expenditure, and economic growth.

Administrative Expenditure and Economic Growth

This study reviewed and critiqued prior studies conducted in Nigeria on government administrative expenditure and economic growth. Onwuka (2021) employed the use of the Augmented Dickey Fuller test, Cointegration test, and Vector Error Correction Technique (VECM) as the statistical techniques of analysis to empirically examine the impact of disaggregated government expenditure on economic development in Nigeria using data from the periods 1981 to 2020. From the study, the error correction model showed about 70.9 percent of the short-run shocks in HDI in Nigeria are adjusted annually, and such a high speed of adjustment is very fundamental in the process of policy conception, formulation, and implementation. This aforementioned finding revealed that there is a long-run equilibrium relationship between the human development index and various government expenditure variables, as shown by the error correction model, which is very high. Also, the results showed that in the long run, government expenditure on social security has a significant positive impact on the human development index. Conversely, government expenditure on social security has a direct, insignificant effect on the human development index in Nigeria. The study method of data analysis and variables used are proper for a time series study. Therefore, this study examines the effect of government expenditure on the economic growth of Nigeria as moderated by public debt. Meanwhile, this study introduced a moderating variable (public debt), which the study of Onwuka (2021) did not include.

The study conducted by Olayiwola et al. (2021) used vector auto-regressive analysis (VAR) to examine the effects of public expenditure on income growth in Nigeria. Administration, community services, defence, and economic services are proxies for public expenditure. The study results showed that real income responds positively to public expenditures on administration and defence. The results also confirm the feed-back effects of income and government expenditures on administration and defence. The methodology used and period covered by the study are adequate for a time series study. More so, the study used the appropriate proxies for government expenditure (administration, community services, defence, and economic services), but the study did not further decompose the components of government protective expenditure into administration and transfer payments, which this study included. In the same vein, this study used OLS and ADF techniques for data analysis.

Using the Augmented Dickey-Fuller (ADF) test and the Johansen’s cointegration test, Aruwa (2012) explored the empirical relationship between government revenues and expenditures and the economic growth of Nigeria. The study tested for the stationarity properties of the time series public finance data of the Federal

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

Government of Nigeria (1979-2008). The c-based error correction model was used as a test for causality. The study findings revealed that growths in both real gross domestic and government revenue cause growth in government expenditure. The implication is that government expenditure is not employed as a fiscal instrument, and the revenue growth drives the government expenditure for the study period. The study reviewed above used aggregate data of the independent variables and dependent variable, which is appropriate for a time series study, but this study used disaggregated data (administration expenditure and transfer payment) and a moderator variable of public debt, which makes it different from the study of Aruwa (2012). Furthermore, the study used VAR, the Augmented Dickey-Fuller (ADF) test, and the Johansen's cointegration technique in analysing data, while this current study used ADF, ordinary least squares regression, which is different from the prior study technique. Based on the reviewed studies, this study proposed the hypothesis that:

$H0_1$: Administrative expenditure has no significant effect on economic growth of Nigeria.

Transfer Payments and Economic Growth

Previous studies carried out in Nigeria were reviewed and critiqued on transfer payments and economic growth. However, Ugochukwu and Oruta (2021) examined the effect of various components of government expenditures on economic growth in Nigeria for periods between 1981 and 2020. The analysis was based on secondary data. The study adopted the error correction model and Granger causality test. The short-run model revealed that the components of government expenditures, like recurrent expenditures on debt servicing, indicated a positive and negligible impact on economic growth. Meanwhile, in the long run, all the components of government expenditures employed showed a significant effect on economic growth. The study's strength lies in the tool of analysis used. The study reviewed above included other indicators of government expenditure but did not include transfer payments or public debt, which this present study included. However, this study used ADF and OLS multiple regression techniques for data analysis, which Ugochukwu and Oruta (2021) did not use.

Ejem and Ogbonna (2019) examined the effects of recurrent expenditure components, namely, administration and transfers, on economic growth in Nigeria. The VAR methodological framework was employed while the empirical data covered 1981 to 2016. The results showed that while GDP responded positively to a one standard deviation shock to recurrent expenditure on transfer expenditure. Also, the results further showed that most of the GDP shocks are due to their own effect. However, the Granger causality test showed that recurrent expenditure components have no causal impact on GDP both individually and collectively. Therefore, the Keynesian view that public expenditure is a veritable fiscal tool for promoting and enhancing economic growth is not supported. The study's strength lied in the tool of analysis used. The study reviewed above employed the VAR technique of analysing data, while this study employed OLS and the Augment Dickey Fuller test of data analysis. Furthermore, this present study includes productive expenditure, protective expenditure, and a moderating variable of public debt, which the study of Ejem and Ogbonna (2019) did not include.

Omokri et al. (2018) explored the determinants of recurrent expenditure that operate as economic development mediators in Nigeria. Administration (M1), Social and Community Services (M2), and Transfers (M4) are proxies for recurrent expenditure. The study used traditional least squares multiple regression analysis approaches. The findings revealed that the recurrent expenditure on transfers (M4) has an effect on Nigerian economic growth. The study reviewed above used only traditional least squares multiple regression analysis approaches, which is appropriate for a time series study, but this study used both ADF and OLS regression for data analysis, which is appropriate too. More so, the study only included recurrent expenditure as part of the determinants of government expenditure in Nigeria; the study did not include capital expenditure or protective expenditure, which are also determinants of government expenditure in Nigeria. This study includes a moderator variable of public debt, which Omokri et al. (2018) did not include.

Udoka and Anyingang (2015) evaluated the effect of public expenditure on the growth and development of the Nigerian economy (1980–2012). Three research hypotheses were formulated to guide the study. The hypotheses thus investigated the influence of productive expenditure, protective expenditure, capital expenditure, and recurrent expenditure on economic growth and development in Nigeria. An ex-post facto

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

research design was adopted for the study. Data were obtained from annual publications of the Central Bank of Nigeria. Data gathered were analysed using the ordinary least squares multiple regression statistical technique. The result of the findings revealed that aggregate expenditure has a positive impact on economic growth and development of the Nigerian economy, and recurrent expenditure has a significant relationship on the growth and development of the Nigerian economy. Findings from the analysis indicated that recurrent expenditure on transfer payment and capital expenditure on transfer payment have a significant relationship with the growth and development of the Nigerian economy. The study was conducted on the Nigerian economy and thus used the appropriate indicators of government expenditure and research design. However, this study includes a moderator variable (public debt), which makes it different from the study by Udoka and Anyingang (2015). From the review of previous studies, this study formulates the hypothesis that:

H02: Transfer payment has no significant effect on economic growth of Nigeria

Public Debt and Economic Growth

Review on the relationship between public debt and economic growth was conducted by this study. Favour et al. (2017) analysed the relationship between public debt and economic growth in Nigeria from 1980-2015. The study adopted the Vector Error Correction Model (VECM) approach to econometric data analysis. The variables used in the study include real gross domestic product (RGDP), foreign debt, domestic debt, and domestic private savings. The results of the study indicated that external debt and domestic debt have a significant negative impact on economic growth within the period under study. External debt and domestic debt granger cause RGDP in Nigeria, with causality running from external debt and domestic debt to RGDP. The implication of this result is that the negative correlation between debt stocks (external debt and domestic debt) and economic growth, which is contrary to a prior expectation, may be highlighting the misappropriation and wrong application (corrupt practices) of the borrowed funds. The methodology used by the reviewed study above is the Vector Error Correction Model (VECM), while this study applied OLS regression analysis on elicited data to accept or reject stated hypotheses.

Elom-Obed et al. (2017) used the co-integration test, the Vector Error Correction Model (VECM), and the Granger causality test to investigate the relationship between public debt and economic development in Nigeria from 1980 to 2015. The analysis used real gross domestic product, domestic private savings, external debt, and domestic debt as variables. External debt and domestic debt both have negative and significant consequences on Nigerian economic growth, according to the empirical findings. Furthermore, the findings revealed that domestic debt and external debt both contributed to real gross domestic product (RGDP), with causality extending from external debt to domestic debt. The strength of the above study is the variables (domestic debt, external debt, and economic growth) used and the period covered. Also, the co-integration test and Vector Error Correction Model (VECM) methodology used in the study are appropriate. However, this study used protective expenditure (administration expenditure and transfer payments), economic growth (RGDP), and a moderating variable, public debt. More so, this covered the period from 1993 to 2023, which captured current protective expenditure, economic growth, and public debt data and used Augmented Dickey Fuller (ADF) and OLS for analysis of data. All these are different from the previous study.

Igbodika et al. (2016) used the Ordinary Least Squares (OLS) technique to explore the relationship between domestic debt and Nigerian economic development from 1987 to 2014. The variables considered in the analysis were the gross domestic product, domestic debt, interest rate, and inflation rate. The empirical findings revealed that interest rates had a negative and significant impact on Nigeria's gross domestic product (GDP). Domestic debt has a favourable and significant impact on Nigeria's gross domestic product, according to the findings. The methods used by these studies were vector autoregressive (VAR) and ordinary least squares (OLS), which are appropriate for a time series study. This present study used ADF and OLS to ascertain the relationship between protective expenditure, economic growth, and public debt. In the same vein, Egbetunde (2012) examined the causal nexus between public debt and economic growth in Nigeria between 1970 and 2010 using a vector autoregressive (VAR). The variables used in the study were tested for stationarity using the Augmented Dickey Fuller and Philip Perron tests. The results showed that the variables were stationary at first differencing. A cointegration test was also performed, and the results revealed the presence of co-integration between public debt and economic growth. The co-integration results showed that

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

public debt and economic growth have a long-term relationship. The findings of the VAR model revealed that there is a bidirectional causality between public debt and economic growth in Nigeria. Based on the reviewed studies, this study formulates the hypothesis that:

H03: Public debt has no significant effect on economic growth of Nigeria

There are several theories that explain the relationship between protective expenditure, economic growth, and public debt in the literature of public finance. For the purpose of this study, Wagner's Theory, Keynesian Theory, and Ricardian Theory Equivalence serve as leading theories since attainment of protective expenditure, economic growth, and public debt are our bases of the study.

RESEARCH METHODOLOGY

The study used an ex-post-facto research design because the data collected were on events that had already occurred, and no attempt was made to modify their nature. The study used data elicited from the Central Bank of Nigeria (CBN) statistical bulletin and the Debt Management Office Annual Reports from 1993 to 2023. The time-series properties of the data were explored to determine the order of integration of each variable in the model. Standard procedure in the time series literature suggests that the researcher should check for unit roots in each series before estimating any equations. If a unit root exists in any variable, then that particular series is considered to be non-stationary. However, the co-integration analysis was performed using the Augmented Dickey-Fuller (ADF) unit root test and Ordinary Least Square (OLS) estimation techniques, which provide coefficient estimates of the time-series data used in the analysis. Estimation based on non-stationary variables may lead to spurious results with a high coefficient of determination (R^2). R^2 explains how much of the variance in the dependent variable is accounted for by the regression model from the sample. The stationary test was performed to avoid spurious regression problems normally associated with time-series econometric modeling. The following model is used to guide the study:

$$\mathbf{RGDP_t = \beta_0 + \beta_1 ADEX_t + \beta_2 TRPT_t + \beta_3 PUDT_t + \beta_4 ADEX_t * PUDT_t + \beta_5 TRPT_t * PUDT_t + \mu_t \text{ --------1}}$$

Where:

RGDP = Real Gross Domestic Products
ADEX = Administrative Expenditure
TRPT = Transfer Payments
PUDT = Public Debt
$\alpha_1, \alpha_2, \alpha_3, \alpha_4$ and α_5 investigate the link between the dependent and independent variables.

Table 1: Variable Measurement

S/N	Variable	Measurement	Sources	Empirical Support
1	Economic Growth (RGDP) (Dependent Variable)	It is conventionally measured as a percent rate of increase in real gross domestic product (RGDP).	Central Bank of Nigeria Statistical Bulletin	Babalola and Ijie (2021), Duruibe, et al. (2020), Favour et al. (2017).
2	Protective Expenditure (Independent Variable)	Measured as both administrative expenditure and transfers payments.	Central Bank of Nigeria Statistical Bulletin	Olufemi and Oladipo (2021), Omokri, et al. (2018).
3	Administrative Expenditure	Measured as government expenses on external defense,	Central Bank of Nigeria	Onwuka (2021), Olayiwola et al. (2021),

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

	(ADEX) (Independent Variable)	internal security, general administration and National assembly.	Statistical Bulletin	Aruwa (2012)
4	Transfer Payments (TRPT) (Independent Variable)	Measured as government expenditures on public debt servicing, pension and gratuities, contingencies/subventions and other CFR charges.	Central Bank of Nigeria Statistical Bulletin	Ugochukwu and Oruta (2021), Ejem and Ogbonna (2019), Omokri, et al. (2018), CBN Statistical Bulletin (2017)
5	Public Debt (PUDT) (Moderator Variable)	Public debt stock comprises of both domestic public debt and external public debt of the Federal Government of Nigeria and sub-nationals. This is represented by the disbursed outstanding debt as at 31st December of each year.	Debt Management Office Annual Reports and Central Bank of Nigeria Statistical Bulletin	Elom-Obed et al. (2017), Favour et al. (2017), Igbodika et al. (2016)

Source: Researcher's Compilations, 2024

RESULTS AND DISCUSSION

Table 2: Descriptive Statistics

	RGDP	ADEX	TRPT	PUDT	ADEX_PUDT	TRPT_PUDT
Mean	49584.47	327.0329	1015.870	739.5036	481955.8	1964018.
Maximum	176075.5	923.8800	5043.300	4221.653	3697980.	21291081
Minimum	590.0600	6.950000	27.31000	19.40026	168.4817	721.3614
Std. Dev.	52707.36	294.0885	1221.203	1033.359	902838.8	4506520.
Observations	31	31	31	31	31	31

Source: E-view Output, 2024

Table 2 above showed the rundown of the descriptive statistics. It revealed the entirety of 31 years from 1993 - 2023. Table 2 revealed the average value of Real Gross Domestic Product (RGDP) to be 49584.47 which indicates a low Real Gross Domestic Product (RGDP). The max value of RGDP is 176075.5 with mini value of 590.0600 and standard deviation of 52707.36. This implies that the data are widely dispersed from the mean value. Furthermore, Administrative Expenditure (ADEX) mean is 327.0329, max is 923.8800, mini of 6.950000 and standard deviation of 294.0885. It implies that the data are not widely dispersed from the mean. Also, the mean value of Transfer Payments (TRPT) is 1015.870, max value is 5043.300, with the mini value of 27.31000 and standard deviation of 1221.203. This indicates that the data are widely dispersed from the mean. More so, the average of Public Debt (PUDT) is 739.5036, the max value of 4221.653, mini value of 19.40026, standard deviation value of 1033.359. This implies that the data are widely dispersed from the mean.

Meanwhile, from table 2 above, the moderated Administrative Expenditure (ADEX) has average value of 481955.8, while max, mini and standard deviation value of 3697980., 168.4817 and 902838.8. This implies that the data are widely dispersed. However, moderated Transfer Payments (TRPT) has a mean value of

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

1964018., while, max, mini and standard deviation value of 21291081, 721.3614 and 4506520.. This indicates that the data are widely dispersed from the mean.

Table 3: Correlation Matrix

	RGDP	ADEX	TRPT	PUDT	ADEX__PUDT	TRPT_PUDT
RGDP	1.00000					
ADEX	0.92986	1.00000				
TRPT	0.96161	0.86818	1.00000			
PUDT	0.93569	0.81644	0.98160	1.00000		
ADEX__PUDT	0.87970	0.78208	0.86403	0.98051	1.00000	
TRPT_PUDT	0.80438	0.68595	0.977332	0.98183	0.99784	1.00000

Source: E-view Output, 2024

The correlation matrix table 3 above showed the relationship values between each explanatory variable and dependent variable. Therefore, the correlation matrix result indicated that Real Gross Domestic Product (RGDP) has a positive association with ADEX, TRPT, PUDT, ADEX_PUDT, TRPT_PUDT, even when moderated by public debt. The study revealed positive association between the variables. However, the predictor variables do not exhibit any problem of collinearity.

Table 4: Variance Inflation Factors

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
ADEX	0.006606	3.225395	1.151772
TRPT	0.001081	175.7247	1.192698
PUDT	0.000673	1.998358	1.037051
ADEX_PUDT	0.007935	2.772214	1.062208
TRPT _PUDT	1.28E-06	7.494717	1.121679
C	0.074329	188.4084	NA

Source: E-view Output, 2024

The tolerance values and the variance inflation factor are two good measures of assessing multicollinearity between the independent and dependent variables in a study. The result shows that variance inflation factor were consistently smaller than ten (10) indicating complete absence of multicollinearity (Neter, et al., 1996; Cassey, et ‘al., 1999). This shows the suitability of the study model been fit with the two independent variables. Also, the tolerance values were consistently smaller than 10.00, therefore extend the fact that there is complete absence of multicollinearity between the independent and dependent variables (Tobachmel & Fidell, 1996).

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

Table 5: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.822930	Prob. F(9,20)	0.6398
Obs*R-squared	13.09155	Prob. Chi-Square(9)	0.5193
Scaled explained SS	3.092990	Prob. Chi-Square(9)	0.9989

Source: E-view Output, 2024

The Breusch Pegan-Godfrey Test of Heteroskedasticity shows that the probability chi-square value of 0.5193, this implies that the data are homokesdasticity. Thus, the p-value of 0.5193 and observe R-squared of 13.09155 which is greater than 0.05 makes the study to accept the null hypothesis that the residuals are not heteroskeadasticity but homokesdasticity and is desirable.

Augmented Dickey Fuller (ADF) Test

The Augmented-Dickey Fuller (ADF) unit root test was employed to ensure data stationarity and avoid the problem of spurious regression since the data for the analysis is time series.

Table 6: Augmented Dickey Fuller (ADF) Unit Root Test for Stationarity

Variables	**ADF Test**	**Critical Value**			**Order of Integration**
		1% critical value	**5% critical value**	**10% critical value**	
RGDP	-8.717689	-3.689194	-2.971853	-2.625121	2nd
ADEX	-8.140850	-3.689194	-2.971853	-2.625121	2nd
TRPT	-6.682574	-3.689194	-2.971853	-2.625121	2nd
PUDT	-6.644935	-3.689194	-2.971853	-2.625121	2nd

Source: E-view Output, 2024

The Augmented-Dickey Fuller (ADF) unit root test in table 6 above showed that at various levels of significance (1%, 5% and 10%), the time series were stationary. From the result RGDP, ADEX, TRPT, and PUDT were integrated of second order (second difference), therefore all the time series in this study are stationary.

Table 7: Regression Result

Dependent Variable: D(RGDP,2)		
Method: Least Squares		
Date: 04/18/24 Time: 15:15		
Sample (adjusted): 3 31		

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

Included observations: 29 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ADEX,2)	14.87808	8.559506	0.738194	0.0496
D(TRPT,2)	5.931451	7.604522	0.779990	0.4434
D(PUDT,2)	-3.671925	9.268469	-0.396174	0.6956
D(ADEX_PUDT,2)	0.018183	0.008809	2.064119	0.0505
D(TRPT_PUDT,2)	0.000945	0.001099	0.859999	0.3987
C	791.5771	711.3018	1.112857	0.2773
R-squared	0.273445	Mean dependent var		741.6279
Adjusted R-squared	0.115498	S.D. dependent var		3766.917
S.E. of regression	3542.708	Akaike info criterion		19.36516
Sum squared resid	2.89E+08	Schwarz criterion		19.64805
Log likelihood	274.7948	Hannan-Quinn criter.		19.45376
F-statistic	3.731249	Durbin-Watson stat		2.879350
Prob(F-statistic)	0.001674			

Source: E-view Output, 2024

The F-statistic of 3.731249 and its corresponding P-value of 0.001674 indicated that the model is fit and the independent variables are properly selected, combined, and used. The Coefficient of Determination (R^2) of 0.27 indicated that about 27% of variation in RGDP can be explained by ADEX, TRPT, and PUDT, or the ability of the regression line to predict RGDP is about 27%. The study therefore accepts that there is a significant moderating effect of public debt on the relationship between protective expenditure and economic growth (real gross domestic product) in Nigeria. Furthermore, the study accepts the alternate hypothesis, which states that administrative expenditure and transfer payments have a significant effect on economic growth in Nigeria as moderated by public debt.

Test of Hypotheses

$H_0$1: Administration expenditure has no significant effect on economic growth in Nigeria as moderated by public debt

The regression result showed that the real gross domestic product (RGDP) will increase by 14.87808 units for every unit increase in administrative expenditure (ADEX). The significant value or P-value of ESEX is 0.0496, this significant value or P-value is less than the t-value of 0.05, which indicated that ADEX has a significant positive effect on economic growth (RGDP) in Nigeria. Therefore, the study rejects the null hypothesis and accepts the alternative. Findings from this study are in line with the findings of Olayiwola et al. (2021).

$H_0$2: Transfer payment has no significant effect on economic growth in Nigeria as moderated by public debt

Also, the regression line indicated that RGDP will increase by 5.931451 units for every unit increase in Transfer Payments (TRPT). The significant value of TRPT is 0.4434; this value is greater than the t-value of 0.05; likewise, the coefficient value of TRPT is positive, which indicated that TRPT has a positive but insignificant effect on RGDP in Nigeria. Therefore, the study accepts the null hypothesis. Meanwhile, the

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XI Issue XV October 2024 | Special Issue on Public Health

finding of this study contradicts the following findings of Udoka and Anyingang (2015) and Omokri et al. (2018).

$H_0$3: Public debt has no significant effect on economic growth in Nigeria as moderated by public debt.

The regression result exhibits that economic growth (RGDP) will decrease by -3.671925 units for every unit increase in public debt (PUDT). The significant value or P-value of PUDT is 0.6956; this significant value or P-value is greater than the t-value of 0.05, which indicated that PUDT has a negative, insignificant effect on economic growth (RGDP) in Nigeria. Therefore, the study accepts the null hypothesis. More so, the finding contradicts the findings of Egbetunde (2012) and Elom-Obed et al. (2017), and it agrees with the finding of Favour et al. (2017).

Furthermore, the result indicated that the moderated administrative expenditure (ADEX) has a positive coefficient value of 0.018183 but a P-value of 0.0505, which is less than the t-value of 0.05. This revealed that the moderated ADEX has a significant effect on economic growth (RGDP). This indicated that spending on administrative expenditure will affect and improve the economic growth of Nigeria. Therefore, this study rejects the null hypothesis. In the same vein, the moderated transfer payment (TRPT) has a positive value of 0.000945 but a P value of 0.3987, which is more than the t-value of 0.05. This showed that the moderated transfer payment (TRPT) has an insignificant effect on economic growth (RGDP). This implies that an increase or decrease in moderated government expenditure on transfer payments will not lead to improved economic growth (RGDP) in Nigeria. Therefore, this study accepts the null hypothesis.

CONCLUSION AND RECOMMENDATIONS

Based on the findings, the study concludes that administrative expenditure affects economic growth in Nigeria for the period covered. This implies that when administrative expenditure is properly channeled to its appropriate quarters, it will surely improve economic growth. Therefore, when moderated by public debt, administrative expenditure showed influence on economic growth.

Transfer payments do not have an influence on the economic growth of Nigeria. This signifies that any increase or decrease in transfer payments will not improve or enhance the economic growth of Nigeria. But when moderated by public debt, transfer payments did not influence economic growth. This indicates that transfer payments do not affect economic growth in any way.

Based on the conclusion, the following recommendations were made:

The government of Nigeria should direct more of its protective expenditure towards administrative expenditure as they accelerate economic growth.

Also, proper management of public funds allocated to the administrative operations as they have the potential of raising the nation’s production capacity and providing employment for citizens in the country.

The government should pay more attention to the services and security to improve economic growth because they pay for it.

The government should be sincere with the loan obtained and use it for the development of the economy rather than channel the borrowed funds to their personal benefit.

REFERENCES

1. Anyanwu, F. A. (2003). Public Finance. CREMD Publishers
2. Aruwa, S. A. S. (2012). Public finances and economic growth in Nigeria. Public and Municipal Finance, 1(2), 29-39.
3. Audu, I. (2004). The impact of external debt on economic growth and public investment: The case of Nigeria. African institute for economic development and planning (IDEP) Dakar, Senegal.

4. Babalola, A., & Ijie, J. I. (2021). Government expenditure on substance abuse and economic growth in Nigeria: An analytical approach. International Journal of Economics and Finance, 18(3), 23-36.
5. Cassey, M. L., Lerman, S. R., & Lee, C. T. (1999). Methods of multivariate data analysis for detecting multicollinearity in regression models. Journal of Applied Statistics, 26(1), 45-56. https://doi.org/10.1007/s10463-005-0007-z
6. Central Bank of Nigeria (2017). Annual Statistical Bulletin. Retrieved from http://www.cenbank.org.
7. Central Bank of Nigeria (2019). Annual Statistical Bulletin. Retrieved from http://www.cenbank.org.
8. Chandana, A., Adamu, J., & Musa, A. (2020). Impact of government expenditure on economic growth in Nigeria, 1970-2019. CBN Journal of Applied Statistics (JAS): 11(2), 139-174. Available at: https://dc.cbn.gov.ng/jas/vol11/iss2/6
9. Christabell, M. (2013). The relationship between public debt and economic growth in Kenya. International Journal of Social Sciences and Project Planning Management, 1 (1). 1-21.
10. Dewett, K. K., & Navalur, M. H. (2012). Modern Economic Theory. S. Chand & Company PVT Ltd.
11. Donayre, L., & Taivan, A. (2017). Causality between public debt and real growth in the OECD: A country-by country analysis, Economic Papers: A Journal of Applied Economics and Policy, 36 (2), 156-170.
12. Duruibe, S. C., Chigbu, E. E., Ejezube, E. E., & Nwauwa, P. G. (2020). An evaluation of public expenditure and economic growth in Nigeria using the sectorial economic function approach. European Scientific Journal, 16(7), 142-156.
13. Egbetunde, T. (2012). Public Debt and Economic Growth in Nigeria: Evidence from granger causality. American Journal of Economics, 2(6), 101-106. doi: 10.5923/j.economics.20120206.02
14. Ejem, C. A., & Ogbonna, U. G. (2019). Pattern of government recurrent expenditure and economic growth in Nigeria. International Journal of Innovative Research & Development, 8 (10), 125 – 133. DOI No. : 10.24940/ijird/2019/v8/i10/OCT19012.
15. Elom-Obed, O. F., Odo, S. I., Elom, O. O., & Anoke, C. I. (2017). Public debt and economic growth in Nigeria. Asian Research Journal of Arts & Social Sciences, 4 (3), 1-16. https://doi.org/10.9734/ARJASS/2017/36095
16. Favour, O. F., Ideniyi, O. S., Oge, E. O., & Charity, I. A. (2017). Public debt and economic growth in Nigeria. Asian Research Journal of Arts & Social Sciences. 4(3), 1-16.
17. Gomez-Puig, M., & Sosvilla-Rivero, S. (2018). Public debt and economic growth: further evidence for the Euro area, Acta Oeconomica, 68 (2), 209-229.
18. Greer, R. (2013). Three essays on local government debt. Theses and dissertations-public policy and administration. 6. https://uknowledge.uky.edu/msppa_etds/6.
19. Igbodika, M. N., Jessie, I. C., &Andabai, P.W. (2016). Domestic debt and the performance of Nigerian economy (1987-2014): An empirical investigation. European Journal of Research and Reflection in Management Sciences, 4(3), 34-42.
20. Jhingan (2010). Money, banking, international trade and public finance. Vrinda Publications (P) Ltd.
21. Kimberly, N. (2019). Public spending and economic growth during economic crises. Southwestern Economic Review, 4(1), 59 - 68.
22. Maingi, S. (2017). Government expenditure and economic growth: Evidence from India. The ICFAI University Journal of Public Finance, 6, 60-69.
23. Mutasa, C. (2003). Regional integration and debt in Africa: A comparative report of Africa's regional grouping. AFRODAD Research Series.
24. Ndikumana, L., & Boyce, J. K. (2003). Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries., 31(1), 107–130. doi:10.1016/s0305-750x(02)00181-x.
25. Neter, J., Kutner, M. H., Nachtsheim, C. J., & Wasserman, W. (1996). Applied linear statistical models (4th ed.). McGraw-Hill.
26. Nur, H. R., Shafinar, S., & Abdul, R. R. (2019). How does public debt affect economic growth? A systemic review, Cogent Business and Management, 6 (1), 1-16.
27. Ogunmuyiwa, M. S. (2010). Does external debt promote economic growth in Nigeria?, Current Research Journal of Economic Theory,3(1), 29-35.
28. Okafor, J. C., & Obasi, A. (2011). Fundamentals of Macroeconomics. Hipuks Additional Press.
29. Okeke, C., & Ukoh, J. E. (2023). Federal government expenditure on administration and it's effect on the Nigerian economy (1997-2021). Journal of the Management Sciences, 60 (4), 159-170

30. Okoro, A. S. (2013). Government spending and economic growth in Nigeria (1980-2011). Global Journal of Management and Commerce, 13(1), 35- 42.
31. Okoye, P. V. C., Akpa, E. O., & Ufia, S. B. (2013). Public debt and economic growth: Empirical evidence from Nigeria. African Journal of Economic and Management Studies, 4(2), 152-167.
32. Olopade, B. C., & Olopade, D. (2010). The impact of government expenditure on economic growth and development in developing countries: Nigeria as a case study. EcoMod2010 259600123, EcoMod. 1-18.
33. Olayiwola, S. O., Kazeem, B. L. O., & Olusanya, S. O. (2021).Public expenditure and income growth in Nigeria: A vector autoregressive analysis. Journal of Management and Social Sciences, 10(3), 1061-1071.
34. Olufemi, A. S., & Oladipo, O. N. (2021). The viability of public expenditure in stimulating economic growth in Nigeria (Mediating on the Role of Public Sector). ACTA Universitatis Danubius, 17(1), 70-86.
35. Omokri, P. A., Agbedeyi, O. D., & Nwajei, A. (2018). Mediating effects of recurrent expenditure on economic growth. IOSR Journal of Mathematics (IOSR-JM), 14(1), 81-86.
36. Onwuka, C. E. (2021). Disaggregated government expenditure and economic development in Nigeria: An Econometric. 1-21. http://dx.doi.org/10.2139/ssrn.3933423.
37. Owusu-Nantwi, V., & Erickson, C. (2016). Public debt and economic growth in Ghana. African Development Review, 28 (1), 116-126.
38. Sasmal, J., & Sasmal, R. (2018). Public debt, economic growth and fiscal balance; Alternative measures of sustainability in Indian context. Global Review.1-15.
39. Tabachnick, B. G., & Fidell, L. S. (1996). Using multivariate statistics (3rd ed.). HarperCollins College Publishers.
40. Taiwo, M., & Abayomi, T. (2011). Government Expenditure and Economic Development: Empirical Evidence from Nigeria. European Journal of Business and Management, 3 (9), 18-28.
41. Udoka, C. O., & Anyingang, R. A. (2015). The effect of public expenditure on the growth and development of Nigerian Economy (1980-2012). International Review of Management and Business Research, 4 (3), 823 – 833.
42. Ugochukwu, S. D., & Oruta, L. I. (2021). Government Expenditure and Economic Growth in Nigeria: a Disaggregated Analysis. Traektoriâ Nauki - Path of Science, 7(11), 4022- 4035.DOI: 10.22178/pos.76-6.