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Public Debt and Economic Development in Nigeria

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Abstract

This study examined the effect of public debt on economic development of Nigeria for the period 1981 to 2021. The study used data obtained from the Central Bank of Nigeria (CBN) and World Bank data bank. The study used two (2) models to determine the effect, with Gross Domestic product per Capita (GDP/CAP) and Gross Fixed Capital Formation (GFCF) as dependent variables for Models 1 and 2 respectively. While, Domestic Debt (DD), External Debt (XD) and Total Debt Service Payments (TDS) were regressed as independent variables. The study adopted the ARDL technique to analyze the data after determining the presence or otherwise of unit root. The findings revealed that domestic debt has positive and significant effect on GDP/CAP of Nigeria in the short run and long run. While, External debt has negative and significant effect in the short run, but positive and insignificant effect in the long run. Also, Total debt service payments has positive and insignificant effect in the short run and negative and significant effect on GDP/CAP in the long run. Furthermore, all variables of public debt have negative and insignificant effects on GFCF of Nigeria during the period covered by the study. The study therefore recommends that; Government should explore all avenues of domestic borrowings before seeking external loans as the debt service paid for home loan is not a leakage from the national economy; Borrowings should be tied to specific developmental projects that can guarantee improvement in the wellbeing of citizens and residents; There should be a well analyzed and realizable debt service payments and loan repayment plan that will not adversely affect the development of the nation and her citizenry; Government should strengthen borrowing institution and agencies as well as individual that borrows on her behalf to be disciplined and corruption free in the process of public loan administration.

Keywords: *Public Debt, Economic Development, External Debt, Domestic Debt, Debt Servicing, Gross Capital Formation, Gross Domestic Product Per Capital.*

Introduction

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Public debts are contracted in the face of inadequate revenue to meet the aspirations of government. A good government will and want to procure durable projects and render services that can engender the wellbeing of its citizenry in the short term and long term. In the process of actualizing the wellbeing of citizens, funds are acquired from various sources which includes; taxation, gifts, royalties and borrowings. Public debt is a supplement to government generated funds from other sources and can become a major drawback to the development of an economy over time because of huge service burden and the crowding out effect of debt which can lead to economic trap for the borrowing country (Adaramola & Ibunkunle, 2019). However, if public debt is channeled to productive investment or projects that can generate enough funds for repayment of the borrowed funds and subsequently provide revenue to government, it will a plus to the borrowing country. This seems no to be the case in most developing nations of the world especially sub-Saharan African countries.

In Nigeria, the commencement of government borrowings dates back to the financial modification of the colonial era in 1958, which resulted in the creation of public financial securities to finance fiscal deficit. Paragraph 35 of the Central Bank of Nigeria (CBN) ordinance of 1958 states "that the central bank shall be entrusted with issuance and management of federal government loans publicly issued in Nigeria upon such terms and conditions as may be agreed within the government and the central bank" (Efanga, Etim & Jeremiah, 2020). In advanced countries of the world, debt is a significant source of money for bridging shortfalls between government income and expenses. But, that cannot be said of Nigeria, where debt money was in the past used for seemingly undefined purpose.

Public finance is about how government get revenues and how it expends them. Similar to the field of economics, it was considered to put economic logic into countries management of available resources. In Nigeria, the sub-Saharan Africa largest economy, public finance has been bedeviled by a mirage of complications. Government sources of funds in Nigeria include (majorly) revenues from oil export, taxes, custom duties and royalties received from mining works. While, her expenses includes amongst others, day to day government expenses capital expenditures on infrastructures, foreign assistances and donations etc. Debt is another source of government fund, though, a different source (Shafiu, 2018). In order to boost economic growth and fasten the developmental process on a nation, underdeveloped countries like Nigeria borrow to fill the deficit in the budget, this is expected to create investment opportunities with better rates of return compared to other countries that do not borrow. Thus, debt become development enabler, as long as borrowed funds are judiciously deployed to productive investment especially key infrastructures that can create jobs and help reduce the effect of macroeconomic instability.

The act of borrowing produces debt. According to Okoro (2013) "Debt is the resource in use in an organization, which is not contributed by its owner and does not in any other way belong to them." Debts may be categorized as reproductive and dead-weight. Debt is said to be reproductive when a country or organization borrows for the acquisition of capital projects like electricity, road construction, building factories, refineries, etc.

While, debt procured to finance wars and spending on recurrent expenditures are dead-weight debts. Ezeabasili, Isu and Majekwu (2011) mentioned that Debt is a contract, and it is obligatory for holder to fulfill the stated requirements along with ensuing interest. Because of this obligation, the risk of possible accumulated penal charges arising from debt-service defaults, and the income effect of debt service on economic growth, policy makers have been enjoined to thoroughly evaluate each tranche of external borrowing in order to mitigate the associated risk(s).

Different studies had been conducted on the effect of public debt (foreign and home) on economic growth and economic development around the globe. These studies has showed mixed findings at various significant levels as seen in the reviewed literature. The works of Oluitan, 2020; Akhanolu, Babajide and Akinjare, 2018) on Nigeria' economic growth, favour domestic borrowing to positively influence economic growth and disfavor foreign borrowings as external debt increases poverty. But the study of Alagba and Eferakeya (2019) also about Nigeria, suggested that public debt contribute to economic growth, although external contribute less. However the study avowed that debt service burden crowed-out infrastructural investments as equally noted by Ezeabasili, Isu and Majekwu (2011) "that high debt service payments lead to lowering of imports of manufacturing inputs". Moreover, the study conducted in Euro area by Gómez-Puig & Sosvilla-Rivero (2017) showed that the pattern and direction of effect of public debt, on economic growth and development differ amongst nations. Still, the work of Odubuasi and Onuora, 2019; Nduka and Achugbu, 2018; Efanga, Etim and Jeremiah (2020) showed that public debt has positive sway on the growth and development of Sub-Saharan African countries. While the work of Calderónc and Fuentes (2013) stated that the adverse effect of public debt could be mitigated by disciplined institutions, enforceable domestic policies, and outward-oriented strategies, as evidenced in America, South America and the Caribbean region. Moreso, the studies carried out by (Upadhyaya and Pun, 2022; Omotosho, Bawa and Doguwa, 2016; Essien, Agboegbulem, Mba and Onumonu, 2016) in Nigeria and Nepal, revealed that public debt has no effect on economic growth. Thus, the objective of this study is to ascertain the effect of public debt on economic development of Nigeria in contemporary times.

Review of Related Literature

The Concept of Public Debt

Public debt occurs when a government borrows to balance its deficits or for the development of its economy and well fare its citizenry. Public debt may be either internal or external. That is, debts may be incurred by the government through borrowing from the domestic or international markets so as to finance a nation's domestic investment (Okoro, 2013). Anyanwu (1997) opined that, public debt includes claims against the government held by the private sector of the economy, or by foreigners, whether interest-bearing or not, less any claims held by the government against the private sector and foreigners. Public Debt includes, all outstanding amount of loans and bonds issued by the government, and the loans guaranteed by it, as well as the loans and bonds borrowed or

issued by Parastatals, states and central Government. Government can procure loans through the Central Bank ways and means advances; issuance of bonds; as well as foreign or international sources. Broadly, public debt may be classified into domestic and external debt. Domestic debt originates from loans sourced within the economy, from the banking system. While, external or foreign debt originates from international governments, institutions and markets.

The Concept of Economic Development

Development is a process of multidimensional growth of systems. In economics, development is a process that generates economic, technological, social and institutional change to support wealth of nations and a comprehensive wellbeing of people in society. It is a process that generates economic, social and technical progress of nations. The fundamental elements of development in society are: the improvement of health the growth of wealth, the creation of new knowledge and technology, etc. Economic development is fostered in appropriate social systems with high democracy and culture, good economic governance, efficient higher education system, and high innovative outputs (Coccia 2010). Economic Growth mean constantly increasing volume of production in a country, or an increase in gross domestic product as the main quantitative indicators of production for a period of one year. Economic development is not only quantitative changes when it comes to the economic position of the country, but also qualitative changes (changing the economic structure, the emergence of new sectors and industries, new jobs, etc.). They lead to a better and more complete satisfaction of all human needs. Production per capita is a measure of the ability of a society to achieve their goals of social and economic development, all in order to meet the constantly growing social needs (Ivic, 2015). Economic growth is the continuing increase in the volume of production in one country, ie. GDP growth, while economic development is not only quantitative but also qualitative changes that lead to better meet their needs. Economic development is associated with the accumulation of capital, ie. With investments. Economic development is not just the promotion of growth but the improvement of wellbeing.

Modern studies and theories have added non-economic indicators for gauging development in societies, such as Human Development Index (HDI) - a summary measure of expected attainments in key facets of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita (Human Development Reports 2018). According to Elkan (1995 as in Deng and Pheng), HDI is an attempt to provide an aggregate measure of life expectancy, education and income. GDP per capita annual growth rate - is defined as the "least-squares annual growth rate, calculated from the constant price GDP per capita in local currency units as higher income is usually associated with lower rates of

malnutrition. Improving income (World Bank, 2003). Other indicators of economic development in literature amongst others are; Gross Fixed Capita Formation, Growth Rate of National Income, Capital Consumption Index, Capacity Utilization and Physical Quality Life Index.

Theoretical Review

International Dependence Models

The international dependence theory was major in the 1970s and early 1980s. The dependence theory posit that underdevelopment exists because of the domination of developed countries and multinational institutions over developing countries. The poor countries are said to be dependent on the developed countries for market and capital. However, developing countries received a very small portion of the benefits that the dependent relationship brought about. The unequal exchange, in terms of trade against poor countries, made free trade a convenient vehicle of "exploitation" for the developed countries. Developed countries can exploit national resources of developing countries through getting cheap supply of food and raw materials. Meanwhile, poor countries are unable to control the distribution of the value added to the products traded between themselves and the developed countries (Cohen 1973 as in Dang and Pheng, 2015). The growth of international capitalism and multinational corporations caused poor countries to be further exploited and more dependent on the developed countries. Poor countries therefore could not expect sustained growth from that dependence. Following the international dependence theory, developing countries should therefore end the dependence by breaking up their relationships with the developed world, as well as by closing their doors on the developed countries (Ferraro 2008).

The Big Push

The "big push" strategy was recommended by United Nations Development Programme. The programme suggested that for developing countries to break out of the poverty trap, a big push of basic investments between 2005 and 2015 in public administration, human capital and key infrastructure is necessary (United Nations Development Programme 2005).

This study is anchored on the international dependence model and the "big push" strategy, because Nigeria is an open economy that is emerging and needs a big push to be able to invest in human capital as well as other infrastructure (social and physical) that can engender economic development.

Empirical Literature

The works of Efanga, Etim and Jeremiah (2020), was done to determine the impact of public debt on economic development in Nigeria from 1981 to 2018. Using data obtained from Central Bank Statistical Bulletin of 2018 and World Bank Database: World

Development Indicator 2018. The dependent variable for the model was Gross fixed capital formation (GFCF). While, foreign debt (FD) and domestic debt (DD) were used as explanatory variable and exchange rate (EXR) as a control variable. The study worked with Auto Regressive Distributed Lag (ARDL) Model in the process of analyzing the data. The analysis showed that public debt had significant positive impact on economic development in Nigeria during the period of analysis. Therefore, the study recommended that, government should continue borrowing to finance the national budget in order to achieve key macro-economic goals such as price stability, improvement in standard of living, provision of social and economic amenities etc. and engender economic development in Nigeria.

Another work by Upadhyaya and Pun (2022) investigated the effect of public debt on the economic growth of Nepal with the use annual time-series data for the period 1978 - 2020. Variables adopted for the study include: Gross Domestic Product (GDP) as dependent variable and Public Debt (PD), Private Fixed Investment (PFI), Export (EXP). The work adopted the unrestricted Vector Auto regression model, because it captures Multivariate Granger Causality between the variables. The findings showed that there is no significant causal relationship between public debts and to the economic growth in Nepal.

The study conducted by Omotosho, Bawa and Doguwa (2016) to examine the presence of threshold effects in the relationship between public debt and economic growth in Nigeria with the use of quarterly data. The study revealed a non-linear relationship between public debt (internal and external) and economic growth. The model results identified a threshold level of 73.70 per cent, as it concerned total public debt as percentage of GDP. While, the expected inflexion points for external and domestic debts were 49.4 and 30.9 per cent, respectively. Going by this finding, debt accumulation in surplus of the expected threshold levels could upset economic growth. A review examination of the Nigeria's total and external debts shape showed that these threshold levels were surpassed before the debt mercy discussed in 2005 and generally within limits afterwards. Furthermore, the study found empirical backing for external debt increase opportunities, but, cautioned that such additional debt procurement be done in a fashion that is consistent with the nation's growth trajectory.

A further study done by Essien, Agboegbulem, Mba and Onumonu (2016) examined the impact of public sector borrowings on prices, interest rates, and output in Nigeria for the period 1970 2014. The analyzed data were sourced from the central bank of Nigeria statistical bulletin. The study used real GDP (g), as the dependent variable and prime lending rate (LR), composite consumer price index (CPI), external debt stock (XD) and domestic debt stock (DD) as independent variables. Adopting the Vector Autoregressive model, the Granger causality test, impulse response, and variance decomposition of the various innovations to study the impact. The study showed that dynamics associated with external debt stock raises prime lending rate, but with a delay. Majorly, the study revealed that the level of external and domestic debt during the period of the study had no significant impact on the general price level and output.

Again, the study of Ajayi and Edewusi (2020) surveyed the effect of public debt on economic growth of Nigeria for the period 1982- 2018. In specific terms, the study analyzed the effect of internal debt on the economic growth of Nigeria; evaluated the effect of external debt on the economic growth of Nigeria and therefore examined the relationship between public debt and the economic growth of Nigeria using secondary time series data obtained from the Central Bank of Nigeria CBN statistical bulletin. The study used the vector error correction model for data estimation. Findings from the study revealed that external debt exerts a negative long run and short run effect on economic growth of Nigeria and domestic debt was ascertained to exert positive long run and short run effect on economic growth of Nigeria. The study therefore recommended that policy makers should integrate appropriate measures towards ensuring suitable management of domestic debts; government should ensure that contracted national debts are directed towards encouraging investment in the country and government through necessary monitoring committees should ensure that national debts are directed toward the provision of basic amenities and services required for the development of communities and societies in Nigeria.

In Nigeria, Adaramola & Ibunkunle, (2019) assessed the impact of public debt burden on economic growth for the period between 1981 and 2018. The study adopted Gross Domestic Product (GDP) as the dependent variable and domestic debt, external debt, public debt service payment, exchange rate and inflation as independent variables. The study used the auto regressive distributed lag and granger causality method of estimation to analyze the data collected from the statistical bulletin of the Central Bank of Nigeria (CBN). The findings showed that inflation rate and exchange rate has positive effect on economic growth in the short run, while, domestic debt has a positive effect on economic growth in the long run. Other variable have insignificant sway on economic growth.

Also in Nigeria, Ujuju and Oboro (2017) conducted an empirical study on relationship between the structure of Nigeria public debts and the nation's economic performance over the period 1990-2015. Employing data sourced from the Central Bank of Nigeria (CBN) statistical bulletin. The data were analyzed both as simple model and multiple regression model. The analyzed result indicated a significant positive relationship between aggregate public debt and economic performance as proxied by GDP. Meanwhile, the multiple regression analysis indicated that external debt in negatively related to economic performance of Nigeria. While, domestic debt is positively related to Nigeria's GDP. The study therefore recommended that Nigeria should focus on domestic borrowings instead of external borrowings.

The research work done by Gómez-Puig & Sosvilla-Rivero (2017), investigated empirically, the short and long run impact of public debt on economic growth. Using annual data from both central and border nations of the Euro area (EA) for the period 1961 to 2013. The study estimated the production capacity supported with a debt stock term using the Autoregressive Distributed Lag (ARDL) bounds testing approach as estimation technique. The findings of the study revealed diverse patterns across EA countries and have a tendency to support the opinion that public debt continually has a

negative impact on the long-run performance of EA member countries, while, its short-run effect may be positive depending on the country.

In the works of Alagba and Eferakeya (2019), conducted in Nigeria to examine the effect of public borrowings on economic growth of Nigeria for the period spanning 1981 to 2018. The study was conducted with procured from the Central Bank of Nigeria (CBN) Statistical bulletin and Debt Management Office. The study employed Federal Government Total Expenditure (FGTE) as the explained variable and Federal Government Domestic Debt (FGDD), Federal Government Foreign Debt (FGFD), Cost of servicing debt (CSD), Federal Government Retained Revenue (FGRR) as explanatory variables. Using the multiple regression technique, the results showed that internal debts is positive and significant to economic growth. While, external borrowings contribute less to the economic growth of the country. Furthermore, cost of debts servicing is significant and has a negative effect on economic growth.

The study of Manmohan and Jaejoon (2010) explored the impact of high public debt on long-run economic growth. The research was conducted with panel data of developed and developing economies for about 4 decades taking into account a set factors that influences growth as well as various estimation concerns including reverse causality and endogeneity. Plus, threshold effects, nonlinearities, and differences between developed and developing market economies are examined. Findings of the empirical assessment suggested an indirect relationship between initial debt and successive growth, controlling for other determinants of growth: on average, a 10 percentage point increase in the initial debt-to-GDP ratio is associated with a slowdown in annual real per capita GDP growth of around 0.2 percentage points per year, with the impact being somewhat smaller in advanced economies. There is some evidence of nonlinearity with higher levels of initial debt having a proportionately larger negative effect on subsequent growth. Analysis of the components of growth suggests that the adverse effect largely reflects a slowdown in labor productivity growth mainly due to reduced investment and slower growth of capital stock.

Another study in Nigeria by Abada, Omeh, Odo, and Abada (2020) examined, whether debt refinancing approach adopted by Debt Management Office has a positive impact on employment generation in Nigeria and also determine whether the regulation of borrowings of sub-national government, enables the development of long-term public goods. The study used rational choice theory with qualitative content analysis sponsored by secondary data obtained from Debt Management Office (DMO) and the Central Bank of Nigeria (CBN) statistical bulletin. The findings of the study showed that debt restructuring strategy only had temporal relief because of the failure of the procured capital loan projects to generate repayments revenue due to corruption and mismanagement that allowed the debt to accumulate. Therefore, the study recommended for possible methods of creating internal revenues and a legal structure for acceptable monitoring of affiliate governments.

And in America, South America and the Caribbean region, Calderónc and Fuentes (2013) carried out a study with two goals: firstly, is to tests if public debt hinders growth; and,

secondly, to search if economic policy amends the negative effect of on economic growth. The study used large panel data of nations spanning the period 1970–2010. The revealed findings indicated a strong negative effect of public debt on growth. However, disciplined institutions, enforceable domestic policies, and outward-oriented strategies partially mitigated the adverse effect. An improved policy space and its interface with public debt can help to explain the better growth performance of industrial and emerging nations, for the period between 2001–2005 compared to the period from 1991–1995. The study further advocated that, considering the performance of the Latin America and the Caribbean region, South America contains the group of countries that benefited more from improved economic policies. While Central America and the Caribbean lag significantly. It was noticed that a reduction in public debt combined with an improved policy space birthed a rise in the growth rate of per capita of 1.7% in Caribbean countries and 2% in South America. While, a more conservative situation that considers an improvement in quality of policies combined with a reduction of public debt leads to lower but still significant growth benefits for the Caribbean and South America, by 0.85 and 1.5 percentage points, respectively.

Nwamuo and Agu (2021) explored the impact of public debt on the economic growth in Nigeria. Using annual time series data gotten from the CBN Statistical bulletin for the period 1981 to 2019. The short run regression result revealed a negative and insignificant relationship between external debt and economic growth. While, domestic debt has a positive and significant relationship with economic growth. Furthermore, in the long run the analyzed data revealed that external debt has a negative and insignificant effect on economic growth. But, domestic debt has a positive and significant effect on economic growth Thus, the study recommended that government should shrink the rate at which it borrow externally to finance its activities and domestic debts should be properly managed by channeling it towards those activities that will stimulate economic growth.

The study by Akhanolu, Babajide, & Akinjare (2018) focused on the government's debt of Nigeria and its impact on economic growth from 1982-2017. The study used the two-stage least square regression. The findings of the first equation, showed that external debt a negative impacts on the economy but, internal debt has a positively impact on the Nigerian economy. While, in the second equation, GDP, total savings deposits of commercial banks and capital expenditure were independent variables and internal debt as dependent variable, the findings revealed that all the variables have significant relationship with internal debt. Therefore, the study recommended that first, Corruption associated with borrowed funds should be eliminated plus, that government should reduce external borrowings because it affect the economy negatively.

Furthermore, in Nigeria, Elechi, Ohazuruikke, Chukurah (2020) examined the federal government effort in managing debt amidst the reality of deteriorating oil price and difficulty in attracting foreign investment to rouse economic growth and development. The study is anchored on Anchoring the dependency paradigm, and data drawn from documentary evidences adopting the qualitative descriptive technique of analysis. The study revealed the crash of oil price in the international market plunged the Nigerian

economy into recession and affected her ability to manage her debt burden due to corruption among public officials, and the fact that the country is highly dependent on oil revenue to service her debt and finance other projects. The study recommended that there is need for Nigeria to seriously spread her economy and reduce dependency on oil as well as institute and encourage the culture of honesty; accountability and transparency in governance to ensure that she pay-off her debt and improve her economy.

Oluitan (2020) evaluated the impact of government and affiliate institutions borrowing on the economic development of Nigeria for the period spanning 1960 – 201). The study used the error correction model (ECM) to estimate the relationship between public borrowings and economic development. The study showed that a positive relationship exist between domestic debt and economic development while domestic debt service payment has a negative and significant relationship with economic development. Thus, domestic debt is contributing to the advancement of the economy, but the repayment has inverse relationship with economic growth. However, external debt and external debt service payment were negative and insignificantly related to economic development. The study therefore advocated a significant change in the source of public debt from external sources to domestic sources. The government should look inwards to fund the budget deficit while serious efforts should be put in place to reduce the external debt burden.

Empirically, Elom-Obed, Odo, Elom-Obed and Anoke (2017) analyzed the relationship between public debt and economic growth in Nigeria from 1980-2015. Using Vector Error Correction Model (VECM) on the sourced data. The study used real gross domestic product (RGDP) as dependent variable and foreign debt, domestic debt and domestic private savings independent variables in the analyzed model. The findings of the study on the Nigerian economy indicated that: External and domestic debts have significant inverse effect on economic growth, within the period under consideration. Furthermore, foreign debt and domestic debt granger cause RGDP in Nigeria with causality running from external debt and domestic debt to RGDP. The consequence of this result is that the negative correlation between debt stocks (external debt and domestic debt) and economic growth may be pointing at the misappropriation and wrong application of the borrowed funds. Therefore, the study recommended that; Government should shrink external debt and the ones procured should be strictly used for purposes intended to ensure positive effect, Government should cut down on domestic borrowing and confirm that the already borrowed funds are applied for purposes envisioned to ensure positive effect and thorough growth. With the sign of negative causality running from both foreign and home debt stock to economic growth (RGDP), the study proposes that government should minimize in both borrowings to ensure economic stability and sustainable growth.

The study of Odubuasi and Onuora (2019) focused on Nigeria and South Africa reviewed empirically, the effect of foreign debt on economic growth of both countries for the period that spanned from 2002 to 2017. Using time series data obtained from the statistical bulletin of the Central Bank of Nigeria (CBN) and CIA fact-book and adopting a multiple regression technique. The study showed that foreign debt and foreign reserve have positive effect on economic growth of both sub-Sahara African nations. But, foreign debt

service payments has adverse negative effect on the economic growth proxied by GDP of both countries. Thus, the study recommended that sub–Saharan African nations should re-strategize and be inward-focused as the plan the growth and development of their economies and endeavor to seek minimal loan externally.
Moemeke (2018) examined the relationship between public debt and its effect on the Nigerian economy with data covering the period of 1981 – 2016. The data were obtained from Nigeria Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN). Using the ordinary least square technique on the dependent variable Gross dependent product (GDP) and independent variables of total domestic debt (TDB), total external debt (TED) as independent variables. The findings from the regression analysis showed that domestic debt component has a positive and significant relationship with economic growth. But external debt component has a negative and insignificant effect on the economic growth of Nigeria within the period of analysis. Hence, the study recommended that more borrowings should be done internally and funnel such borrowings to develop critical infrastructure and projects that generate repayments.

Nduka and Achugbu (2018) accessed the relationship between public debt and economic growth of Sub-Saharan African countries (Botswana, Nigeria South-Africa and Tazania) with pooled data covering the period of 1986-2016. Adopting the random effect approach, on the collated data, the study found that total debt stock has a positive effect on economic growth of Sub-Sahara Africa. On disaggregation, the study showed that domestic debt has positive and insignificant effect on the economic growth of Sub-Saharan African nations. However, total foreign borrowings have significant positive effect on economic growth of Sub-Sahara Africa. The study therefore suggested that procured debts should only be expended on capital projects. Plus, the cost of running government (recurrent expenses) should be reduced.

Morris, Ozigbu and Ezekwe (2018) examined the linkage between foreign debt and inclusive growth with a focus on poverty reduction as the gauge. The aims of the study were to ascertain the impact of external loans from foreign institutions like the Paris Club, London Club and Bretton Woods' affiliates on poverty reduction in Nigeria. The study adopted the Stock-Watson Dynamic Least squares (DOLS) technique. The findings reveal that borrowing from the Bretton Woods institutions tends to worsen the problem of poverty in Nigeria. Also, borrowings from the London Club and servicing of public debt had insignificant positive sway on poverty reduction in Nigeria. But, the loan obtained from Paris Club is negatively related to poverty reduction. The Grander causality test showed that a unidirectional causality runs from poverty headcount to loan from the Paris Club. Likewise, a unidirectional causality runs from poverty headcount to loan from the London Club. Notably, the study found that Nigeria's from Bretton wood affiliates causes poverty. So, the study recommended that the Debt Management Office (DMO) and Federal Ministry of Finance should consider the source of future borrowings before procurement.

In Nigeria Opara, Nzotta, and Kanu (2021) conducted a study investigate the effect of Nigeria's domestic public debt on economic development with data covering from1981-

2018. The study was done to find empirical answer to the question of "whether the continuous increase in domestic debt over the years has led to the economic development of Nigeria as the former has been known to influence the later if well harnessed and executed." Data used in the study were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin, Debt Management Office (DMO) of Nigeria, World Bank Development Indicators and United Nations Development Program. With the aid the of Ordinary Least Square Regression tools, the study determined the relationship between Nigeria's domestic public borrowings and Human Development Index (HDI) as well as private sector investment. The result of study in the first model revealed that domestic debt servicing and state governments' domestic debts are significantly related to economic development. On the other hand, Federal domestic debt and State domestic debt are significantly related to private sector investment. The study therefore recommends that government should be cautious in her domestic borrowing policy given that servicing debt always becomes a burden to the sustainability of economic gains, in addition to its tendency of crowding-out private sector investment in Nigeria.

Another work done in Nigeria by Ezeabasili, Isu and Majekwu (2011) investigated the relationship between Nigeria's external debt and economic growth, between 1975 and 2006. The study used the Vector error correction estimation technique and the findings showed revealed that external debt has negative relationship with economic growth in Nigeria. The relationships were significant at the ten per cent level. Furthermore, the pairwise Granger Causality test revealed a uni-directional causality between foreign debt service payment and economic growth. Also, external debt was found to granger cause external debt service payment at the 1 percent level of significance. Statistical interdependence was however found between external debt and economic growth. The study therefore, recommended that to ameliorate the negative influence of external debt on economic growth, debt procurement and usage must be matched with repayment plans. Also, Nigeria must care about the absorptive capacity. Consideration about low debt to GDP, low debt service/GDP capacity ratios should guide future debt negotiations. Finally the portfolio of debt must be diversified in terms of sources and types to avoid harmful concentration and a reoccurrence to the past.

Methodology

Sources of Data

Data for the analysis is sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and World bank data for the period 1981- 2021.

Model Specification

Nigeria is an open economy, therefore the various sector can be connected by the national income identity as follows;

$Y = C + I + G + (X - M)$ ..... (1)

Where, Y = National Income, C = Private Consumption, I = Private Investment, G = Government Expenditure, X = Exports and M = Imports.

(X – M) in the above identity signify an open economy. Therefore, citizens can meet their utility by buying from the pool of goods and services produced internally or by import. However, if the resources available to government to meet these utilities and ensure the wellbeing of the populace are scarce, government could borrow internally of from abroad. But how will borrowing affect the wellbeing of citizens, organizations and residents in Nigeria in contemporary times? To respond, there is need to represent the connected elements in a viable model.

The models of Opara, Nzotta, and Kanu (2021) and Efanga, Etim and Jeremiah (2020) explained the effect of internal and external debt on economic development and the annual growth rate of real GDP per capita is included as an indicator for SDG 8: "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all". Therefore, the models for this study are stated thus;

$GDP/CAP = f(DD, XD, TDS)$ ..... (2)

$GFCF = f(DD, XD, TDS)$ ..... (3)

Where,

GDP/CAP = Gross Domestic Product Per Capita Growth Rate (%)
GFCF = Gross Fixed Capital Formation Growth Rate (%)
DD = Domestic Debt
XD = External Debt
TDS = Total Debt Service Payments

From the above models, the empirical models for this study is specified as follows

$GDP/CAP = a_0 + a_1DD + a_2XD + a_3TDS + U_t$ ..... (4)

$GFCF = ß_0 + ß_1DD + ß_2XD + ß_3TDS + E_t$ ..... (5)

Taking logarithms of the right-hand side of the equations, we have

$GDP/CAP = a_0 + a_1logDD + a_2logXD + a_3logTDS + U_t$ ..... (6)

$GFCF = ß_0 + ß_1logDD + ß_2logXD + ß_3logTDS + E_t$ ..... (7)

U_t and E_t = Error terms

a_0 and $ß_0$ = intercepts, a_1, a_2, a_3 and $ß_0$ $ß_1$ $ß_3$ = coefficients

A priori, it is expected that $a_1, a_2 > 0$, $a_3 < 0$, and $ß_1, ß_2 > 0$, $ß_3 < 0$

Method of Estimation

The study first described the data feature by presenting the descriptive statistics. Thereafter proceeded to determine the stationarity or otherwise of the data. The Augmented Dickey Fuller (ADF) test was employed to test for the presence of unit root. The variable were shown to be stationary at levels (I0) and I(1). Hence, the Autoregressive distributed Lag (ARDL) technique was used to estimate the variables. Conintegration test was done to determine the long run relationship between the dependent and independent variables in the model and error correction was estimated to determine the speed of adjustment in the instance of dynamic gyration due to shock.

Data Presentation and Analysis

The empirical analysis of this study is estimated using two models as stated in section 3.2

Model 1: GDP/CAP = f(DD, XD, TDS)..... (2)

The summary statistics for the empirical analysis is presented in Table 1 below.

Table 1: Descriptive Statistics

	GDP_CAP	DD	XD	TDS
Mean	0.646341	3594.826	2311.985	560.5500
Median	1.500000	1016.974	648.8130	155.4162
Maximum	12.50000	19242.56	15855.23	4221.653
Minimum	-15.50000	11.19260	2.331200	1.007078
Std. Dev.	5.234171	5162.039	3497.686	950.0759
Skewness	-0.946342	1.536557	2.342756	2.341862
Kurtosis	4.928580	4.246979	8.358839	8.097373
Jarque-Bera	12.47369	18.78994	86.56325	81.86417
Probability	0.001956	0.000083	0.000000	0.000000
Sum	26.50000	147387.9	94791.37	22982.55
Sum Sq. Dev.	1095.862	1.07E+09	4.89E+08	36105767
Observations	41	41	41	41

The descriptive statistics table above showed that the mean value of GDP/CAP is 0.646 with a standard deviation of 5.234 and maximum and minimum values of 12.50 and -15.50. Domestic Debt (DD), Eternal Debt (XD) and Total Debt Service Payments have mean values of 3594.8, 2311.985 and 560.5500 correspondingly as well as standard deviations of 5162.039, 3497.686 and 950.07 respectively. Still following the data contained in table 1 all the variables have Jarque-Bera (JB) p-values of less than 0.05, suggesting that the distribution is not normally distributed. This is corroborated by values of kurtosis. Thus, the distributions are leptokurtic. It is therefore necessary to test for the presence or otherwise of unit root in the variables.

Results of Unit root Tests

Table 2: Unit Root Test: Augmented Dickey Fuller Test

	At Level			**At First Difference**			*co-integration order*
Variables	With Constant	With Constant & Trend	None	With Constant	With Constant & Trend	None	
GDP/CAP	-4.161508 (0.0023)	-3.837361 (0.0252)	-2.960674 (0.0041)	-10.30966 (0.0000)	-10.41124 (0.0000)	-10.34410 (0.0000)	I(0)
LDD	-1.508296 (0.5190)	-1.644635 (0.7564)	2.516561 (0.9964)	-4.699981 (0.0005)	-4.900903 (0.0016)	--2.556262 (0.0119)	I(1)

LXD	-1.490907 (0.5276)	--1.96711 (0.0660)	1.900198 (0.9847)	-4.863582 (0.0003)	-4.771975 (0.0023)	--4.492231 (0.0000)	I(1)
LTDS	-1.119583 (0.6984)	-2.583338 (0.2895)	2.306488 (0.9940)	-8.175594 (0.0000)	-8.137799 (0.0000)	-6.524257 (0.000)	I(1)

The corresponding P-value is in parenthesis

The above table shows the unit root test using Augmented Dickey Fuller Test to test for the stationarity of variables and it shows that the variables under the study have a mixed order of stationarity. Gross Domestic Product per Capita (GDP/CAP) is stationary at levels I(0). While, Domestic debt (DD), External Debt (XD) and Total Debt Service Payment (TDS) are stationary at first difference I (1). Based on this outcome, ARDL model and bound co-integration test will be estimated to determine whether there is long term relationship between the variables or not.

Table 3: Co-integration Test: Bound co-integration Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	6.055856	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

The table above shows the result of co-integration test using Bound Test, the result shows that the variables are co-integrated. That is, there is long run relationship between the dependent variable and the independent variables because the F-statistic value is higher than the upper bound hence, we reject the null hypothesis that says no long-run relationship exist between the variable. Therefore, we estimate ARDL Model which is the short –run relationship.

Table 4: Regression Result: Autoregressive Distributed Lag (ARDL) Model

Variable	Apriori sign	Coefficient	Standard Error	t-statistics	p-values
Short Run Coefficients					
CointEq(-1)	-	-0.848974	0.142398	-5.961983	0.0000
D(LDD)	+	39.40587	16.43901	2.397095	0.0250
D(LXD)	+	-14.80501	5.805003	-2.550387	0.0179
D(LTDS)	-	1.502020	6.973015	0.215405	0.8314

Long Run Coefficients					
LDD	+	38.08721	18.11351	2.102697	0.0466
LXD	+	9.414508	5.747796	1.637933	0.1150
LTDS	-	-41.70430	19.60639	-2.127077	0.0444
C					
Model Parameters					
R^2	0.63				
Adjusted R^2	0.51				
F-statistics	1.593240				0.159193
Normality Test	0.399				
Residual Serial Correlation: LM Test	0.9218				
Heteroskedasticity: Breusch Pagan Godfrey	0.9519				
Stability Test: Ramsey	0.3760				

Table 4 show the ARDL (short run result) and Error Correction Model (Long run result) for the variables. The result shows that domestic debt have positive and significant effect on economic development [Gross Domestic product per Capita (GDP/CAP)] in Nigeria, external debt have a negative and significant effect on economic development. While, total debt service payments has positive and insignificant effect on economic development, the positive effect of total debt service payments, may have been caused by debt service payments on domestic debts, as such payments are only transfers within the economy.

Moreover, in the long run domestic debt and external debt positively influence economic development. But only the effect of domestic debt is significant. While, debt service payment have a negative and significant effect on economic development of Nigeria in the long run The Error Correction Mechanism ECM (Coint.eq) also confirm that there is a long term relationship between the variables because as it is correctly signed (-0.848974) and significant (0.0000). Therefore, about 85% of the dynamic gyration from short run path can be corrected per annum.
The R-square is 0.635 which implies that the model explains about 64% of the systematic variations in the dependent variable is attributable to the joint effect of independent variables, with the adjusted R^2 of 51%.

Also, all the post estimation test was not significant. Normality test was 0.399 which shows that the residuals are normally distributed, the serial correlation test using LM test (0.921) shows that there is no serial correlation in the residuals, the heteroskedascity test using Greusch-Pagan-Godfrey test (0.951) shows that there is no heteroskedascity in the residuals.

The stability of the model was tested using Ramsey reset test and the result shows an insignificant p-value (0.376) which implies that the parameters is stable. If the model's parameters are not stable then the estimated model will not be very useful, regardless of how well it was estimated. And, if the model's parameters were unstable over the sample

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period, then model was not even a good representation of how the series evolved over the sample period. In addition to the Ramsey Reset Test, the study investigated the stability of our regression model, the CUSUM and CUSUM square test based on the cumulative sum of the recursive residuals is examined below;

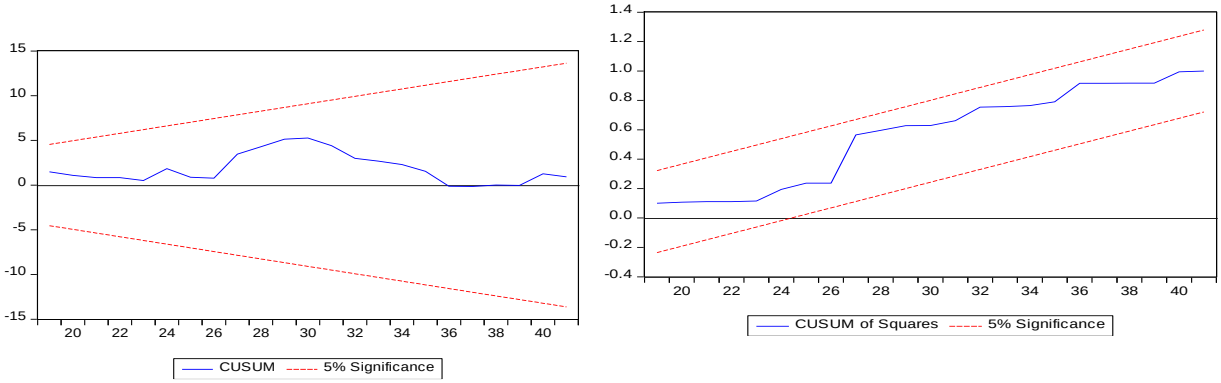

Figure 1: CUSUM and CUSUMSQ Test for Stability (Model 1)

Visual examination of the graphs of the recursive parameter estimates can be useful in evaluating the stability of the model. The test finds parameter instability if the cumulative sum goes outside the area between the two critical lines. As observed from both CUSUM and CUSUM of Square graph above, the lines for the cumulative sum lie within the 5% critical lines and hence this suggests that the parameters of the model are stable.

Model 2: GFCF = f(DD, XD, TDS) ..... (3)

Table 5: Descriptive Statistics

	GFCF	DD	XD	TDS
Mean	-0.134901	3684.417	2369.726	574.5380
Median	1.867980	1091.487	669.3252	159.6138
Maximum	40.74386	19242.56	15855.23	4221.653
Minimum	-30.17164	15.00760	8.819400	1.007078
Std. Dev.	13.40179	5195.418	3522.399	957.8940
Skewness	0.101433	1.502384	2.310854	2.305115
Kurtosis	4.096431	4.134931	8.180338	7.901457
Jarque-Bera	2.072193	17.19450	80.32680	75.46418
Probability	0.354837	0.000185	0.000000	0.000000
Sum	-5.396022	147376.7	94789.04	22981.52
Sum Sq. Dev.	7004.710	1.05E+09	4.84E+08	35784875
Observations	40	40	40	40

The descriptive statistics table above showed that the mean value of GFCF is 0.646 with a standard deviation of 13.4017 and maximum and minimum values of 40.744 and -

30.171. Domestic Debt (DD), Eternal Debt (XD) and Total Debt Service Payments have mean values of 3684.417, 2369.726 and 574.5380 correspondingly as well as standard deviations of 5195.418, 3522.399 and 957.894 respectively. Still following the data contained in table 1 all the variables except GFCF have Jarque-Bera (JB) p-values of less than 0.05, thus suggesting that DD, XD and TDS distributions are not normal. This is corroborated by heir corresponding values of kurtosis. Thus, the distributions are leptokurtic. It is therefore necessary to test for the presence or otherwise of unit root in the variables.

Table 6: Unit Root Test: Augmented Dickey Fuller Test

	At Level			**At First Difference**			*co-integration order*
Variables	With Constant	With Constant & Trend	None	With Constant	With Constant & Trend	None	
GDP/CAP	-5.453527 (0.0001)	-5.669220 (0.0002	-5.5090 (0.0000)	-6.242865 (0.0000)	-6.634448 (0.0000)	-6.215231 (0.0000)	I(0)
LDD	-1.508296 (0.5190)	-1.644635 (0.7564)	2.516561 (0.9964)	-4.699981 (0.0005)	-4.900903 (0.0016)	--2.556262 (0.0119)	I(1)
LXD	-1.490907 (0.5276)	--1.96711 (0.0660)	1.900198 (0.9847)	-4.863582 (0.0003)	-4.771975 (0.0023)	--4.492231 (0.0000)	I(1)
LTDS	-1.119583 (0.6984)	-2.583338 (0.2895)	2.306488 (0.9940)	-8.175594 (0.0000)	-8.137799 (0.0000)	-6.524257 (0.000)	I(1)

The corresponding P-value is in parenthesis

The above table shows the unit root test using Augmented Dickey Fuller Test to test for the stationarity of variables and it shows that the variables under the study have a mixed order of stationarity. Gross Fixed Capital Formation (GFCF) is stationary at levels I(0). While, Domestic debt (DD), External Debt (XD) and Total Debt Service Payment (TDS) are stationary at first difference I (1). Based on this outcome, ARDL model and bound co-integration test will be estimated to determine whether there is long run relationship between the variables or not.

Table 7: Co-integration Test: Bound co-integration Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Significant.	I(0)	I(1)
F-statistic	2.166103	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

The table above show the result of co-integration test using bound test, the result shows that the variables are not co-integrated. Thus, there is no long run relationship between

the dependent variable and the independent variables, because the F-statistic value is less than the lower bound hence, we accept the null hypothesis that says no long-run relationship exist between the variable. Therefore, the study estimate ARDL model as shown below;

Table 8: Regression Result: Autoregressive Distributed Lag (ARDL) Model

Variable	Apriori sign	Coefficient	Standard Error	t-statistics	p-values
Dependent Variable: GFCF					
Coefficients					
C		16.01627	17.92158	0.893686	0.3800
D(LDD)	+	-24.05719	25.32483	-0.949945	0.3512
D(LXD)	+	-39.39072	20.99788	-1.875938	0.0724
D(LTDS)	-	-9.846103	26.75962	-0.367946	0.7160
Model Parameters					
R^2	0.555387				
Adjusted R^2	0.359757				
F-statistics	2.838966	0.014857			
Normality Test	0.569				
Residual Serial Correlation: LM Test	0.1216				
Heteroskedasticity: Breusch Pagan Godfrey	0.4577				
Stability Test: Ramsey	0.2731				

From the above table all independent variables (Domestic Debt, External Debt and Total Debt Service Payments has negative effect on the dependent variable (Gross Fixed capital Formation Growth). Hence this study suggest that there is negative relationship between public debt and economic development in Nigeria. But, the effects as shown by the p-values are insignificant. The value of R^2 show that the combination of independent variables can explain about 56% of the systematic variation in the dependent variables. The F- statistics value of 2.84 is significant with a p – value of 0.015 thus the significance of the model is established.

Additionally, the post estimation test(s) were not significant. Normality test was 0.569 which shows that the residuals are normally distributed, the serial correlation test using LM test (0.1212) shows that there is no serial correlation in the residuals, the heteroskedascity test using Greusch-Pagan-Godfrey test value of (0.4577) means that there is no heteroskedascity in the residuals. The stability of the model was tested using Ramsey reset test and the result shows an insignificant p-value (0.2731) which implies that the parameters is stable. If the model's parameters are not stable then the estimated model will not be very useful, regardless of how well it was estimated. Also, if the model's parameters were unstable over the sample period, then model was not even a good representation of how the series evolved over the sample period. The study further

analyzed the stability of our regression model with CUSUM and CUSUM square test as shown below.

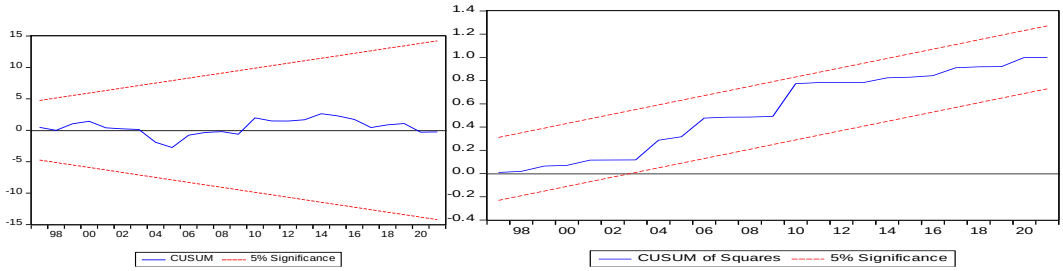

Figure 2: CUSUM and CUSUMSQ Test for Stability (Model 2)

Discussion of Findings

Public Debt and Gross Domestic Product Per Capita Growth

The value of the coefficient of domestic debt revealed that domestic debt has a positive and significant effect on economic development as measured by gross domestic product per capita growth in Nigeria (GDP/CAP), both in the short run and long run. While external debt has a negative and significant effect on economic development, but only in the short run. The effect of external debt on Nigeria's GDP/CAP in the long run is positive and insignificant. Furthermore, total debt service payments have positive and insignificant effect on economic development, the positive effect of total debt service payments, may have been caused by debt service payments on domestic debts, as such payments are only transfers within the economy. However, debt service payment has a negative and significant effect on economic development of Nigeria in the long run. This can be attributed to the outflow of funds to service unproductive long term borrowings.

The findings of this study is in conformity with the finddings of Aladejana, Okeowo, Oluwalana and Alabi, 2021); Oluitan, 2020; Akhanolu, Babajide and Akinjare, 2018) that established that domestic borrowing to positively influence economic growth and disfavor foreign borrowings as external debt increases poverty especially in the short run. Oluitan, (2020) had earlier revealed in line with the results of this study that public debt service payments have adverse effect on the economy in the long run. This is the case when bulk of the payments for debt are paid abroad and especially when the loans cannot generate their own repayments, such debt service payments become a drain on the national financial resource and ultimately inhibit economic development. However, the study of Upadhyaya and Pun (2020) showed that public debt had no causal relationship with Nepal's economy, just like Omotosho, Bawa and Doguwa (2016) established that there is no linear relationship between public debts and Nigeria's economy, using threshold analysis. Furthermore, the study of Gomez-Puig and Sosvilla-Rivero (2017) revealed diverse patterns across Euro Area (EA) countries and have a tendency to support the opinion that public debt continually has a negative impact on the long-run performance of EA member countries, while, its short-run effect may be positive depending on the country.

Public Debt and Gross Fixed Capital Formation Growth

The findings from model 2 analysis revealed that variables that represent public debt have negative effect on economic development of Nigeria as represented by Gross Fixed Capital Formation Growth. However the effects were not significant. This result is in conformity with the findings of Elom-Obed, Odo, Elom-Obed and Anoke (2017) that public debt reduces the growth rate of economic development and Ezeabasili, Isu and Majekwu (2011) that there is a negative effect between external debt and Nigeria's economy. Also, the study of Aladejana, Okeowo, Oluwalani and Alabi (2021) established a negative relationship between federal government public debt and infrastructural development in Nigeria. Correspondingly, the works of Calderon and Fuentes (2013) indicated a strong negative effect of public debt on growth in America, South America and the Carabean. But posited that disciplined institutions, enforceable domestic policies, and outward-oriented strategies partially mitigated the adverse effects of public debt. Nevertheless, the findings of this study are a variance with that of Efanga and Jeremiah (2020) that established a positive and significant effect between public borrowings and economic development of Nigeria. In the same vein, the works of Nduka and Achugbu (2018); Odubuasi and Onora (2019) displayed that public debt positively affects the growth of Sub-Sahara Africa. The studies however failed to mention whether the growth swayed by public debt was or has been transformed to economic development of the region.

Conclusion

This study employed data from the Central Bank of Nigeria (CBN) and World Bank Data Bank to examine the effect of public debt on the economic development of Nigeria for the period 1981 – 2021. The study represented economic development of Nigeria with development indicators of Gross Domestic Product Per capita Growth (GDP/CAP) and Gross Fixed Capital Formation Growth (GFCF) as obtained from the World Bank data bank. The findings of the study showed that domestic debt affect GDP/CAP of Nigeria positively in the short run and long run respectively. External debt has a negative effect on GDP/CAP in the short run but positively affects GDP/CAP in the long run. Total debt service payment has positive effect and negative effect on GDP/CAP of Nigeria in the short run and long run respectively. While domestic debt, external debt and total debt service payments have negative effect on (GFCF) of Nigeria within the period of the study.

Recommendations

Based on the findings, the study recommends as follows

1. Government should explore all avenue of domestic borrowings before seeking external loans as the debt service paid for home loan is not a leakage from the national economy.
2. Borrowings should be tied to specific developmental projects that can guarantee improvement in the wellbeing of citizens and residents.

3. There should be a well analyzed and realizable service payment and loan repayment plan that will not adversely affect the development of the nation and her citizenry.
4. Government should strengthen borrowing institution and agencies as well as individual that borrows on her behalf to be disciplined and corruption free in the process of public loan administration.

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