

Impact of Domestic Debt on Economic Growth in Nigeria

Umaru Musa*¹, Ndigege Earnest Johnson² and Zechariah Wanujeh³

^{1,2,3}Federal University, Wukari, Faculty of Humanities, Department of Economics,
Taraba State-Nigeria

¹musaumaru9090@gmail.com, ²ndigegefaernestjohnson@gmail.com,

³zechariahwanujeh@gmail.com

Corresponding Author: Umar Musa musaumaru9090@gmail.com

DOI: 10.56201/ijssmr.v10.no10.2024.pg156.166

Abstract

This study was carried out to ascertain the impact of domestic debt on economic growth in Nigeria from 1986 to 2022. Ex – post facto research design was employed; data used for analysis were elicited from Central Bank Statistical Bulletin of 2018 and World Bank Database: World Development Indicator 2018. Gross domestic product (GDP) was employed as the dependent variable, while ratio domestic debt – revenue, technology and ratio of domestic debt – gross domestic product were utilized as proxy for domestic debt and exchange rate was employed as a control variable. This study employed Auto Regressive Distributed Lag (ARDL) Model to analyze data, other diagnostic tests such as; Cointegration test, unit root test, bound test were also carried out and they confirmed the validity and reliability of the model employed; the inferential results suggested that public debt had positive and significant impact on economic growth in Nigeria. The study recommended that the positive effect of ratio of domestic debt – revenue on gross domestic product (GDP) First, debt management office (DMO) should keep proactive advice on the government on how to make a prudence management of debt that can add value to economic growth, the negative effect ratio domestic debt – GDP on economic growth. It was recommended that debt management office should prioritize productive investment that can serve as a catalyst for economic growth, and also make available sustainable deficit budgeting, and effective utilization of resources, through effective and efficient implementation of projects and programs.

Keywords: Domestic Debt, Economic Growth

1.1 Introduction

Over time, governments aim to achieve macroeconomic goals such as full employment, balance of payments equilibrium, price stability, and economic growth. To finance these objectives, borrowing becomes essential, especially when revenue sources are insufficient (Abdulkarim & Saidatulakmal, 2021). Domestic debt can positively impact short-term economic growth by boosting aggregate demand and output, but in the long run, it might hinder growth by crowding out private investment, raising interest rates, and increasing inflation and taxation (Mhlaba, 2019). Excessive borrowing without proper investment can lead to a high debt burden and significant interest payments, exacerbating the economic challenges (Joy & Panda, 2020). For instance, in

Nigeria, the debt situation has become increasingly unsustainable, with the government spending a large portion of its revenue on debt servicing. In 2021, nearly 98% of Nigeria's total revenue went towards servicing debt, reflecting a critical financial strain (Izuaka, 2021). Although Nigeria's debt-to-GDP ratio is relatively low at 22%, the debt service-to-revenue ratio indicates severe sustainability issues, threatening the nation's economic stability and growth (Ogbonna et al., 2019). High debt service burdens reduce funds available for critical infrastructure, adversely affecting growth and development. Nigeria's significant poverty levels, with 40.1% of the population living below the poverty line, further complicate the situation (Abdulkarim & Saidatulakmal, 2021). Effective debt management and reasonable borrowing rates for public and infrastructure development are crucial for economic growth. However, Nigeria's high debt service-to-revenue ratio since the 2016 recession underscores the need for fiscal discipline and enhanced revenue generation to manage the debt burden effectively (Ogunjimi, 2019).

Nigeria faces a rising level of government debt, both foreign and domestic, which negatively affects local investors' access to capital in money and capital markets, slowing GDP growth, export growth, and reducing income per capita. Higher interest rates, resulting from increased domestic debt, reduce investment and consumers spending as resources are diverted to the government, considered a more trusted borrower. This diversion limits funds for private firms and hinders closing the large investment gap needed for growth and development (Ogunjimi, 2019). Historical data shows fluctuations in Nigeria's investment/GDP ratio: from 4.9% (1981-1985) to 21.9% (2001-2005), with a recent decline to 11.5% (World Development Indicator, 2022). Nigeria is now one of Sub-Saharan Africa's most heavily indebted countries, experiencing slowed GDP and export growth, decreasing income per capita, and rising poverty levels. These issues are exacerbated by deteriorating global prices for primary exports, leading to more borrowing (Ogunjimi, 2019). High public debt creates uncertainty and hampers economic growth, with high debt-to-GDP ratios discouraging investment and negatively impacting the stock market and long-term productive investment and employment (Saungweme et al., 2019). This study aims to determine the impact of domestic debt on economic growth in Nigeria.. The paper is divided into four sections: Theoretical framework, methodology, analysis and presentation of results, conclusion and recommendations.

2.2 Theoretical Framework

2.2.1 Endogenous Growth Model

According to Romer (1990), technological progress increases the growth of capital stock. This increases the level of output, which raises the proportion of output allocated to saving and investment, accelerating economic growth even further. Technological progress is the result of economic agents' investments. The output generated per hour worked rises as capital accumulation and technological change combine. People intentionally respond to market incentives to bring about technological change, so it is assumed that technological change is endogenous. Technology is also assumed to have a fixed cost because it may be used repeatedly without incurring additional costs after the initial development cost is incurred. Human capital, according Romer (1990), is a major determinant of economic progress. Since technological change exists independently of the individual, human capital is assumed to be separate from the technological component. Individuals with higher of education are more productive and have

more skills. As a result of differences in human capital formation can be utilized to explain differences in labor productivity and per capita income.

The endogenous growth model assumes a constant tax rate and a constant debt-to-GDP ratio for the government. It claims that raising the public debt slows the economy's growth rate, placing future generations at a disadvantage as a result. When the public debt is reduced, the opposite is true. It boosts the economy's growth rate but harms the current generation. As a result, regardless of whether debt is increased or decreased, at least one generation will be affected. Because the model assumes that the interest rate remains intact, this is the case. To have a positive impact on debt reduction, the state has to provide an investment subsidy. The above theory has captured the variables such as: economic growth, technology, human capital development, and interest rate.

2.2.2 Debt Overhang Theory

It was found by Krugman (1988), defines this negative relationship as “debt overhang” where the potentials of repayment of outstanding facilities fall lower than the signed value. The study gave a straight forward definition of the problem of debt overhang as being the anticipated current value of any potential resource allocation that is not up to its outstanding loan. They suggested that even if structural adjustment programs are put in place by governments of these countries, adverse effects can still be felt on development of general economic performance. It should however, be noted that debt overhang does not occur only when a country accumulates too much debt, it can also arise when country's circumstances change, making it difficult to manage and discharge its stocks of debts. High debt burden also encourages capital flight through creating risks of devaluation, increases in taxation and thus the desire to protect the real value of financial assets. Capital flight in turn reduces domestic savings and investment, thus reducing growth, the tax base and debt servicing capacity. The diversion of foreign exchange to debt servicing also limits import capacity, competitiveness, and investment and thus growth (Madow et al., 2021).

2.3 Empirical Literature

Edeminan (2021) Analysed the impact of public debt on economic growth in Nigeria (1990 to 2018). The econometric method use for the study is Augmented Dickey Fuller unit root test to check for stationarity. Johansen Cointegration test was used to determine long run relationship and Vector Error Correction Model to check for short run and long run impact of public debt on economic growth, the found that the impact of public debt on economic growth was negative and significant in the long run. In the near run, the impact of public debt on economic growth was negative but minor. Furthermore, the short- and long-term effects of the debt-service-to-GDP ratio were significant and negative. The relationship between governmental debt and economic growth was not causal. According to the report, Nigeria government should move away from a reliance on public debt and instead focus on diversifying the economy's export base and expanding the tax net to boost revenue.

Ekor, et al. (2021) analysed the effect of external debt impaired economic growth while annual data spanning from 1976 and 2008, the study use data that came from the World Bank's, World Development Indicators (WDI). The method adopted for the study is Autoregressive Distribution Lag Model (ARDL), the finding from the study showed that, over period, external debt accumulation and related service payments have a negative impact on the economy. The policy implication is that the government should always make sure that external debt development is sustainable and that it is used for infrastructure development.

Okorie (2020) investigated the relationship between domestic debt and economic growth in Nigeria while the annual data spanning from 1980 and 2018. The study adopted the model of Okon (2013) modified to accommodate Development stock. The study adopted the Engle-Granger (1979) Error Correction Model estimation techniques. The finding from the study showed that the variations in public debt structure accounted for about 67% in economic growth during the period under review. It was therefore recommended that government should diversify the economy to reduce debt Burden on economic growth.

Ozdemir and Gomez (2020). Investigated the impact of domestic debt on investment in Gambia by developing an investment model based on the neoclassical investment function and considered an annual time series data set from 1980 to 2013. To examine the nexus between our dependent variable, private investment and the explanatory variables, we used an Autoregressive Distributed Lag (ARDL) model. Based on the bounds test result, a long run relationship exists between our variables. Furthermore, domestic debt was found to have a negative effect on private investment in the short run but not in the long run. On the other hand, the real interest rates had a crowding-out effect on private investment in the long run but a positive effect in the short run. This study will be a guide for policymakers on formulating fiscal and monetary policies to curb the level of domestic borrowing to optimal or sustainable levels.

Ehikioya, et al. (2020) Analysed the dynamic public external debt on economic growth in African Countries: A Curse or Blessing while the annual data spanning from 2001 to 2018. Furthermore, the study employed Johansen Cointegration test and the system Generalized Method of Moments were utilized in this study (GMM). The findings of the study indicated that the importance for policymakers to ensure that external debt is applied properly to economic activities to ensure long economic stability. Moreover, the government and development partners must create a monitoring system to guarantee that borrowed funds are used efficiently for the infrastructure development.

Boussou and Duke, (2020), also examined the impact of domestic debt on real gross domestic product growth in Nigeria over a 36-year period from 1981 to 2016. The study adopted the econometric method by using ordinary least squares estimation (OLS) The study used an ex-post facto or Causal Comparative study design (time series analysis). The results indicated that the variables are integrated at first difference or order one, $I(1)$, but product growth is integrated at level $I(0)$, validating the usage of ARDL so because series are integrated at various levels. The amount of public debt in a nation was found to be a significant determinant of economic growth. The study recommended that the government make available sustainable deficit budgeting and effective resource utilization through effective and efficient project and program execution (e.g., interest and exchange rates) by the Central Bank of Nigeria and Debt Management Office when contracting loans.

Babu, et al. (2020), examined the effect of domestic debt on economic growth in the East Africa Community (EAC) over the period of 1990 – 2010. This study was based on Solow growth model augmenting for debt. Levin-Lin-Chu test (LLC) was used to investigate the properties of the data with respect to unit root test. The results show that domestic has a positive significant effect on per capita GDP growth rate in the East African Community. The policy implication is to promote sustainable levels of domestic borrowing to enhance growth.

Okon, et al. (2020) Investigated the relationship between Public Debt and Economic Growth in Nigeria. The study used the annual time series data spanning from 1981 to 2018. The study adopted the study uses an ex – post facto research design, with data gathered from the Central Bank Statistical Bulletin of 2018 and the World Bank Database: World Development Indicator 2018. Other diagnostic tests such as the test of normality, auto correlation test, heteroskedasticity test, and Breusch-Godfrey Serial Correlation LM test were also carried out and confirmed the validity and reliability of the model employed; the inferential results suggested that public debt had positive and significant. The study found that, since both foreign and domestic debt had a positive impact on Nigeria's economic development, the government should continue borrowing to fund the national budget and achieve key macroeconomic goals such as price stability, improved living standards, and the provision of social and economic amenities, among other things, which would result in economic development.

Yerima and Tahir (2020) examined the impact of external debt on agricultural production in Nigeria for the period of 1980 to 2016. The study adopted econometric method of Autoregressive Distribution Lag (ARDL) model technique in the estimation of the equation. The result of the study indicated that the variables were cointegrated, had a long run relationship in both the short and long run, according to empirical findings. Furthermore, EDS had a significant positive impact on agricultural production (AGP), indicating that EDS had a positive impact on agricultural growth. Higher EDS, in other terms, quicker agricultural growth over time. To be more precise, a 1% increase in EDS resulted in a 0.96 percent increase in AGP. The remaining factors showed that AGP and the other variables had significant and negative relationships. The result also showed that EDSP had no positive impact on agricultural production in Nigeria. Thus, the study recommend that the government should act aggressive pursue process of diversification of economy from oil sector to agriculture sector

Bello (2017) examined the impact of public debt on economic growth in Nigeria, the period covers from 1986 – 2014. The methodology used by the researcher was Ordinary Least Squares method (OLS) was used in this study because it provides good results when estimating structural parameters. This method involves deciding if the parameters are statistically and conceptually significant. It also analyzes the quality of estimates to see if they properly represent economic theory. According to the findings of the study, debt becomes a burden when it is not properly managed, as shown by the empirical literature reviewed above. The findings are like those of the other studies reviewed, except for a few who believe debt is further depleting developing countries' growth capacity.

2.4 Gaps in Literature

The current landscape of research on the impact of public debt on economic growth reveals several critical gaps and opportunities for improvement. Firstly, the methodological diversity in existing studies, employing econometric techniques such as ARDL, OLS, VECM, and sysGMM, highlights the absence of a unified methodological framework. A comprehensive study applying multiple methodologies to the same dataset would yield more robust and comparative insights, enhancing the reliability of findings. Furthermore, many studies utilize outdated data, with ranges often extending only up to 2016 or 2014. This limitation underscores the need for more recent analyses to reflect current economic dynamics and policy impacts accurately. While studies like Edeminan (2021) extend data use up to 2018, they still miss capturing the latest economic changes.

Another notable gap is the sector-specific analysis of public debt's impact. Most research has traditionally focused on general economic growth, neglecting sector-specific impacts. For instance, while Yerima and Tahir (2020) addressed agriculture, other critical sectors such as manufacturing, services, and technology remain underexplored. A sectoral approach could unveil more nuanced impacts of public debt, providing targeted insights for policy-making. Additionally, there is a variability in the analysis of debt composition. Some studies focus exclusively on domestic debt, such as Okorie (2020), while others, like Ekor et al. (2021), concentrate on external debt. Comprehensive analyses that consider both domestic and external debt are essential to understand their comparative and combined effects on economic growth.

METHODOLOGY

3.1 Research designed

This study adopts ex-post facto research (after the fact) design. This is because the events had already taken place before the investigation was carried. The choice of this method is made because the researcher has no direct control of the independent variables, and inference about the link or relationship between domestic debt and investment on economic growth in Nigeria, It is used to generate information on the current state of the phenomenon and to explain what exists with respect to variables (Joy & Panda, 2020). The study uses the framework of Ordinary Least Square which involves testing of unit root using techniques like ADF and Philip Perron to test for the unit root and ARDL for estimation.

3.2 Model specification

This study is based on the use of an equation with the growth rate and investment as a dependent variables and, domestic debt and investment as independent variables. The equation is anchored on an eclectic theoretical anchor because a single theory cannot the relationship between domestic debt, investment and economic growth. The theories adopted comprise the debt overhang theory, debt recycle theory, crowding out investment theory and endogenous growth theory. The endogenous growth model posits that the main driver of economic growth is investment by firms in research and development and the resultant diffusion of the knowledge created from such efforts throughout the economy. The theory also identifies the quantity of capital, and by implication capital accumulation and therefore investment, as one of the determinants of economic growth in the long run. To investigate the impact of government debt on economic growth in Nigeria, an open multivariate debt-growth model allowing for key control variables was specified following the lead of Gómez-Puig and Sosvilla-Rivero (2017) with slight modifications to suit the requirements of the current study. Recent studies such as Madow et al. (2021) suggest that it is better to focus on a core set of explanatory variables that have been shown to be consistently associated with growth and evaluate the importance of other variables conditional on inclusion of the core set. The choice of the dependent and independent variables used in this study considered underlying economic theories and Yusuf & Mohd, Cogent Economics & Finance (2021). The dependent variable used in this study to proxy economic growth was the real GDP (which is an inflation adjusted GDP), for the debt variables, the indicators of government debt were disaggregated into domestic and external debts components.

This identification of investment as a major determinant of economic growth in the long-run by the endogenous growth theory provides the basis for the inclusion of investment as an independent variable in the three study equations as shown below:

$$Q = f(A, L^\beta, K^\varphi) \quad (3.1a)$$

Where

Q = Output (economic growth)

A = Technology

L = Labour input

K = Capital input

β & φ = Returns to scale

Substituting Q and K for investment and the growth rate of real gross domestic product, expressed as logarithm of real gross domestic product (*logRGDP*), equation (3.1a) is transformed to include as a determinant of economic growth as follows:

$$\log RGDP = f(A, L^\beta, RDDGDP) \quad (3.1b)$$

Where: *logRGDP* = Economic growth, measured as the logarithm of real gross domestic product Q in Equation (3.1b) can, based on approach adopted by the Central Bank of Nigeria in its annual statistical bulletin, this is done as follows:

$$\log GDP = f(A, L^\beta, RDDGDP) \quad (3.1a)$$

3.2.1 GDP growth equation

The GDP sector growth equation expresses the relationship between the growth of GDP and domestic debt and other relevant variables. It is anchor on debt overhang and crowding out investment theory. The equation is specified as follows;

$$\log GDP = \beta_0 + \beta_1 RDDGDP + \beta_2 REXCH + \beta_3 \log INFR + \beta_4 \log TECH + \beta_5 RDDR + \beta_6 \log HCDV + U_2 \quad (3.1b)$$

$$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 < 0, \beta_5 > 0, \& \beta_6 > 0,$$

Where:

LogINFR = Infrastructural development: this is measured as electricity Consumption in Kilowatts per hour per capita and expressed as a logarithm. It is expected to have a positive impact on the growth rates of the industrial and service sectors in Nigeria.

REXCH = Real exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar).

RDDR = Ratio of domestic debt – revenue, it is measure the debt sustainability in the country`s economic.

RINT = Real interest rate, refers to the lending interest rate adjusted for inflation as measured by the GDP deflator. It was measured by the reported real interest rates.

INFL = Inflation, measured as refers to the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. It was measured by the consumer price index.

LogHCDV = Human Capital Development, measured as the logarithm of gross secondary school enrolment ratio.

LogTECH = Technology, measured as imports of capital goods and services.

RDDGDP = Ratio of Domestic Debt-Gross Domestic Product, measured the extent of country's resource available for securing additional debt for repayment.

U₁ = Stochastic error term for the industrial sector growth equation

4.1 Result and Presentation

The results of the unit root tests conducted using the ADF unit root method shows that the output of the twelve variables used in the study, four of them being INFL, RDDR, REXCH, and TECH were stationary at level. This means that these variables have no unit root at their nominal level. The rest of the variables, that is, INV, RINT, RXGDP, EMPL, GDP, RDDGDP, INFR, and HCDV were stationary after first difference; this means these variables have unit root at their nominal levels and they require differencing for them to be stationary. The conclusion of the panel unit root test result shows mixed Stationarity of the variables.

4.2 Bound test for GDP equation

The result of bound test presented and indicates that, there exist a long run relationship amongst the variables. This is because the F-statistics estimate of 4.439042 is greater than the upper bound estimate of 3.61 and the lower bound estimate of 2.45 at five percent level of significance.

4.3 Long run result for GDP equation

From the result estimated, all the explanatory variables were consistent with a priori expectation. This implies that a unit increase in log of infrastructure (INFR), log of technology (TECH), ratio of domestic debt to revenue (RDDR) and log of human capital development (HCDV) will lead to an increase of about 0.1094 units, 0.9113 units, 0.3100 units and 0.8398 units in GDP in Nigeria respectively ceteris paribus. On the other hand, the result showed that a one percent increase in ratio of domestic debt to GDP (RDDGDP) and real exchange rate (REXCH) resulted in a about 0.4090 percent and 0.7460 percent decrease in GDP in Nigeria.

Judging from the probability values of 0.0448, 0.0000 and 0.0220 for REXCH, LOG(HCDV) and LOG(INFR) respectively shows that they are statistically significant because their probability values are respectively less than five percent (0.05) level of significance. On the other hand, the probability values for RDDGDP, LOG(TECH), and RDDR which are 0.9455, 0.1185 and 0.6044 shows that they are not statistically significant because their P-values are greater than five percent (0.05) level of significance.

4.4 Short-run ARDL result for GDP equation

The parsimonious error correction results of the GDP equation based on the Autoregressive distributed lag (ARDL) approach is presented in table 4.11.4. the result of the short run dynamics showed that the error correction variable is fractional, has the expected negative coefficient and statistically significant in line with theoretical expectation as its P-value is 0.0223. its coefficient of -0.8663 indicates that about 86 percent of the system disequilibrium in GDP variables was corrected each year. This represents a fast speed of adjustment from short run disequilibrium to long run equilibrium. The value of R-square is 0.54 and that of the adjusted R-square is 0.51. the adjusted R-square shows a fairly good fit on the data. It specifically implies that about 51 percent

of total variation in the dependent variable was accounted for by variations in the independent variables. This implies that the estimated model has a fairly good explanatory power. The Durbin-Watson test statistic is 2.090. this is approximately 2 and this shows that the residuals are not correlated. Therefore, there is no serial correlation. The estimated model is thus well specified and well behaved.

Evaluation of the short run coefficients shows that the rate of domestic debt to GDP (RDDGDP), and real exchange rate (REXCH) all have negative impact on GDP given the negative signs of their coefficients. These results are consistent with theoretical expectations, showing that one percent increase in the rate of domestic debt to GDP and real exchange rate resulted in a decrease of GDP by 0.13 percent and 0.25 percent respectively.

On the other hand, the positive sign of the coefficient of log of infrastructure-LOG(INFR), log of human capital development-LOG(HCDV) and log of technology-LOG(TECH) revealed that they have positive impact on GDP. This result is in line with a priori expectation. Meaning that a unit increase in LOG(INFR), LOG(HCDV) and LOG(TECH) resulted in an increase in GDP by approximately 0.30, 0.28 and 0.46 unit respectively. Also, the result of the first lag of log of technology has a positive relationship with GDP in Nigeria. This again is consistent with a priori expectations as its coefficient is 0.45. this implies that a one percent increase in the first lag of log of technology will lead to a rise of 0.45 percent in GDP in the present period, *ceteris paribus*.

From the probability values of 0.9452 for RDDGDP, 0.5221 for LOG(INFR) and 0.6019 for RDDR respectively shows that they are not statistically significant because their probability values are respectively greater than 5 percent (0.05) level of significance. On the other hand, the probability values of 0.0205 for REXCH, 0.0389 for LOG(TECH) and 0.0301 for LOG(HCDV) shows that they are statistically significant because their probability values are less than five percent (0.05) level of significance. Also the probability value of the first lag of technology is 0.0134. This means that it is statistically significant, because it is less than five percent (0.05) level of significance.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

In summary, the GDP equation showed that, from the result estimated, all the explanatory variables were consistent with a priori expectation. This implies that a unit increase in log of infrastructure (INFR), log of technology (TECH), ratio of domestic debt to revenue (RDDR) and log of human capital development (HCDV) will lead to an increase unit in GDP in Nigeria respectively *ceteris paribus*. On the other hand, the result showed that a one percent increase in ratio of domestic debt to GDP (RDDGDP) and real exchange rate (REXCH) resulted in an about decrease in GDP in Nigeria. Based on the result, the following recommendations were made; The positive effect of ratio of domestic debt – revenue on gross domestic product (GDP) First, debt management office (DMO) should keep proactive advice on the government on how to make a prudence management of debt, that can add value to economic growth, the negative effect ratio domestic debt GDP on economic growth. It was recommended that debt management office should prioritize productive investment that can serve as base for economic growth, and also make available sustainable deficit budgeting, and effective utilization of resources, through effective and efficient implementation of projects and programs.

REFERENCES

- Abdulkarim, Y., & Saidatulakmal, M. (2021). The impact of government debt on economic growth in Nigeria. *Cogent Economics & Finance*, 9:1, 1946249, DOI: 10.1080/23322039.2021.1946249
- Arslanalp, S., & Henry, P. B. (2004). Helping the poor to help themselves: debt relief or aid.
- Avramovic D (1964). Economic growth and external debt. The John Hopking press, Baltimore.
- Okumoko, T. P., Akarara, E. A., & Opuofoni, C. A. (2018). Impact of foreign direct investment on economic growth in Nigeria. *International Journal of Humanities and Social Science*, 8(1), 170-176.
- Baccia, R. (2013), How the United State high debt will weaken and hurt Americans, box grounder. The heritage foundation leadership for American, no. 2768
- Bouis, R. (2019). Banks' Holdings of government securities and credit to the private sector in emerging market and developing economies.
- Claessens, S., Detragiache, E., Kanbur, R., Wickham, P. (1996), Analytical aspects of the debt problems of heavily indebted poor countries. Washington, DC: World Bank Policy Research Working Paper No. 1618, World Bank.
- Clements, B., Bhattacharya, R., Nguyen, T. (2005), Can debt relief boost growth in poor countries? Washington, DC: International monetary fund economic issues. p34.
- Contessi, S. (2012). An Application of Conventional Sovereign Debt Sustainability Analysis to the Current Debt Crises. *Federal Reserve Bank of St. Louis Review* , 94 (3), 197-220.
- Economics Times (2020). What is govt borrowing? How it impacts fiscal deficit?. Retrieved from: <https://economictimes.indiatimes.com/budget-faqs/what-isgovernment-borrowing>
- El-Mahdy, A. M., & Torayeh, N. M. (2009). Debt sustainability and economic growth in Egypt. *International Journal of Applied Econometrics and Quantitative Estudies*, 6 (1), 25-55.
- Ferreira, C. (2009). Public debt and economic growth: a granger causality panel data approach. Technical University of Lisbon, school of economics and management working papers
- Granger, C.W.J (1986). The time series approach to econometric model building in C.A Sims(ed), new methods in business cycle research. Proceeding from a conference, Federal Reserve Bank of Minneapolis.
- Gujarati, D.N & Porter, D (2009). Basic econometrics New Delhi: Tata Mc Graw-Hill Company.

- Joy, J., & Panda, P. K. (2020). Pattern of public debt and debt overhang among BRICS nations: An empirical analysis. *Journal of Financial Economic Policy*, 12(3), 345– 363. <https://doi.org/10.1108/JFEP-01-2019-0021>.
- Kamudia (2015), The effects of public debt on private investment and economic growth in Kenya. B. economic and statistic Kenyatta University.
- Kareem, R.O (2015), Employment level and economic growth in Nigeria. *Journal of Sustainable development studies*. Pp. 8,53-70.
- Karen, E.C & Edith, A.N (2021). Public debt and economic growth in Nigeria: An empirical investigation. *International journal of development and management review*. Vol. 16. No. 1
- Kendren (2009). *Kenya's Public Debt Status*. Nairobi: The Kenya debt relief network.
- Krugman, P. (1988). Financing vs. forgiving a debt overhang. *Journal of development Economics*, 29(3), 253-268.i
- Madow, N., Nimonka, B., Brigitte, K. K., & Camarero, M. (2021). On the robust drivers of public debt in Africa: Fresh evidence from Bayesian model averaging approach. *Cogent Economics & Finance*, 9(1), 1860282. <https://doi.org/10.1080/23322039.2020.1860282>.
- McKinnon, R. (1964), Foreign exchange constraints in economic development and efficient aid allocation. *The Economic Journal*, 74(294), 388-409.
- Mhlaba, N., Phiri, A. and NSiah, C. (2019). Is Public Debt Harmful towards Economic Growth? New Evidence from South Africa. *Cogent Economics & Finance*, 7(1)
- Ogunjimi, J. A. (2019). The Impact of Public Debt on Investment: Evidence from Nigeria. Development Bank of Nigeria. *Journal of Economic Sustainable Growth*, 3(2), 1 – 28.
- Ozumba & Kalu (2012). Domestic debt and economic growth in Nigeria. *Journal of economic and sustainable development*. 1(5).
- Romer, P. M. (1990). Endogenous technological change. *The journal of political economy*, 98 (5), 71-102
- Saungweme, T., Odhiambo, N. M., & Camarero, M. (2019). Government debt, government debt service and economic growth nexus in Zambia: A multivariate analysis. *Cogent Economics & Finance*, 7(1), 1622998. <https://doi.org/10.1080/23322039.2019.1622998>
- Wolde-Rufael, Y. (2008). The revenue-expenditure nexus: The experience of 13 African countries. *African development review*, 20(2), 273-283