

# Nexus Between Public Debt Servicing and Social and Community Sector Spending in Nigeria

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## ABSTRACT

Nigeria with budgetary and balance-of-payments gaps to meet, maintaining large stakes of public debt have to set aside a sizeable fraction of their scarce resources to service their debt, which naturally affects their development spending in general and allocations for the social and community sector in particular. This study evaluates the nexus between public debt servicing and social and community sector spending in Nigeria. The panel dataset includes public debt servicing and public spending on social and community sector, it spans the period 2015–2022. Our empirical analysis is based on three interrelated equations for different spending categories, which are estimated using the general method of moments. The study's results confirm the common wisdom that outstanding public debt and its servicing liability have an adverse impact on public spending, particularly on social and community sector spending. This suggests that Nigeria need to mobilize their own resources and minimize their dependence on borrowing as far as possible.

**Keywords:** Public debt outstanding, debt servicing, fiscal deficit, current account deficit, social and community sector spending.

## INTRODUCTION

It is generally expected that developing countries facing scarcity of capital will acquire debt to supplement domestic savings and also countries with deficit budget. Pattilo Economic theory suggests that reasonable levels of borrowing by a developing country are likely to enhance its economic growth Pattilo et al (2002). In order to encourage growth, countries at early stages of development like Nigeria borrow to augment what they have because of dominance of small stocks of capital. However, continued reliance on borrowing is not costless. Servicing accumulated debt absorbs a significant fraction of the meager resources generated through exports and remittances. This, in turn, creates the need for further borrowing and widens the fiscal deficit (Gurowa, 2022).

This borrowing came as a result of the decline in oil earnings from the late 70's and the emergence of high trade arrears due to inability of the country to neither easily produce nor foot the bills of importation of the needed goods and services and Nigeria is facing insfractural deficit to spring up its development.

By 2006 Nigeria was left with paltry ₦451.46bn foreign loan after the Paris and London loan were writtenoff. The foreign debt profile dropped to ₦438.89bn in 2007 the best year for Nigeria as relatively low debt country. But from 2008 the loan began to grow again to ₦523.25bn and rose to ₦590.44bn in 2009 due to a loan increase from the world Bank. By 2012, Nigeria external debt had more than doubled to ₦1.026trn in just five years. (Federal Ministry of Finance, 2020).

Nigeria public debt reached ₦2.111trillion in 2015 and rose to ₦3.478 trillion the next year. Since then, the debt been jumping on over ₦2trillion interval as it reached ₦5.787trillion in 2017 to ₦7,759trillion in 2018 rising to ₦9trillion in 2019 and further leaping to 12.705trillion in 2020 before reaching ₦15.855trillion in 2021. On the ₦225trillioncumulative domestic debt, the largest chunk of borrowing came through the federal government of Nigeria (FGN) bonds with ₦92.925trillion debt since its start in 2003. Next were treasuring bills of ₦38.458trillion, the government also raised ₦6.526trillion from treasury bonds, got ₦2.861trillion rom promissory notes. (Daily trust Newspaper of Wednesday, July 13, 2022 p4)

According to the Punch newspaper of 22<sup>nd</sup> October, 2022 reveal that Nigeria debt profile rose by ₦30.72trn between July, 2015 and June 2022 according to data released by the debt management office (DMO). Nigeria total debt as of June 30, 2015 stood at ₦12.12trn by June 30, 2022 the figures had risen to ₦42.84trn which showed an increase of 253.47 percent. Despite the high increase in debt over the years. The government still plans to borrow ₦8.4trn in 2023.

Debt servicing adversely affects ongoing development projects and allocations for social sectors such as health and education. According to Fosu, 2008; debt servicing also shifts the resources away from the social sector, especially health and education This is meanly because it is difficult for government to cut down on other sectors.

Borrowing may be useful in the short run, but if has important long-run consequences, the resources generated through exports, taxation and other service delivery will be used to service the outstanding debt. Also borrowing is often associated with vulnerability and debt crises (Rais and Anwar 2012).

Nigeria government inabilities to services it debt have increased due to rising interest payments, price hikes of import goods, and unfavourable conditions in the international market on its primary export. As a result, they are caught in a vicious circle of deficit and debt servicing outstanding. The rise in non-development expenditure has outstripped spending on social sectors to the extent that government are divesting themselves of the burden of providing basic health and education and gradually shifting this burden to it private sector by underfunding the sector.

The few studies that estimate the impact of Public Debt servicing and Social Sector Spending, include (Fosu, 2007), Evaluate the External Debt-Servicing Constraint and Public Expenditure Composition: Evidence from African Economies, the paper finds that a debt-servicing constraint would shift public expenditure away from the social sectors of health and education, and possibly from public investment..

Ouattara (2006), reported that estimates of debt-servicing impacts on sector expenditures, though the paper's main objective was to assess the effects of external aid, based on observed debt servicing, the study finds for example that the debt effect on social sector spending was insignificant. In contrast, Fosu (2007) finds that the effect of debt servicing on education expenditure is strongly negative once one appropriately measures the burden of sectors.

This study seeks to assess the impact of public debt servicing on social and community spending in Nigeria. Other specific objectives are;

1. To determine the effect of Nigeria 's public debt service on social and community sector.
2. To evaluate the relationship between debt service payment and inflation rate.

It is against this backdrop that this study intends to investigate the extent of debt serving on social and community service delivery in Nigeria.

This study set to reconfirmed or disagreed with similar studies conducted at Asian developing countries and sub Saharan African countries.

The section immediately following this introduction presents a conceptual issue on debt management/relief and Relationship Between Outstanding Public Debt and Social Sector Spending. Theoretical framework and Empirical Review were presented, the debt-expenditure relationship. Based on the framework, Section 3 is the Methodology. The data are presented and analyze in section 4; section 5 is the summary and conclusion in the final section.

## **REVIEW OF RELATED LITERATURE**

### **Conceptual Issues on Debt Management/Relief**

Debt has a significant effect on global poverty. For example, borrowed money accrues interest which adds to debt and can lead to impoverished lands suffering because massive interest payments drain funds that are needed for things like infrastructure investment. Compound interest over a matter of decades can soon render a serviceable debt unserviceable. Between 1973 and 1993, developing countries debt compounded at a rate of about 20% per annum, rising from \$300 billion to \$1.5 trillion, of which experts have claimed only \$400 billion was actual borrowed money. This continuous compounding and expansion in debt led to a search for a way out of indebtedness. This resulted in what is now known as Debt Relief. According to Akpa (2011) as coined from Wikipedia world encyclopedia, Debt relief is the partial or total forgiveness of debt, or the slowing or stopping of debt growth, owed by individuals, corporations, or nations. It went further to explain that from antiquity through the 19th century, it refers to domestic debts, in particular agricultural debts and freeing of debts and freeing of debt slaves.

### **Relationship Between Outstanding Public Debt and Social Sector Spending**

Public expenditure is an important determinant of economic growth and governments in developing countries have to spend appropriately in social sectors such as education and health. However, debt servicing can adversely affect constructive fiscal allocations in low-income countries. The very objective underlying foreign borrowing (to promote development) is depressed by servicing liabilities, which consumes a sizeable part of the scarce resources generated through exports and/or foreign remittances, and little is left behind to finance development.

However, since investment in the social sector is not directly productive, allocations for education and healthcare provision remain largely neglected in the budgeting process and fiscal considerations. This decelerates human capital development, with an indirect adverse impact on growth and the productivity of new investment in physical capital. Debt servicing shifts resources away from the social sector, especially health and education (Fosu, 2008). This is mainly because it is difficult for the government to cut down on other non-development or recurring expenses..

### **Theoretical Background**

This study hinged on Keynesian Theory of Public Debt, the Keynesian economists supported the use of public expenditure in promoting growth and development by stimulating aggregate demand, bridging infractural gap in the economy.

This provides the obvious reason for government participation in economic activities in the modern time, Keynes also argued that if there were unemployed resources which the private sector could not employ, the resources can be put to use by the unbalancing budget. This allowed government to borrowed to financed its deficit budget.

The theory asserted the public borrowing with deficit financing and agreed that government should borrow for all purposes so that efficient demand in the economy is increased which will result in increased employment and output.

This is because government is needed to correct short term distortions in an economy and to create socially optimal direction for growth and development of a country through expenditures which have an impact on the wellbeing of citizens and business environment for the private sector.

### **Empirical Review**

The impact of public debt on social sector spending is a controversial issue. On the one hand, public borrowing boosts development spending (as is commonly perceived). On the other, debt repayment and servicing affects the government's ability to finance development programs (including social sector spending). The rationale for resorting to borrowing is, therefore, obvious: developing countries need finances to boost economic growth and ensure smooth progress in all areas, including the social sector. However, the results of this experience of more than half a century have been different for different countries. Generally, public expenditures have increased on account of debt servicing. In contrast, government revenues have not kept pace, and thus the financing of debt servicing has resulted in public spending cuts in the social sector, especially in education and health.

Most researchers have focused on the determinants of public debt and its relationship with public revenues and expenditures. Many studies emphasize the implications of external capital inflows as well as the role of foreign aid in development programs. However, the literature generally bypasses the impact of the resulting debt stock on social and community spending or else yields mixed findings. A brief review is given below.

Stephens (2001) argues that debt servicing crowds out public sector "investment spending." Using panel data for 24 African HIPCs, the study finds that the increase in debt servicing has adversely affected expenditure on both education and health, but with a larger impact on the latter. The argument that high debt servicing crowds out government social spending is analyzed by Loko et al, (2003) through the relationship between external debt and poverty. Looking at 67 low-income countries over the period 1985–97, they report that governments most often reduce their spending on the social sectors (health, education, safety nets, and sanitation, etc.) because this is easier for them than making cuts in other sectors.

Lora and Olivera (2007) ask whether an increase in public debt (external and internal) affects social expenditures, if this effect depends on the reaction of other variables, and whether public debt affects health and education expenditures in the same way. Using a sample of 50 Latin American countries for the period 1985–2003, the results indicate that a higher debt stock is liable to cut down overall public expenditure and reduce social spending. Both education and health expenditures are adversely affected when the debt increases, but defaulting on it increases the spending on average.

McGillivray and Ouattara (2005) develop a link between debt servicing, aid, and fiscal variables for Côte d'Ivoire for the period 1975– 99. Using the fiscal response model, they conclude that the bulk of the foreign aid offered to highly indebted poor countries (HIPCs) to meet their public spending needs, especially in the social sector, is misused. A large portion of this aid is used for debt servicing, which then has a negative impact on public spending. Another important result indicates that foreign aid does not induce a decline in borrowing—this finding contradicts the previous argument that public debt and foreign aid are substitutes for one another.

In a related study by Adesola (2009), examined Debt Servicing and Economic Growth in Nigeria: An Empirical Investigation using ordinary least square multiple regression method to determine whether debt payment to Multilateral Financial creditors, Paris Club creditors, London Club creditors, Promissory notes holders and Other creditors (Non-Paris Creditors) have inverse relationship with gross domestic product (GDP) and gross fixed capital formation at current prices (GFCF) from 1981 to 2004. The study revealed that debt payment to London Club creditors, Paris Club creditors, Promissory notes holders and Other creditors have significant impact on the GDP and GFCF. Debt payment to Paris Club creditors and debt payment to promissory notes holders are positively related to GDP and GFCF, while debt payment to London Club creditors and other creditors showed a negative significant relation to GDP and GFCF.

Hyman (2007) tests the contention that a heavy debt burden has had a negative impact on growth and development for the Caribbean states. He finds that external debt grew faster in these countries during the 1990s due to defaults on foreign debt and the jump in oil prices. Analyzing IMF data on the debt–GDP ratio for 1997–2006, the study concludes that governments are bound to reduce spending on basic social services (education and health) and infrastructure development when confronted by heavy debt servicing.

Fosu (2007, 2008) applies a seemingly unrelated regression model to a panel of 35 African countries for the period 1975–94 and concludes that the debt constraint has a negative impact on education and health expenditures. However, he does not consider allocations to other functional sectors in this study. To fill this gap, he extends the analysis to a multi-sector model and estimates a system of expenditure-share equations simultaneously involving the functional sectors (agriculture, capital, economic services, public investment, education, and health). The study finds that the debt-servicing constraint is liable to shift public expenditure away from the social sectors (health and education) and possibly from public investment.

Fosu (2010) extends this analysis for sub-Saharan Africa, using a reduced-form simultaneous equations model. The study finds that debt servicing has a negative impact on social sector spending, particularly on education.

Sadiq and Hafiz (2015) study the implication of public external debt for social spending: A case study of selected Asian developing countries. The study examines the behavior of seven developing Asian countries and analyses the impact of public external debt on social sector spending. The panel dataset includes Pakistan, India, Bangladesh, Sri Lanka, Nepal, The Philippines and Indonesia, and spans the period 1980 – 2010. The study's results confirm the common wisdom that outstanding external debt and its servicing liability have an adverse impact on public spending. Particularly on social sector spending. They recommend that developing countries need to mobilize their own resources and minimize their dependence on external borrowing.

Ijeoma (2013), she studies the impact of debt on selected macroeconomic indicators in Nigerian economy. The study employed External Debt Stock, External Debt Servicing Payment and Exchange Rate as variables to determine their effect on Gross domestic product (GDP) and gross Fixed Capital Formation (GFCF) for the period 1980 -2010 Secondary data were employed and were analyzed with linear Regression. The study found that Nigeria External debt stock has a significant effect on her economic growth. It also revealed that there is significant relationship between Nigeria Debt service payment and her Gross fixed Capital formation. They study recommend that government should avoid borrowing

Onyekwelu *et.al* (2014) showed that there is a positive and significant relationship between the size of External Debts and Gross Domestic Product (GDP), Capital Expenditure, External Reserves and Exports. However, the Analysis of Variance (ANOVA) reveals a negative correlation between External Debts and the variables studied. Onyekwelu, *et.al* (2014) attributed this anomaly to mismanagement of credit facilities, unfavorable loan terms characterized by capitalization/compounding of interests, weak economic base, poorly coordinated statistics on loans and overdependence on foreign aids among others.

The argument that high debt servicing crowds out government social spending is analyzed by Loko, Mlachila, Nallari, and Kalonji (2003) through the relationship between external debt and poverty. Looking at 67 low-income countries over the period 1985–97, they report that governments most often reduce their spending on the social sectors (health, education, safety nets, and sanitation, etc.) because this is easier for them than making cuts in other sectors.

Ouattara (2006) suggests that external debt can adversely affect government spending in general. However, the social sector is more or less protected. In general, expenditure in capital-intensive sectors is reduced more than proportionately compared to current expenditure. Among the various headings of public expenditure, the infrastructure and productive sectors bear a larger burden in terms of debt servicing adjustments, while the defense and social sectors are relatively protected.



Udeh *et al.* (2016) had confirmed that there exists a positive relationship in the short run but negative relationship between external debt and economy as well as exchange rate in the long run, in their study of external debt and economic growth, the Nigerian experience.

Ayunku and Markjackson (2020) studied the impact of external debt on Nigeria’s foreign reserves portfolios and conclude thus; that external debt exerts a negative and statistically significant impact on the nation’s reserves’ portfolios. They further asserted that external debt service payments exert a positive but insignificant impact on the Nigerian foreign exchange reserves as they maintained that both external debt and its servicing obligations has no significant impact on international reserves positions of Nigeria.

**Gap in Empirical Literature**

Some of the reviewed studies were carried out in other countries as seen in {(Stephens (2001), Lora and Olivera (2007), Fosu (2007, 2008, 2012) and Sadiq and Hafiz (2015)}, thereby creating a geographic gap. Also, some of the reviewed studies used (GDP) and gross fixed capital formation at current prices (GFCF), respectively as witnessed in [Adesola (2009), and Ijeoma (2013)] providing gap in the methodology used. The variables in the studies reviewed are different from the current research variables as seen in [Ijeoma (2013)] leading to gap in the variable used. The current study updated the following [Ijeoma (2013) and Sadiq and Hafiz (2015)] to 2022 providing time gap.

**METHODOLOGY**

This paper adopts the descriptive quantitative approach in identifying and analyzing the nature and characteristic of Nigeria debt servicing on social and community sector. The secondary time series quantitative data estimated span from 2015 -2022. Using the time series analysis on data sourced from CBN statistical Bulletin, the Nigeria Debt Management Office (DMO) and publications of the Federal Ministry of Finance (FMF).

In other to achieve the objectives of the study, a multiple regression analysis was adopted by the researcher. Where debt servicing payment (DSP) was regressed against expenditure on social and community service (ESCS) while debt servicing payment (DSP) was regressed against inflation rate (IR).

**Data Presentation and Analysis**

The data for this study are presented in line with objectives of the study. (see appendix 1).

**Data Analysis**

The data are analysis in line with research hypothesis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.778 a	.606	.408	836.95483
a. Predictors: (Constant), Interest Rate, Social Spending				

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4303210.476	2	2151605.238	3.072	.000 b
	Residual	2801973.529	4	700493.382		
	Total	7105184.005	6			
a. Dependent Variable: Debt Servicing						
b. Predictors: (Constant), Interest Rate, Social Spending						

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1709.079	1949.216		-.877	.430
	Social Spending	1.627	.703	.732	2.313	.082
	Interest Rate	129.361	110.098	.372	1.175	.000

a. Dependent Variable: Debt Servicing

**Interpretation of Results:**

Developing the Regression Model:

$$Y = \alpha + \beta_3 X_3 + \beta_4 X_4 + \epsilon_i$$

Defining Model Variables:

Y Debt servicing {Dependent variable}

X3 Social Spending {Independent variable}; and,  $\beta_3$  coefficient of X3

X4 Interest Rate {Independent variable}; and,  $\beta_4$  coefficient of X4

$\epsilon_i$  error term

Model Summary Table: The table showed **R Square, coefficient of determination**, i.e. the squared value of the multiple correlation coefficient value to be .606; meaning that, approximately 60.6% of the variance in the dependent variable (Debt Servicing) is explained by the model (Social Economic Spending and Interest Rate). **Adjusted R Square** value is .408 (approximately 40.8% model accuracy).

Fitting coefficients of the regression model, the B value obtained from the coefficients table under the unstandardized coefficients is used:

$$Y = -1709.079 + 1.627X_3 + 129.361X_4$$

ANOVA Table: From the ANOVA table which uses the computed F-value to test the acceptability of the model from a statistical perspective, the decision criterion is stated below as follows:

Since the P-Value is significant at  $0.00 < \text{P-Value} < 0.05$  the null hypothesis is accepted and the alternate rejected. Thus, there is no significant relationship effect between Nigeria 's public debt service on social and community sector spending.

HO 1: Nigeria 's public debt service has significantly effect on social and community sector spending. Since  $3.072 > 0.155517 (0.05)$  the F calculated value is rejected and the null hypothesis is accepted. Thus there is a significant relationship between Nigeria 'debt servicing, social spending.

H<sub>02</sub>: There is significant relationship between debt service payment and inflation rate.

Since  $3.072 > 0.155517 (0.05)$  the F calculated value is rejected and the null hypothesis is accepted. Thus there is a significant relationship between Nigeria 'debtservicing, andInterest rate

**DISCUSSION OF FINDINGS**

In view of the analysis above, the findings of the study are presented in the research objectives as follows:

1. Nigeria's public debt service has significantly effect on social and community sector spending. Since  $3.072 > 0.155517 (0.05)$  the F calculated value is rejected and the null hypothesis is accepted. Thus

there is a significant relationship between Nigeria 'debt servicing, social spending, this finding is consistent with the findings of;

Fosu (2007, 2008) and Fosu (2010), they extends this analysis for sub-Saharan Africa, using a reduced-form simultaneous equations model. The study finds that debt servicing has a negative impact on social sector spending, and Hyman (2007), the study concludes that governments are bound to reduce spending on basic social services (education and health) and infrastructure development when confronted by heavy debt servicing and also concurred with the finding of Ouattara (2006) which suggests that external debt can adversely affect government spending in general. However, the social sector is more or less protected. In general, expenditure in capital-intensive sectors is reduced more than proportionately compared to current expenditure. Among the various headings of public expenditure, the infrastructure and productive sectors bear a larger burden in terms of debt servicing adjustments, while the defense and social sectors are relatively protected.

To evaluate the relationship between debt service payment and inflation rate, since  $3.072 > 0.155517$  (0.05) the F calculated value is rejected and the null hypothesis is accepted. Thus there is a significant relationship between Nigeria 'debt servicing, and Interest rate, this finding is consistent with that of; McGillivray and Ouattara (2005) they develop a link between debt servicing, aid, and fiscal variables for Côte d'Ivoire for the period 1975– 99. Using the fiscal response model, they conclude that the bulk of the foreign aid offered to highly indebted poor countries (HIPC) to meet their public spending needs, especially in the social sector, is misused. A large portion of this aid is used for debt servicing, which then has a negative impact on public spending. Another important result indicates that foreign aid does not induce a decline in borrowing—this finding contradicts the previous argument that public debt and foreign aid are substitutes for one another. This study is consistent to the finding of Ayunku and Markjackson (2020) Were they asserted that external debt service payments exert a positive but insignificant impact on the Nigerian foreign exchange reserves as they maintained that both external debt and its servicing obligations has no significant impact on international reserves positions of Nigeria.

## SUMMARY OF FINDINGS

In view of the analysis above, the findings of the study are as follows:

- Nigeria 's debt services has a significant effect on social spending and interest rate.
- There is a significant relationship between Nigeria 's debt service, and social spending.
- Interest rate fluctuations affect debt service payment and the nation's economic growth.

## CONCLUSION

This study Nexus Between Public Debt servicing and Social and Community Sector Spending is tailored toward ascertaining the debt sustainability position of the Nigeria economy by analyzing the fiscal vulnerability/sustainability position of the nation. The study also examines the relationship between the nation's debt position, it's servicing obligation and the nominal as well as the real growth rate. Our findings suggests that the nation's current debt servicing is not sustainable, hence the need for restrains through fiscal adjustment.

Debt servicing obligation is derailing social and community sector service delivery in Nigeria, because of the ratio between the revenue generation and cost of debt servicing. In view of the foregoing therefore, we foresee a situation of economic calamity and deterioration capable of jeopardizing the future of generations yet to be born. The way out or to avert this is an urgent call for fiscal adjustment.

## RECOMMENDATIONS

1. Federal government to mobilize their own resources internal to finance the deficit budget and



minimize their dependence on borrowing.

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## APPENDIX 1

Nigeria Debt Services, Social and Community Sector, and Interest Rate

Years	Debt Services (In Trillion ?)	Social and Community Sector Spending (In Billion ?)	Interest Rate
2015	1,060.39	890.57	9.55
2016	1,426.00	844.35	18.55
2017	1,823.89	1,099.34	15.37
2018	2,161.37	1,287.15	11.44
2019	2,454.07	2,198.25	11.98
2020	3,265.47	1,569.56	15.75
2021	4,201.35	1,726.52	15.63