

Debt sustainability in the context of fiscal space and entrepreneurship development in Nigeria

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ABSTRACT: This study adopted an integrative review research method and examined debt sustainability in the context of fiscal space and sustainable entrepreneurship development in Nigeria from 1999 to 2022. The integrative review covers previous empirical research findings, reports and documentaries from relevant organisations (Central Bank of Nigeria, National Bureau of Statistics, Debt Management Office, World Bank and its affiliated bodies like the IMF) on fiscal deficit and entrepreneurship development. The study found that government revenue declined over the years, while its fiscal spending rose. It further revealed that as of the end of the 2022 fiscal year, the debt/GDP ratio, the debt/export ratio, debt service/export ratio, and debt service/budget revenue ratio were 38%, 73.9%, 9.02%, and 112%, against the recommended thresholds of 40%, 150%, 20%, and 30% respectively. Based on the thresholds debt/GDP, debt/export, and debt service/export ratios, Nigeria's debt is sustainable but cannot engender sustainable entrepreneurship development because debt service/budget revenue ratio of 81.1%, 92%, and 112% in 2020, 2021, and 2022 respectively, were too high, thereby constricting Nigeria's fiscal space and depriving the country of revenues needed to service debt and ensure gross fixed capital formation. This study recommends that the Nigerian government should diversify the economy by investing in agriculture, manufacturing and technology sectors to improve revenue generation and expand Nigeria's fiscal space. The government should monitor the tax authority's adherence to implementing tax incentives to agriculture, business start-ups and domestic infant industries to encourage entrepreneurship. The government should embark on entrepreneurship promotion policies aimed at skills training on digital and financial literacy, mentoring, and networking opportunities, and supplier linkage programmes to enhance sustainable entrepreneurship development.

Keywords: Debt sustainability, entrepreneurship development, fiscal space, integrative review, ratio analysis.

JEL Classification: H62, H63, H68, G21, L26.

INTRODUCTION

Entrepreneurship development is the backbone of economies. Globally, micro, small and medium-sized enterprises and self-employed workers represent about 90 per cent of businesses and account for over two-thirds of employment (ILO, 2022). Small business operators and the self-employed are disproportionately affected by business uncertainty arising from economic and environmental crises. Given the composition of consumption

baskets, poor households are more vulnerable to rising inflation than wealthier ones (World Bank, 2022). Nigeria as well as most other developing countries cannot fund their developmental needs through revenue generated internally. With the help of government borrowing, additional financial resources are obtained, which can be used to implement public investment programs and finance other national needs that cannot be funded by

revenue generated internally. Public debt is considered an existing source of funds for budget deficit by providing long-term material resources for large investment projects on a national scale, as well as creating a certain standard in the domestic financial market (Odili, 2022).

In recent times, especially since 2017, there have been great concerns by Nigerians on the sustainability of growing public debt. The trend of public debt in Nigeria, before the exit from the Paris Club, continued especially since 2014, while improvements in government revenue and capital expenditure were negligible. In 2014, the global crude oil price fell and Nigerian government revenue depleted which led to borrowing from domestic and external markets to finance expenditure items (Omotosho *et al.*, 2016). Domestic and external debts are associated with interest payments which kept rising and the government borrowings also increased to match its fiscal responsibilities (Otonne and Oyenuga, 2019).

Nigeria's public debt profile as of December 2020 was US\$86 billion; about 38% of Nigeria's total debts are external debt (Ighodalo, 2021 in Nwiado and Opuala-Charles, 2022). Nigeria's total debt as of December 2021 was about \$87 billion. This is about 21.13% of GDP. While, in 2022 and as of June 2023, Nigeria's total debt stock was ₦46,250,367.94trn and ₦87.38trn respectively (DMO, 2022). Debt risk is not only about how much a country has borrowed but also the country's ability to service its debt. Economist uses two indicators to determine a country's debt sustainability- the debt/GDP ratio and the debt service ratios. The debt/GDP ratio is the total debt as a percentage of a country's gross domestic product (GDP). The International Monetary Fund puts the total debt/GDP ratio at 50%, while economist believes that the debt/GDP ratio becomes unsustainable when it exceeds 90%. Debt service ratio on the other hand measures the proportion of export incomes that is used to service debt which includes principal and interest payments. A healthy debt service ratio is below 15%.

Nigeria relies on revenues from petroleum to fund its national development projects and other infrastructure but oil revenue alone can no longer sustain the economy amidst dwindling crude oil prices. Debt repayments are supposed to be made from revenue generation. At less than 5%, Nigeria has one of the lowest revenue/GDP ratios in Africa. The average revenue/GDP ratio for sub-Saharan African countries is about 20%, and 30% for oil exporters (DMO, 2022). In 2022, Nigeria spent N5.24 trillion on debt service out of its N12.87 trillion total spending for the same period. Nigeria's economic growth rate fell from 11.9% in 2015 to 2.2% in 2019 and became negative (-1.8%) in 2020 following the COVID-19 pandemic. In the same vein, the rate of inflation spiked from 9% to 13%, while the unemployment rate skyrocketed from 9% in 2015 to 22.6% in 2018. Depreciation of the naira also followed suit by a whopping 57% between 2015 and 2019. Foreign direct investment declined in response to the deteriorating

macroeconomic performance, from 6% of GDP in 1990 to 0.5% in 2019 (DMO, 2022). These scenarios coupled with other challenges such as high levels of insecurity, interest rate, poor infrastructure, bad governance, corruption and acute shortage of foreign exchange created a risk factor and the expectation that foreign investors in Nigeria may relocate to less risky countries. This implies that Nigeria will lose revenues that could have been used to service debt, thus constricting Nigeria's fiscal space and making funds unavailable for investment in critical sectors of the economy, especially small-sized businesses that have the potential to foster sustainable entrepreneurship development.

Empirical studies that relate to fiscal space and debt sustainability in Nigeria recorded different results by researchers (Aladejana *et al.*, 2021). While, most of these studies argued that fiscal deficit and debt sustainability in Nigeria are not sustainable (Ezeabalisi *et al.*, 2011; Boboye and Ojo 2012; Ajaiyesimi, 2021), some other studies believe that they are sustainable (Suleiman and Azeez 2012; Otonne and Oyenuga, 2019; Ighodalo, 2021) in Nwiado and Opuala-Charles, 2022). Games (2021) also recorded that Nigeria's public debt burden and debt sustainability results from empirical studies reviewed were found to be ambiguous and varied. None of the earlier studies examined debt sustainability in the context of fiscal space and how it influences sustainable entrepreneurship development in Nigeria. This study therefore fills these gaps in the literature by providing a dynamic interaction between debt sustainability and fiscal space and re-conceptualized and expanded the theoretical understanding of sustainable entrepreneurship development in Nigeria.

LITERATURE REVIEW

Conceptualization

A fiscal deficit is a gap in the government's budget between expenditure items and revenue items. Deficits are usually financed by various governments through borrowing. Debts in this study are financial assets owed to private citizens, institutions, foreign governments, and federal or state governments otherwise known as creditors. A debt instrument is a financial claim that requires payment of interest and principal at a future date. A country's public debt is considered sustainable if the government is able to meet all its current and future responsibilities without going into default. Federal government debt increases when there are net budget deficits and increases in intra-governmental borrowing. Economists and experts do raise concern when the level of borrowing by the government appears to be 'too high'. While, it is difficult to say exactly what level of government borrowing is 'too high', debt levels depend on the context and the purpose of such

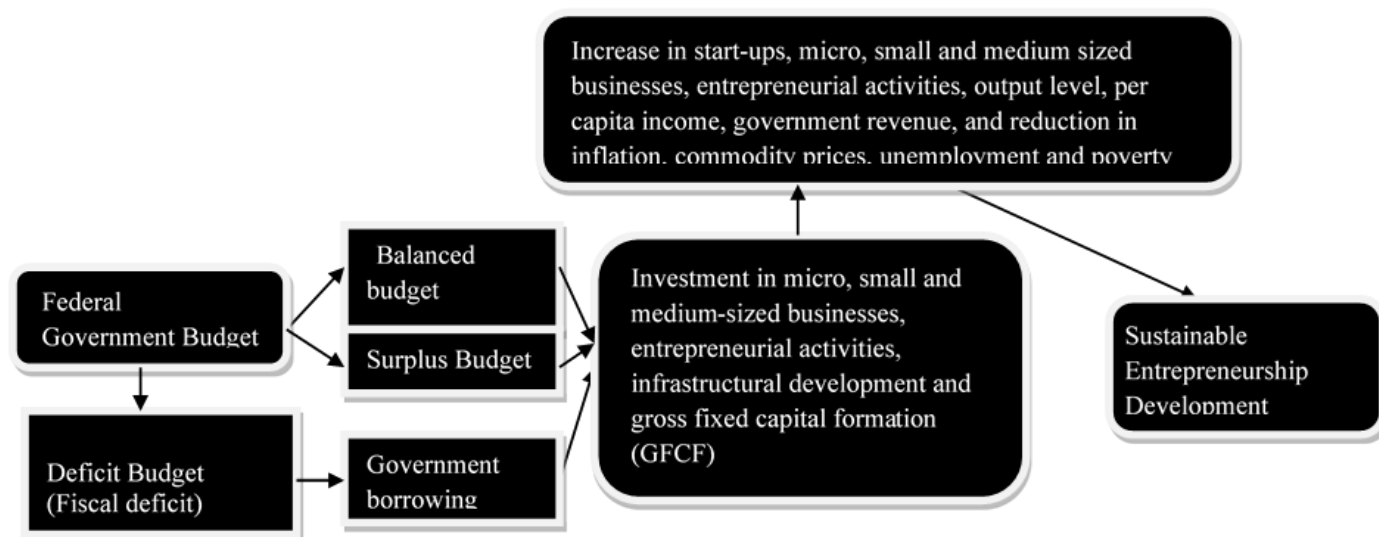


Figure 1. Conceptual framework (Source: Authors' 2024).

government borrowing, however high levels of government borrowing over the years do increase the total debt stock of the government and may be perceived as 'unsustainable' (Otonne and Oyenuga 2019).

Conceptually, this study is anchored on the assumption that access to finance by entrepreneurs will increase entrepreneurs' operational scale, multiply total productivity, increase household income, increase government revenue, reduce commodity prices and poverty, and contribute to sustainable entrepreneurship development in Nigeria. Fiscal imbalance can create debt, and if persists over time, might lead to debt sustainability crises which will constrict the fiscal spaces of government and prevent them from investing in gross fixed capital formation that will enhance entrepreneurship activities, productivity and development. While, bank loans offer moderate returns and may be adequate for micro, small and medium-sized enterprises, alternative financial innovation improves conventional risk-sharing mechanisms (Odili *et al.*, 2022; OECD, 2018). To raise funds, small and medium-scale business owners would formulate strategies to address the environmental factors that will affect the business and establish relationships with funding institutions through government policy interventions. Government policy actions and implementation depend on the available fiscal spaces that the government has. Figure 1, presents the conceptual framework for this study.

Theoretical constructs

In this study, the Keynesian theory of increasing economic activity and the theory of Financial Intermediation formed the basis for the integrative review approach.

Keynesian theory of increasing economic activity

According to Keynes (1936), the growth and stability of an economy depend on the intervention of the federal government. The Keynesian economists are of the view that private sector decisions may lead to inefficiency in the macro-economy of a nation. Keynes therefore suggested that monetary and fiscal policy actions by the government are necessary to direct the economy on the right path to growth. These policy actions will ensure stability in productivity and business cycles and hence accelerate economic activities which will generate employment opportunities, increase output and foster sustainable growth and development (Odili, 2022). Keynes is of the opinion that during periods of low output, two approaches that have the potential to pull an economy out of recession are to reduce interest rates and increase government expenditure on infrastructure. This implies a reduction of monetary policy rate to commercial banks by the CBN and the commercial banks to reduce their lending rate to their customers.

The theory of financial intermediation

Two structural general equilibrium models of growth theories that make strong predictions on the ways in which financial intermediation can affect entrepreneurs with limited access to credit exist. The first model, credited to Lloyd-Ellis and Bernhardt (2000), is a growth model with occupational choice, investment, and credit constraints. Gine and Townsend (2003) gave strong predictions from the exogenous introduction of a credit market into the model: intermediated business units have higher asset growth rates and higher levels of entrepreneurship/

occupational mobility. The second model is the endogenous financial intermediation model credited to Greenwood and Jovanovic (1990) which is centred on project investment, and growth, as generalized by Townsend and Ueda (2003). The model predicts higher (though time varying) asset growth rates and improved risk sharing for intermediated businesses. The two models jointly predict financial intermediation to have a positive effect on small businesses' assets, risk sharing, entrepreneurship, and credit access.

Review of empirical literature

Some empirical studies have been carried out on fiscal deficit, public debt, economic growth and development in developed and developing economies and recorded different results. These studies did not explore the dynamic interaction amongst fiscal deficit, debt sustainability and entrepreneurship development. A few of the studies that relate to this study are here reviewed.

Kelvin (2022) assessed the determinants of entrepreneurial growth in Nigeria using a cross-sectional survey design. Questionnaires were administered to five hundred and forty-five (545) respondents in six (6) geopolitical regions of Nigeria. The analytical framework was based on the factor and principal component analyses. The approximation chi-square result supports the factorability of the correlation matrix and the suitability of the dataset for factor analysis. The principal component analysis showed that capital financing is the most significant factor driving the growth of entrepreneurial activities in Nigeria. It was recommended that the Nigerian government and other established agencies on entrepreneurship should assist in the promotion of entrepreneurial activities by providing the required funding for the growth of entrepreneurs.

In Bangladesh, Mehta *et al.* (2022) assessed the impact of capital and knowledge on women's entrepreneurial development using the lenses of transformation leadership practices. The study was based on 580 SMEs and a structured questionnaire was administered. Coefficients of the variables showed that access to finance played a positive and significant impact on women's entrepreneurial development, while, knowledge level had a positive effect and inter-linked with women's entrepreneurial development. Transformation leadership practices were positively linked to the development of women entrepreneurs.

Odili *et al.* (2022) focused on financing entrepreneurial development in a developing economy by looking at its implication on nation-building and poverty reduction in Nigeria from 1990 to 2021. Four real sectors of the Nigerian economy – Agriculture, Trade, Information and Communication, and Manufacturing- were investigated. The Autoregressive Distributed Lagged model was applied in estimating the variables. The study found that financing

of entrepreneurs engaged in agriculture had an insignificant negative effect on GDPgr but had a significant positive effect on poverty reduction. Financing of entrepreneurs engaged in trade, information and telecommunication businesses had a positive and significant effect on both GDPgr and PORr. While the financing of entrepreneurs engaged in manufacturing had positive and insignificant effects on GDPgr as well as PORr. The study recommended that micro data and micro-level analysis, registration and documentation of business start-ups' by the government should be carried out to ensure the availability of information that will improve the government's understanding of the different needs of small-size business entrepreneurs.

Similarly, Oluyemi *et al.* (2021) examined the determinants of financing instruments used by entrepreneurs in formal and informal settings. Their study tried to find out if credit record, gender, income, awareness, asset-base and affiliation influence the decision on financing options of entrepreneurs in formal and informal settings. The study administered a questionnaire to 300 selected micro-entrepreneurs at the University of Lagos, Nigeria, based on a purposive sampling method. The study established that credit records and assets-based finance options significantly direct formal financing options. Sex and affiliations significantly determined informal financing options, while, awareness was a significant determinant of both formal and informal finance options by young entrepreneurs.

Similarly, Ikue *et al.* (2021) examined the sustainability of public debt as well as the causal relationship between fiscal and trade deficits in Nigeria from 1960-2019. Co-integration and granger causality were employed to test the sustainability of budget and trade deficits. The results from the analysis show that Nigeria's public debt policies are not sustainable. This implies that the revenue generated was below expectation which made the federal government depend on internal and external debt to meet expenditure needs.

Ayomitunde *et al.* (2019) examined the relationship between entrepreneurship financing from the perspective of agricultural small and medium-scale enterprises and nation-building in Nigeria from 1990 to 2017 and found that agriculture and forestry business financing and gross domestic product growth rate have an insignificant negative relationship. There is a negative relationship between mining and quarrying business financing and GDP growth rate, but the relationship was significant at a 10 per cent level of significance. Meanwhile, broad money supply and GDP growth rate have a significant positive relationship.

Gaps in the literature

Empirical literature (Ikue *et al.*, 2021; Aladejana *et al.*, (2021)

Table 1. Debt Indicators and thresholds.

Medium-Term Indicator 'Solvency'	Sustainability Threshold (%)	Short-Term Indicators (Liquidity)	Sustainability Threshold (%)
Debt/GDP ratio	40	Debt Service/Export ratio	20
Debt/Exports ratio	150	Debt Service/Revenue ratio	30
Debt/Revenue ratio	250		

Source: Debt Management Office (DMO), 2014.

exist on fiscal deficit, public debt, economic growth and development. While, Mehta *et al.* (2022), Odili *et al.* (2022), Kelvin (2022), Oluyemi *et al.* (2021) and Ayomitunde *et al.* (2019) researched entrepreneurship development. These studies did not explore the dynamic relationship between fiscal imbalance and debt sustainability, and how they constrict Nigeria's fiscal space and hinder sustainable entrepreneurship development. Secondly, this study adopted an integrative review research method and re-conceptualized and expanded the theoretical understanding of sustainable entrepreneurship development in Nigeria. This approach is different from those employed by other researchers as recorded in the various literature reviewed.

METHODOLOGY

While debt sustainability is a conceptual issue and quantifying it using econometric methodology is difficult. Several ratios of debt/GDP, debt/export, debt service/GDP, debt service/export, reserves/import, and reserves/debt stock are used to measure debt sustainability. In this study, an integrative review research method in which a critical examination of past empirical and theoretical literature is carried out and the outcome summarized to provide a more comprehensive and better understanding of a particular issue or phenomenon (Broome, 1993) was explored in analyzing fiscal deficit, fiscal space and entrepreneurship development, while total debt/GDP ratio, total debt/export ratio, debt service/export ratio, and debt service/revenue ratio were used to explain debt sustainability. The outcomes were employed to re-conceptualize and expand the theoretical understanding of how fiscal imbalance and debt sustainability constrict fiscal space and influence sustainable entrepreneurship development in Nigeria.

The total debt/GDP ratio is a measure that compares a country's public debt to its gross domestic product. It indicates the country's ability to pay back its debt. The higher the debt/GDP ratio, the higher the chances of public debt default. A country that has problems paying off its debts is an indication of a high debt/GDP ratio.

The total debt/export ratio is the ratio of total outstanding debt at the end of the year to the economy's exports of

goods and services for any one year.

Debt service/export is the ratio of debt service payments (principal + interest) to export income. The debt service/export ratio measures the proportion of a country's total export revenue committed to the servicing of public debt incurred in the past period. Debt service/export measures liquidity. The ability of a debtor country to service its debt declines as the ratio increases and for most countries, especially the developing countries, the ratio is between 0 and 20%.

The debt service/revenue ratio is a measure of how much of a country's total revenue is used to pay interest and principal on debt. It indicates a country's financial sustainability and solvency level, and a country's ability to invest in public services and infrastructural development. Table 1 presents debt indicators and thresholds for Nigeria.

RESULTS AND DISCUSSION

Fiscal deficit, debt status and sustainable entrepreneurship development in Nigeria

In developing countries, fiscal deficits are mainly driven by the need for huge capital requirements to finance the critical infrastructure necessary to drive and position the country for growth and development (Ighodalo, 2021 in Nwiado and Opuala-Charles, 2022). Government expenditure in Nigeria is made possible by revenues from the crude oil boom which alternates with periods of the oil glut that significantly declines government revenues. Fiscal deficits in Nigeria are skewed heavily towards recurrent expenditure which does not necessarily drive development. In 1999, government recurrent expenditure was N449.66 billion and increased to N984.30 billion in 2003 (Odili, 2022). In 2004, it rose higher to N1.11 trillion and this trend continued with a whopping N2.12 trillion in 2008, N2.13 trillion in 2009, N3.33 trillion in 2012, and N4.18 trillion in 2016 (Odili, 2022). Statistically, in 2018, recurrent expenditure was ₦3.5 trillion, in 2019 it increased to ₦4.7 trillion, rose again in 2020 to ₦4.8 trillion, in 2021 to ₦5.9 trillion, and in 2022 to ₦6.9 trillion (DMO, 2022). The impression created by this analysis is that recurrent expenditure in Nigeria contributes significantly to the fiscal

Table 2. Nigeria's fiscal deficit, fiscal deficit growth rate, and deficit (% GDP) from 1999-2022.

Year	Fiscal Deficit (\$M)	Growth Rate of Fiscal Deficit (%)	Deficit (% GDP)
1999	-1,126	-89.06	-1.96
2000	2,757	144.85	4.07
2001	-2,356	-14.55	-3.22
2002	1,262	46.43	1.34
2003	-2,260	-79.08	-2.20
2004	7,154	216.55	5.49
2005	8,326	16.38	4.91
2006	19,514	134.37	8.76
2007	-2,927	-85.00	-1.12
2008	18,815	542.81	5.70
2009	-15,842	-15.80	-5.33
2010	-15,395	2.82	-4.17
2011	1,789	88.38	-0.43
2012	593	-66.85	-0.13
2013	-13,709	-2211.80	-2.66
2014	-13,808	-0.72	-2.43
2015	-18,706	-35.47	-3.80
2016	-18,791	-0.45	-4.64
2017	-20,346	-8.28	-5.42
2018	-18,198	-10.56	-4.32
2019	-21,019	-15.50	-4.69
2020	-23,962	-14.00	-5.58
2021	-26,613	-11.06	-6.03
2022	-26,165	-1.68	-5.48

Source: Authors' computation 2024 based on DMO, NBS and World Bank data – 2022.

deficit. Table 2 presents Nigeria's fiscal deficit, fiscal deficit growth rate, and deficit (% GDP) from 1999 to 2022.

The growth rate of fiscal deficits in Nigeria between 1999 and 2022 as shown in Table 2, reveals that fiscal deficits have been rising and falling, ranging between the highest level of -2211.80 in 2013 and 542.81 percentage points in 2008, though mostly negative, showing that finance gap between revenue and expenditure has been on the increase, especially since 2013. This has severe negative consequences on sustainable entrepreneurship development in Nigeria. Similarly, fiscal deficit as a percentage of GDP has been consistently negative, especially since 2009. In Figure 2, it is shown that annual fiscal deficits remained below 6% of GDP since 2015, implying that public expenditure is increasing, while revenue collection is low, creating a huge revenue-expenditure gap. The debt stock has grown by 30% per year between 2015 and 2020 compared with 23% per year between 2010 and 2015 (DMO, 2022).

Nigeria's public debt portfolio

Infrastructural investment is a major source of gross fixed

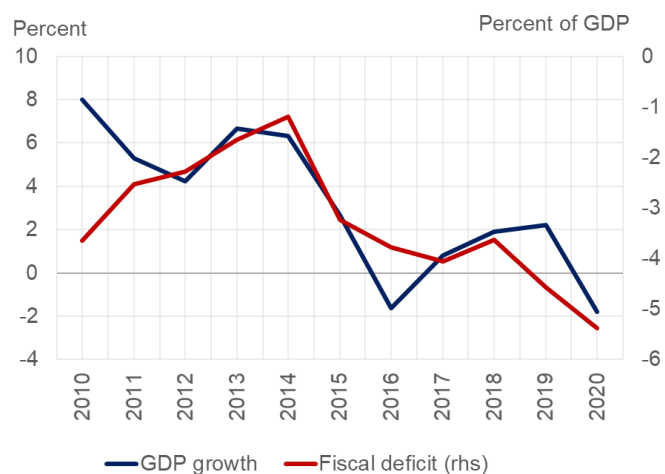


Figure 2. GDP growth and fiscal deficit – adopted (Sources: DMO (2022), www.dmo.gov.ng, and World Bank, 2022).

capital formation for sustained growth. However, in the presence of a fiscal deficit and scarce domestic financial resources for the required infrastructural development investment, borrowing becomes imperative. In the early

Table 3. Nigeria's public debt portfolio (2014-2022).

Year	Domestic Debt(N'trn)	External Debt(N'trn)	Total Debt(N'trn)
2014	9,535,549.07	1,631,523.60	11,167,072.67
2015	10,948,526.57	2,111,530.71	13,060,057.28
2016	14,537,119.70	3,478,915.40	18,016,035.10
2017	18,376,998.77	5,787,512.64	24,164,511.41
2018	16,627,841.75	7,759,229.99	24,387,071.74
2019	17,943,940.63	8,271,040.50	26,214,981.13
2020	20,209,896.37	12,705,618.48	32,915,514.85
2021	23,700,801.25	15,855,231.25	39,556,032.50
2022	27,548,116.06	18,702,251.88	46,250,367.94

Source: Debt Management Office, www.dmo.gov.ng.

Table 4. Nigeria's total public debt portfolio as at December 31, 2022.

Debt Category	Amount outstanding (US\$'M)	Amount outstanding (N'trn)	% of total
Total External Debt	41,694.91	18,702,251.88	40.44%
FGN Only	37,238.54	16,703,347.12	36.12%
States & FCT	4,456.37	1,998,904.76	4.32%
Total Domestic Debt	61,415.93	27,548,116.06	59.56%
FGN Only	49,515.92	22,210,364.60	48.02%
States & FCT	11,900.01	5,337,751.46	11.54%
Total Public Debt(A+B)	103,110.84	46,250,367.94	100%

Source: DMO, 2022.

nineteenth century under colonial rule, Nigeria obtained her first public debt to finance infrastructural development (Odili, 2022). The loan amount was £5.7 million with a repayment period of 20 years and an interest rate of 2.5% per annum. It was borrowed by the British government on behalf of the Nigerian government in about 1923 – 1924. Since then, Nigeria's loan portfolio and debt servicing continued to increase. Nigeria's public debt portfolio from 2014 to 2022 is presented in Table 3, while the outstanding external and domestic debts as of December 31, 2022, are presented in Table 4.

Tables 3 and 4 show that public debt in Nigeria increased from ₦11,167,072.67trn in 2014 to ₦24,164,511.41trn, ₦32,915,514.85trn, ₦24,387,071.74trn, and ₦46,250,367.94trn, in 2017, 2018, 2020 and 2022, respectively. The borrowed fund has charges on it because it has to be serviced, and interest charges paid. The cost implications of servicing the public debt increase as the debt increases. Due to the glut in the crude oil market, revenue generation is dwindling and cannot provide the needed funds for infrastructural development. The wage bill of Nigeria is rising and part of the funds the federal government borrowed are used to fund her expenditure obligations on overhead costs and debt servicing payments, which were higher than the revenue generated by the government within the same period.

Breaking down the public debt portfolio into its components reveals certain vulnerabilities. Namely, short-term debt remains high, and debt servicing (see Figure 3) – which accounted for 86.2 per cent of consolidated revenues in the 2020 – 2022 fiscal year crowds out expenditure on delivery of public services (DMO, 2022).

Debt sustainability indicators and thresholds

In Nigeria, debt sustainability analysis is carried out in the medium-term scenarios. These scenarios are numerical assessments that examine features of economic variables and other indices to ascertain the conditions under which debt and other indicators would stabilize the shocks or risks in the economy and provide for policy amendments. In debt sustainability analysis, there are two important measures, solvency and liquidity. Debt stock ratios are indicators of solvency, while debt service ratios are indicators of liquidity. The debt-stock ratios are Debt/GDP ratio, Debt/Export ratio and Debt/budget revenue ratio. While the short-term liquidity requirements of the country are measured with debt service obligations (debt service/export and debt service/budget revenue).

The Debt Sustainability Framework (DSF) was developed by the Bretton Wood Institutions (BWIs) as an instrument for assessing a country's risk of debt distress,

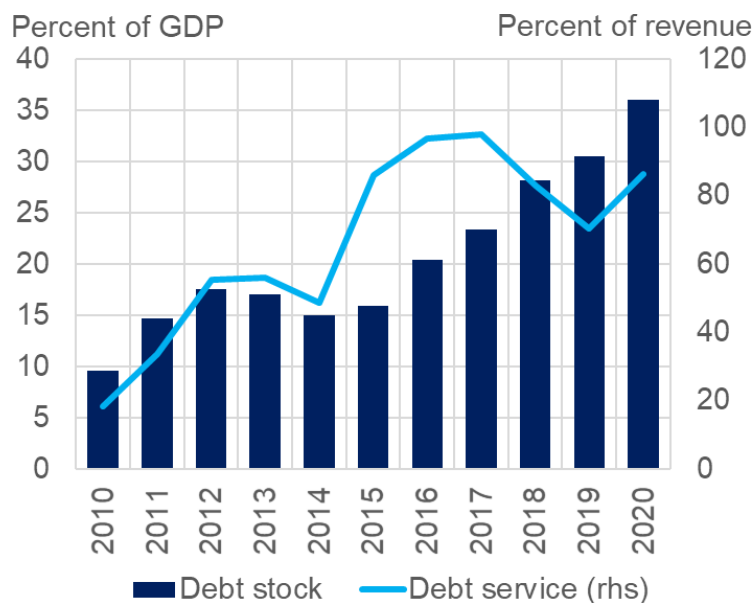


Figure 3. Debt and debt servicing - adopted (Sources: DMO (2022), www.dmo.gov.ng, and World Bank, 2022).

Table 5. DSF debt sustainability indicators and thresholds.

Indicators	Assessment of institutional strength and quality of policies		
	Poor	Medium	Strong
PV debt /GDP	30%	40%	50%
PV debt /exports	100%	150%	200%
Debt service/exports	15%	20%	25%
PV debt/revenue	200%	250%	300%
Debt service/revenue	25%	30%	35%

Source: International Monetary Fund (IMF), 2002.

based on some debt indicators and thresholds. The BWIs linked the debt sustainability thresholds to the policies and institutional quality of a country. What this means is that countries with strong or good policies and institutions are more likely to absorb higher debt burdens and therefore are less likely to fall into debt distress, than countries with weak or poor policies and institutions. The BWI framework formulated three thresholds for strong, medium and weak policy and institutional performers. Based on these classifications, the DSF indicators and thresholds are presented in Table 5.

As shown in Table 5, countries with strong policies and institutions will shoulder substantially higher debt burdens than poor performers. Thus, the thresholds that apply to strong performers are higher than those that apply to weak performers and the debt levels for strong performers are considered unsustainable for poor performers. Public debt is sustainable if the present values of its current and future primary expenditure items are less than the present value

of its current and future stream of income. Five indicators are listed in the DSF, in practical terms; the BWIs focus mainly on those ratios with GDP and export denominators. The reason for this is that GDP and export data are more reliable than national revenue data and easier to compare across countries.

Data presented in Table 6 shows that Nigeria's public debt remains sustainable, despite the pressure orchestrated by rising fiscal deficits and stagnating growth. This is in line with the results obtained by Suleiman and Azeez (2012), Otonne and Oyenuga (2019) and Ighodalo (2021) in Nwiado and Opuala-Charles (2022) who found that Nigeria's debt is sustainable. Standing at 38% of GDP in 2022, Nigeria's public debt is within the commonly recognized boundary of debt sustainability (50% of GDP) and Nigeria's self-imposed threshold of 40% (DMO, 2022) and it is expected not to go beyond this level in the medium-term framework. The only time Nigeria recorded above the 40% threshold but not up to the 50% commonly

Table 6. debt/GDP ratio, debt/export ratio, debt service/export ratio and debt service/revenue ratio of Nigeria.

Year	Debt/GDP (%)	Debt/export (%)	Debt service/export (%)	Debt service/revenue (%)
1999	40.23	174.5	7.61	3.2
2000	37.04	180	8.76	6.9
2001	37.84	161.4	12.72	7.0
2002	40.70	162.9	8.06	9.4
2003	36.46	146.8	5.93	14.1
2004	34.14	162.1	4.47	9.8
2005	17.89	78.8	15.41	7.1
2006	7.39	18.4	10.98	4.2
2007	7.86	26.2	1.44	3.7
2008	7.28	18.9	0.76	4.8
2009	9.58	35.1	1.28	5.3
2010	9.60	22.5	1.50	12.3
2011	10.35	16.4	0.51	15.6
2012	10.55	14.7	1.34	21.69
2013	10.62	26.1	0.49	24.6
2014	10.59	26.5	5.32	28.6
2015	16.80	61.7	3.21	33.0
2016	18.6	90.4	6.28	43.5
2017	21.3	88.5	6.75	45.5
2018	17.5	83.0	7.88	55.8
2019	29.1	89.3	7.10	52.3
2020	34.98	200.1	13.36	81.1
2021	37	144.4	16.19	97
2022	38	73.9	9.02	112

Source: Computed by the authors' (2024) based on data collected from CBN, NBS, and DMO – 2022.

recognized threshold was in 1999 (40.23%) and 2002 (40.70%). The threshold for the debt/export ratio is 150%. The PV debt/export in 2022 was 73.9%. This also implies that Nigeria's public debt remains sustainable. Nigeria has to exercise caution here because there are many occasions where the debt/export ratio exceeded 150% even though they were reasonably within the commonly recognized threshold of debt (200% of exports). For instance, from 1999 to 2004 debt/export ratios were above 150%. Similarly, in 2020, the debt/export ratio was 200.1. The debt service to export ratio also proves that Nigeria's public debt remains sustainable. The threshold for the debt service/exports ratio is 20%, and from Table 6, the highest value recorded was 16.19% in 2021.

In contrast to the results obtained based on debt/GDP ratio, debt/export ratio, and debt service/export ratio analysis, debt service/budget revenue shows that Nigeria's public debt is not sustainable. This result collaborates with the findings of Ezeabalisi *et al.* (2011), Boboye and Ojo (2012) and Ajaiyesimi (2021) whose research results recorded that Nigeria's debt was not sustainable and that it was orchestrated by a persistent increase in debt stock over years. The debt service/budget revenue threshold is 30% or 35% upper limit threshold

(Table 5). From the records in Table 6, debt service/budget revenue from 2015 to 2022 exceeded the threshold of 30% with an average annual increase of about 46.1%. In 2020, 2021, and 2022, the debt service/revenue ratios were 81.1%, 92%, and 112% respectively. These are highly unprecedented and unsustainable and it means that Nigeria is facing challenges in generating enough revenue to service its debt. Nigeria relies on revenues from the sale of crude oil to finance her critical sectors such as micro, small and medium-sized businesses, entrepreneurship activities, agriculture, healthcare, education, infrastructure, and social protection, but oil revenue alone no longer sustains the economy due to dwindling crude oil prices and this is a problem to Nigeria's economic sustainability. There are several reasons Nigeria's debt service/revenue ratio is a problem for sustainable entrepreneurship development, and they include:

Poor fiscal space: The government spends most of their revenues on debt servicing, thereby constricting the fiscal space for other public expenditure priorities such as small-sized businesses, agriculture, healthcare, education, infrastructure, and social protection. This restricts the government's ability to respond to shocks, crises, and

emergencies and to pursue long-term development plans.

High risk of debt crises and defaults: A high debt service/budget revenue ratio may make it difficult to meet its debt obligations and may be forced to resort to further borrowing, debt restructuring and rescheduling. This can damage governments' reputation and credibility in global markets and reduce their ability to deliver economic services.

Stagnation of economic growth and development: A high debt service/revenue ratio may require cutting down public expenditure on productive sectors like micro, small and medium-sized businesses, agriculture, manufacturing trade, and technology. This can make the economy less productive and competitive, thereby reducing per capita income.

Promotion of inequality and poverty: A high debt service/budget revenue ratio may require high taxes, and subsidy removal to raise revenue, and undertaking social transfers as palliatives. This can affect disposable income and household purchasing power, especially for start-ups, micro, small and medium-sized businesses and vulnerable entrepreneurs.

Policy options for improving debt sustainability, fiscal space and entrepreneurship development in Nigeria

The major factor influencing macroeconomic performance in Nigeria is over-reliance on volatile oil export revenue, which accounts for more than 90 per cent of total exports in Nigeria. This created limited fiscal space for other public expenditure priorities and hindered the government from investing in micro, small and medium-sized businesses and entrepreneurship development, and other infrastructural development. Similarly, restrictive trade policies, weak exchange rate management, monetization of the fiscal deficit by the Central Bank of Nigeria (CBN), and a spike in food prices are some of the macroeconomic factors that are influencing the economy of Nigeria. Policy options for improving fiscal balance scenarios and debt sustainability in Nigeria that have the potential of freeing fiscal space and leading to a sustainable entrepreneurship development path require a multi-dimensional approach by the federal government based on six reciprocally strengthening policy actions and strategies.

Revenue mobilization: Nigeria needs to maintain a minimum level of revenue to deliver critical public services. Revenue mobilization can be achieved by providing tax incentives to agriculture, start-ups and domestic infant industries. This will expand the productive base, increase national output, expand the tax net and free up fiscal space.

Strengthening institutional arrangements and governance practices: National Assembly (2007), in the Fiscal Responsibility Act 2007, sets good practices which include deficit ceilings and limits to financing from the CBN. The areas that may need review include the specification of predictable and transparent transfers of oil and gas revenues to the federation account, ceilings on budget allocation to general administrative expenditure, and sanctions for breaking the fiscal rules. Improving debt management could also help reduce fiscal costs. This can be done by having deficit borrowing plans that are based on costs and other fiscal information, improving cash management practices to eliminate the reliance on CBN borrowing, and adding CBN financing as part of the public debt stock.

Freeing-up fiscal space through the adoption of a better allocation spending regime, and adherence to expenditure ceiling: A commitment to adhere to the expenditure ceiling for general administrative expenditures, which is currently being allocated a high share of the total expenditure of the federal government, is imperative. Furthermore, strengthening the budget preparation process to ensure more realistic revenue projections and monitoring can result in better allocation decisions across all tiers of government to enhance the overall efficiency of government spending.

Formulating and implementing a coherent entrepreneurship policy framework: Support for entrepreneurship is transversal and concerns multiple ministries. Policies involve, among others, facilitating access to finance, providing entrepreneurship education, innovation, information and communications technologies, research and development, trade, and enabling market access.

Supporting digital and technology entrepreneurs: Digital transformation opens up new possibilities and serves as a key catalyst for value creation and often disruptive innovation. The pandemic accelerated the process of digitalization, within public administration and the private sector, and opened up opportunities for digital entrepreneurs in e-commerce, financial technology (fin-tech) and health technology, to name a few. Green and blue entrepreneurs and small-sized enterprises are drivers of innovative, environmentally sustainable solutions needed to achieve sustainable entrepreneurship development. The protection of intellectual property rights is essential for these businesses. In this regard, a software-based tool that allows any user to receive an automatically generated report concerning the intellectual property assets that the user is holding is imperative.

Integrating the most vulnerable entrepreneurs: Inequalities between and within countries, including the

digital divide, have amplified and widened because of the pandemic, affecting progress on sustainable entrepreneurship development. The growth in the fin-tech sector over the past few years allowed the unbanked part of the population to obtain access to financial services. Social entrepreneurs generally seek to empower excluded individuals to participate in financial, social and economic systems. From providing educational technology and e-health services for the most vulnerable to developing community tracing initiatives, their work is more critical than ever. Inclusive businesses emphasize integration along the value chain to create economic opportunities for low-income populations.

Conclusion and Recommendations

This study found that government revenue declined over the years, while its fiscal spending rose. It further revealed that as of the end of the 2022 fiscal year, the debt/GDP ratio, debt/export ratio, debt service/export ratio, and debt service/budget revenue ratio were 38%, 73.9%, 9.02%, and 112%, against the recommended thresholds of 40%, 150%, 20%, and 30% respectively. Based on the thresholds of debt/GDP, debt/export, and debt service/export ratios, Nigeria's debt is sustainable but cannot foster sustainable entrepreneurship development. The debt service/budget revenue ratios of 81.1%, 92%, and 112% in 2020, 2021, and 2022 respectively, were too high. This constricts Nigeria's fiscal space and deprives the country of revenues needed to service debt, ensure infrastructural development, and foster sustainable entrepreneurship development.

This study recommends that the Nigerian government should diversify the economy by investing in agriculture, manufacturing and technology sectors to improve revenue generation and expand Nigeria's fiscal space. The government should monitor the tax authority's adherence in implementing tax incentives to agriculture, business start-ups and domestic infant industries to encourage entrepreneurship. In addition, the cost of governance should be reduced and the public should be enlightened on the sustainability of Nigeria's debt to change the perception of Nigeria as a debt-risk country. Governments should digitalize their service provision to micro, small and medium-sized enterprises and entrepreneurs. Digital services, offer potential solutions to barriers to entrepreneurship and can help micro, small and medium-sized enterprises to build resilience to negative external shocks. Online platforms for administrative procedures for businesses help small firms start and run their business and make it easier to reach vulnerable entrepreneurs or those in remote areas. The government should embark on entrepreneurship promotion policies aimed at skills training on digital and financial literacy to increase entrepreneurial activities.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

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