IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933,p-ISSN: 2321-5925.Volume 14, Issue 3 Ser. II (May. – June. 2023),PP 36-45
www.iosrjournals.org

Fiscal Consolidation Law And Sovereign Debt Reduction

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Abstract
The study investigates the sufficiency of fiscal consolidation legislature in sovereign debt reduction in Nigeria. A model of the ratios of sovereign debt to real GDP (GDPYt), as a function of fiscal deficit to real GDP (FDPYt), government expenditure to real GDP (GEPYt), government revenue to real GDP (GRPYt), and dummy variable (DUt) is specified on the basis of Keynesian theory on public debt, Annual data of the variables were obtained from the Central Bank of Nigeria 2021 statistical bulletin, and the simple economic model was estimated using autoregressive distribution lag (ARDL) model. On the basis of the findings, the study concludes that fiscal consolidation legislation, unaccompanied by appropriate institutional and structural reforms, is not sufficient in reducing a nation's sovereign debt in Nigeria. Following, the study recommends appropriate reform in the tax structure to increase revenue generation as well as necessary institutional changes to ensure prudential spending of public fund to complement fiscal consolidation legislation in the drive towards sovereign debt reduction in Nigeria.

Keywords; *sufficiency, fiscal consolidation, sovereign debt reduction, Keynesian proposition, tax structure, institutional changes.*

Date of Submission: 04-05-2023 Date of Acceptance: 14-05-2023

I. Introduction

Sovereign debt is a Janus-faced asset class (Eichengreen et al., 2020). With the benefit of hindsight, Eichengreen et al provide facts to support their claim. Prudentially managed, sovereign debt lessen the tax burden of present generation but place more tax burden on future generation who are compensated with more critical infrastructure and better equipped labour force. Carelessly managed, sovereign debt has implication for economic doom for an economy; current generation endures the drudgery of inadequate capital goods, while future generation have to cope with obsolete critical infrastructure, inefficient work force as well as debt burden. Meanwhile, fiscal challenge and debt burden are common economic challenge in the global community as both developed and developing countries sometimes experience budget deficit and high sovereign debt (Makin & Pearce, 2016). Budget deficit and sovereign debt issues have being a global concern and government both in developed and developing countries respond with the establishment of institutions and legal frameworks to address the menace. In Nigeria, the Fiscal Responsibility Act of 2007 provided the legal framework just as the Fiscal Responsibility Commission, the institution to tackle fiscal indiscipline and corruption in the public sector (Olutoye, 2014). In the same vain, issues of budget deficit and sovereign debt have attracted considerable intellectual attention and contribution over the years from both developing and developed countries. This body of knowledge can be categorized into three groups; those on episodes of debt accumulation and its sources; ones on assessment of the economic implications of high debt on economic growth and interest rates; as well as studies that focus on debt reduction episodes - fiscal consolidation (Baldacci et al 2012 as cited by Orrnert 2019). Studies in the field with reference to Nigeria relate more to the assessment of the macroeconomic implication of high debt on output and interest rates as compare with those on debt accumulation and its sources as well as fiscal consolidation (Onyele & Nwadike, 2021; Apeloko & Oluwatosin, 2018; Muhammad & Abdullahi, 2020; Fagge & Ibrahim, 2018; Udoka & Ogege, 2012). Meanwhile, renew effort in research on fiscal consolation has attracted substantial contribution in developed countries since the aftermath of the great recession with an implication that wherever and whenever their exist fiscal unsustainability, fiscal consolidation is a viable policy option (Heylen & Hoebeeck 2013; Anderson, Hunt & Snudden, 2014; Figari & Fiorio, 2015; Elekdag, Epstein & Moreno-Badía, 2007; Taylor, Wieland & Wolters, 2013; Pappa, Sajedi & Vella, 2014; Agnello and Sousa, 2014; Martorano, 2015; Djurovic-Todorovica & Djordjevicb, 2015). Meanwhile, scholars have argued that strong institutions and targeted structural reforms are essential for the success of fiscal consolidation legislature (Elekdag, Epstein & Moreno-Badía, 2007; Anderson, Hunt & Snudden, 2014; Heylen, Hoebeeck & Buyse, 2013; Pappa, Sajedi & Vella 2014). On the concern of fiscal consolidation research,

Siebrits and Calitz (2016) state that "research on fiscal consolidation focused on two sets of issues: the efficacy of particular mixtures of fiscal policy instruments for achieving durable reductions in fiscal deficits and public debt burdens, and the effects of fiscal tightening on output and employment." These groups of research, obviously, relate to countries that have implemented fiscal consolidation programmes and succeeded or failed in altering the dynamics of fiscal deficit/GDP ratios, government expenditure or increasing government revenue as percentages of GDP there by, ultimately, reducing debt/GDP ratio. Either through a purposeful programme or otherwise, the dynamics of these statistics of an economy are indicators of fiscal sustainability. The promulgation of the fiscal consolidation Act of 2007, notwithstanding, fiscal deficit and sovereign debt has continued to rise rather than decrease in Nigeria. Thus, the sufficiency of fiscal consolidation legislature in sovereign debt reduction becomes a critical issue that requires attention. This study seeks to provide answer to this question. Fiscal consolidation has become an important policy option in advanced economies, many emerging market countries (EMCs) and some highly indebted poor countries (HIPCs) to put public finances back on a sustainable path, however, institutional and structural factors are considered as relevant factors in the success of fiscal consolidation legislature. The paper is organized as follows; following the introduction is reviews of the literature, section 2; methodology, section 3; data analysis and discussion of findings, section 4 and conclusion and recommendation, section 5.

II. Issues in Fiscal Consolidation

The Keynesian paradigm, Ricardian equivalence proposition and the Positive Theory of Government Debt are part of the theoretical lenses with which issues of budget deficit and sovereign debt are viewed. Budget deficit take center stage as a macroeconomic variable and its movement assessed in determining the effectiveness of macroeconomic management was a major contribution of Keynes to economic theory. Keynes assumed that there is no need to balance the budget and that the budget deficit is a corrective fiscal policy instrument to manage the economy during times of slow economic activity, Keynesians basic argument is that during recession, intentional government deficits could boast overall economic activities and promote growth. According to the Keynesians, a budget deficit has a beneficial effect on macroeconomic activities because it increases aggregate demand, which in turn boosts both private and public consumption. According to Aspromourgos (2018) Keynes proposition on debt finance hinges on the conviction that government authorities will spend borrowed fund judiciously to carry out policy measures towards attaining policy objectives. The conviction also carries with it the caveat that debt financing could fail if government authorities misappropriate borrowed fund or on the basis of other factors. It follows that underlining institutional and structural factors are also important in the management of sovereign debt in the Keynesian thinking. Makin and Pearce (2016) provided empirical evidence that foreign debt incurs to fund recurrent expenditure results in income transfer overseas and decreases national income, and argue that fiscal problems emanates from higher government expenditure in response to financial crises.

However, proponents of the Ricardian Equivalence Proposition postulate that paying government spending with current taxes or deficits financing will have comparable impacts on the total economy. The proponents of the theory contends that when a government attempts to stimulate an economy with budget deficit and increase government spending, aggregate demand does not necessarily change because people increase their saving to cover anticipated future tax increases. That is budget deficit, although premised on increasing aggregate demand, will not increase demand since consumers will not change their current spending when they anticipate a tax increase in the future. Thus, government budget deficit can function like increased in current taxes that could reduce current household and business expenditures. An essential part of the Ricardian equivalence proposition is that consumers consider future tax payments when deciding how much to spend and save today. The Ricardian Equivalence Proposition is based on the assumption that resource transfers between generations are motivated by reasonable foreseeability circumstances. These presumptions lead to the conclusion that the government's decision to finance its deficits is irrelevant, because there will be no impact on the equilibrium sequence of real macroeconomic variables. The modern Ricardian equivalence theorem is an accompaniment to the Ricardian equivalence theorem. Proponents of the modern Ricardian equivalence theorem argue that the principal concern of Ricardo remains the effect of government spending on an economy and not necessarily a debate on deficit financing and less taxation while government spending remained unchanged (Figari & Fiorio, 2015). The core issue in Ricardo's argument is the justification of the households and firms bearing the burden of government spending, mainly when financed through debt, because public debt weakens private saving and capital accumulation as well as economic growth. Thus, the Barro's Ricardian equivalence theorem falls short of addressing the more important issue (Figari & Fiorio, 2015). Meanwhile, recent empirical study on the Ricardian equivalence theorem provide mixed evidence of the Ricardian equlvalence theorem; Hayo & Neumeier (2016) discovered that the Ricardian equivalence theorem does not hold in Germany, but Ikiz,(2020) found the presence of Ricardian equivalence theorem in Turkey

Nevertheless, the Positive Theory of Government Debt put forward by Alesina and Tabellin (1990) argues that variations in political institutions may help to explain the variation in debt policies followed by various nations, or even by the same nation at various times. Alesina and Tabellin postulate that current administration of a country intentionally uses public debt to sway the decisions made by its successors when there is disagreement between present and potential future policymakers. They show that the equilibrium level of public debt tends to be higher; the more polarized alternating governments are; the less probable it is that the current government will be re-elected; and the more rigidly downward public consumption is. Alesina and Tabellin assert that a deficit bias in democratic countries may be caused by the citizens' disagreement rather than their myopia (ignorance). The positive theory of government debt points to the relevance of institutional and structural factors in the management of sovereign debt.

III. Empirical Literature Review

Sovereign debt incurs to fund recurrent expenditure decreases national income as part of national income is used for debt servicing, but where government borrows to finance productive capital expenditure, a higher public debt never result in debt burden (Makin & Pearce, 2016). The main option to address sovereign debt in the extant literature is the reduction of the level of public debt (Figari & Fiorio, 2015; Makin & Pearce, 2016). Thus, fiscal consolidation programmes are necessitated by the need to address the adverse effects of sovereign debt. Burger, Siebrits and Calitz (2016) aver that sovereign debt remains a viable policy instrument to promote economic growth but also note that the high deficit financing in South Africa produces adverse macroeconomic effect rather than improve overall economic performance. Roeger, Veld and Vogel (2010) demonstrated that fiscal consolidation both in the medium and long-term in Germany improved government balance and reduces public debt by 9% of GDP after 10 years and 21% of GDP after 20, real output increased by 0.1% after 10 years and 0.8% after 20 year, the mean multiplier on real GDP around 0.5 in 2011, reduced to 0.2 by 2014. Roeger, et al discovered negative GDP consequent upon the programme in the first 8 years but the minimal negative effect turns positive thereafter. With reference to Euro Area, Anderson and Snudden (2014) provide statistics to show that fiscal consolidation could hinder economic progress for some period. Anderson and Snudden forecast 1 percent and 2.5 percent fall in real GDP for core and peripheral EU countries in 2015 respectively. The Belgian experience established that fiscal consolidation can be implemented without out rightly undermining the basic goals of acquiring debt as well as accommodating the diverse interest of various stakeholders at the initial stage and further adopt a more aggressive approach in reducing government spending and increase public savings (Troupin, Steen & Stroobants, 2015). Using simulation, Cogan, Taylor, Wieland and Wolters (2013) research on the outcome of fiscal consolation measures in US show that government spending as a percent of GDP was reduced below a benchmark. More so, that gradual fall in government spending reduce transfer payment and expenditure on public goods and services. They argued that cut in spending could lead to increase in public savings, reduction in tax rate and sovereign debt. It follows that fiscal consolidation has it strength and weakness.

Elekdag, Epstein and Moreno-Badía (2007) study on fiscal consolidation in Israel showed that there are significant long-term benefits to early consolidation in Israel just as targeted structural reforms that address rigidity in factor markets has implication for the economy's adjustment to the dynamics of fiscal policy. In the same vain, Anderson, Hunt and Snudden (2014) argued that far reaching structural reforms in product and labour market could compensate for the adverse effect of fiscal consolidation. Similarly, the effect of consolidation on inequality was highlighted by Figari and Fiorio (2015) with reference to Italy. The authors revealed that fiscal consolidation burden are progressively distributed, but those at the very bottom of the income distribution are most adversely affected. The adverse effect of consolidation was discovered to impact more on those who also suffer more during recession; pensioners, public sector employees and, severely, by working-age adults and workers in the private sector. Meanwhile, Figari and Fiorio highlight the need of appropriate structural and institutional reform when necessary; the Italian tax reforms with marginal shift from taxes on labour income to taxes on consumption and income from capital did not increase output since the tax regime lead to revenue increase rather than neutral the authors argue. Meanwhile, Heylen, Hoebeeck and Buyse (2013) research on fiscal consolidation in 21 OECD countries aver that fiscal responsibility and strong institution (reform of labour and product market) are key for the success of fiscal consolidation policy measures. Furthermore, Pappa, Sajedi and Vella (2014) research on the effect of tax evasion and corruption on fiscal consolidation programme provides evidence that given concern to tax evasion and corruption is relevant in understanding the effectiveness of fiscal consolidation measures in Greece. These factors are found to amplify the effects of labour tax hikes, while they mitigate the effects of expenditure cuts. This shows that the tools for implementing fiscal consolidation have implication on the private sector performance, and Pappa, Sajedi and Vella argue in favour of the development of strong institutions to make fiscal consolation more effective. In all both institutional and structural factors are shown to be relevant in the outcomes of fiscal consolidation programmes.

Agnello and Sousa (2014) study of the effect of fiscal consolidation on income inequality showed that the size and composition of fiscal consolidation programmes are critical factors in income distribution; that spending cut appears harmful for income distribution beyond a threshold of 0.77 percent of GDP, tax increase reduces inequality and the effect is magnified when tax increase is more than 0.57 percent of GDP. The need to be critical about the strategy of fiscal consolidation was also highlighted by Mirdalaa (2014) research on fiscal consolidation in selected Europe economies. Mirdalaa provides evidence when successful and unsuccessful episode of fiscal consolidation were viewed from the stand point of the relationship between primary balance and sovereign debt ratio. One year consolidation and gradual multi-year fiscal consolidations shown to have 14 percent and 27 percent success in fiscal consolidation programme respectively. More so, Martorano (2015), in comparing different fiscal consolidation strategies discovered that on the expenditure side, Hungary and Iceland both reduce expenditure on general public services, while Hungary maintained expenditure in economic affairs; Iceland retained spending in the social protection at pre-consolidation level. On the revenue side Hungarian carried out a flat tax regime, while Iceland adopted progressive tax regime. The two strategies produce diverge economic and social outcomes. In Hungary and Iceland, primary balance became positive and fall in debt GDP ratio started to decrease, although in Hungary it was consequent upon the implementation of a one-off revenue measure. Iceland programme achieved set objectives, however in Hungary, economic conditions deteriorated and Hungary requested for more help from the EU and the IMF in 2012. Social transfers improve income distribution, both in Iceland and Hungary. In Iceland, child benefits was increased to compensate for reduction in living standard occasioned by the crisis. These imply that the strategy of consolidation programme is a critical factor in the outcome of fiscal consolidation programme.

The empirical literature provides evidence that fiscal consolation is a viable policy measure to address deficit financing, sovereign debt and related consequential economic burden and it is shown to engender both medium and long term benefits. The consensus notwithstanding, an economy's structural and institutional setting is identified as catalysts, just as strategy employed are fundamental in actualizing the goals of fiscal consolidation. Thus, fiscal consolidation includes goals; lowering the ratio of public expenditure, fiscal deficit and public debt to GDP, the means of achieving these objectives; prioritizing funding critical infrastructure, strengthen fiscal discipline – improving tax collection system; in the medium term and in the long run; gradual shift of taxes of labour to other sources of tax revenue, and for the long term; implementation of structural and public sector reform (Djurovic-Todorovica & Djordjevicb, 2015).

IV. Theoretical Framework and Methodology

The Keynesian proposition on debt finance is adopted as the theoretical framework of the study. Keynesian proposition on debt finance hinges on the optimism that government authorities judiciously spend borrowed fund to achieve policy objectives. The conviction also carries with it the caveat that debt financing could fail if government authorities misappropriate borrowed fund or other factors undermine good intentions for obtaining sovereign debt (Aspromourgos, 2018). That is institutional and structural factors could undermine the good intentions of obtaining sovereign debt. Meanwhile, Burger, Siebrits and Calitz (2016), assert that either the reduction in government expenditure/GDP, increase in government revenue/GDP or both are means through which fiscal discipline is achieved, and the concern of fiscal consolidation research is mainly to compare the effectiveness and durability of these alternatives. Thus, the study evaluate the dynamics of the ratios of revenue to GDP, expenditure to GDP, fiscal deficit to GDP and debt to GDP, in Nigeria, prior to and after 2007. Following, the model of the study is specified as follows;

Model Specification

GDPYt = f(FDPYt, GEPYt,, GRPYt, DV)

3.1

Where

GDPYt is ratio of government or sovereign debt to real GDP

FDPYt is ratio of fiscal deficit to real GDP

GEPYt is ratio of government expenditure to real GDP

GRPYt is ratio of government revenue to real GDP

DV is dummy variable

In other to keep the variables at the same scale, the log form of the variables is specified

Explicitly these models become;

$$LGDPYt = \beta 0 + \beta 1LFDPYt + \beta 2LGEPYt + \beta 3LGRPYt + \beta 4DV + Ut$$

3.2

Equation 3.2 states that government debt/GDP ratio is a function of the ratios of fiscal deficit, government expenditure and government revenue as percentage of GDP. Dummy variable (DV) is used to

capture the effect of the promulgation of Fiscal Responsibility Act on government finance in Nigeria. Data of the variables from 1981 to 2021 are obtained from Central Bank of Nigeria Annual Statistical Bulletin.

A priori expectation

The a priori expectation of the model is formed on the bases of the theoretical framework. Debt reduction (fiscal consolidation) is attained either by reduction in government expenditure, increase in tax revenue or both. Meanwhile, from the extant literature, institutional and structural factors are identified as relevant factors in a country's fiscal discipline and consequent stock of sovereign debt. Thus, it is unarguable that fiscal consolidation law could be less potent where counter-productive structural and institutional factors exist. Thus, changes in β_1 and β_2 will be positive and statistically significant; β_3 will be negative and statistically significant, while β_4 will not be statistically significant. That is, the underlying institutional and structural factors will keep sovereign debt, government expenditure and budget deficit on the high side relative to tax revenue and consequently undermine the attainment of fiscal consolidation objectives in Nigeria.

Model Estimation

Time series econometric methods are used to estimate the model.

Unit Root Test

Unit root test is carried out on each of the variables to test for stationarity and know the order of integration of the variables as well as the choice of appropriate estimation technique. The Phillip Perron (PP) unit root test is used to test for stationarity.

Table 4.1 Phillip Perron (PP) Unit Root Test

Variable	**Phillip Perron (PP)Unit Root Test Statistics**		
	Level	First Difference	Order of Integration
LDFPYt	-5.084891		I(0)
LGDPYt	-2.586443	-4.511000	I(1)
LGEPYt	-0.843179	-8.118631	I(1)
MGDPt	-0.481568	-7.562873	I(1)
Tau statistic critical value for 5 percent level -3.50			

Source; Authors' computation

The trend and constant were found to be significant for all the variables, so the Phillip-Perron unit root test was done with constant and trend. The trend result is in the appendix while the unit root result is presented and discussed here. The null hypothesis for Phillip-Perron (PP) unit root test of a variable is - the variable has unit root, and the alternative hypothesis is the variable does not have unit root. The null hypothesis is rejected if the (PP) test statistic is greater than the critical value at the choosen level of significance (5%). The PP statistics of LGDPYt, LGEPYt and LGRPYt under the level column (-2.586443, -0.843179 and -0.481568) in absolute terms, are lesser than the tau statistic critical value at 5 percent level (0.05) of significant; -3.5 on the last row on table 3.1, but the PP statistics under the first difference column (-4.511000, -8.118631 and -7.562873) are greater than the tau statistics value in absolute terms. These show that the variables LGDPYt, LGEPYt and LGRPYt are non-stationary at level but become stationary after first difference. That is the variables are integrated at order one - I(1). However, the PP statistic of LGFPYt under the level column is -5.084891 and in absolute term is greater than the critical value of 3.5. This shows that LGFPYt is stationary at level and integrated at order zero – I(0). The above shows that the order of integration of the variables is mixed. Consequently, autoregressive distributed lag (ADRL) model is used to test for the existence of long run equilibrium relationship among the variables in the model.

Table 4.2 Autoregressive Distributed Lag (ADRL) Model

Dependent Variable: LGDPY				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LGDPY(-1)	0.777998	0.064844	11.99790	0.0000
LDFPY	0.076191	0.030390	2.507112	0.0176
LDFPY(-1)	0.079363	0.032282	2.458426	0.0197
LGEPY	0.639318	0.130777	4.888597	0.0000
LGRPY	-0.068280	0.127646	-0.534915	0.5965
LGRPY(-1)	-0.300782	0.099892	-3.011059	0.0051
DV	0.171713	0.145079	1.183587	0.2456
C	2.386036	0.614299	3.884161	0.0005
@TREND	-0.043270	0.014637	-2.956115	0.0059
R-squared	0.991952	Mean dependent var		-2.934875
Adjusted R-squared	0.989875	S.D. dependent var		1.540179
S.E. of regression	0.154979	Akaike info criterion		-0.695948
Sum squared resid	0.744572	Schwarz criterion		-0.315950
Log likelihood	22.91896	Hannan-Quinn criter.		-0.558553
F-statistic	477.5977	Durbin-Watson stat		2.012029
Prob(F-statistic)	0.000000			

Source ; Author's computation

Diagnostic Test of the Model

The ARDL model is subjected to post estimation test before interpretation. Ramsey Reset, Serial correlation and normality tests are carried out to ascertain the adequacy of the ARDL model

Ramsey Reset Test

The Ramsey Reset test is a specification test for a linear regression model.

	Value	df	Probability
t-statistic	1.434716	30	0.1617
F-statistic	2.058409	(1, 30)	0.1617

Source ; Author's computation

The null hypothesis for the Ramsey Reset test is; the functional form of the model is correctly specified. The null hypothesis is rejected if the F-Statistic P–value is less than 5 per cent, otherwise the null hypothesis is not rejected. The F-Statistic P–value, 0.1617 is greater than 5 per cent, thus, the null hypothesis that the functional form of the model is correctly specified cannot be rejected. The model is correctly specified.

Breusch-Godfrey Serial Correlation LM Test

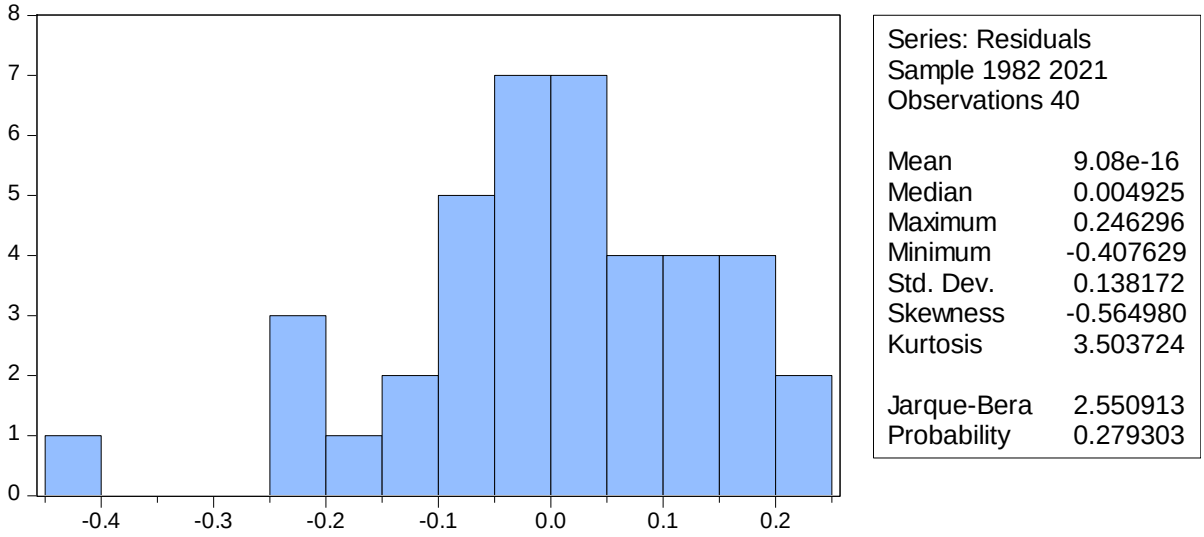
Serial correlation test is necessary to ensure that the residuals of model are serially uncorrelated

F-statistic	0.006341	Prob. F(1,30)	0.9371
Obs*R-squared	0.008453	Prob. Chi-Square(1)	0.9267

Source; Author's computation

The null hypothesis for the Breusch-Godfrey serial correlation LM test is; there is no correlation in the model. The null hypothesis is rejected if the observe R–square p–value is less than 5 per cent, otherwise the null hypothesis is not rejected. The p–value for the observe R–square is 0.9267, and greater than 5 per cent, thus, the null hypothesis that there is not serial correlation in the model cannot be rejected. The model is free from serial correlation.

Jarque-Bera Normality Test Histogram and Statistics



Source ; Author's computation

The Jarque-Bera normality test is use to test if the residuals of the model are normality distributed. The null hypothesis of the test is; the residual are normally distributed against the alternative that the residual of the model are not normally distributed. The decision rule is, reject the null hypothesis if the P-value of the Jarque-Bera statistic is less that the choosen level of significant (0.05) otherwise do not reject the null hypothesis. The P-value is 0.279303 and greater than 0.05, thus the null hypothesis that the residuals are normally distributed cannot be rejected.

On the basis of the adequacy of the model, further analysis and interpretations are carried out. First the bound test of cointegration is presented to ascertain whether long run equilibrium relationship exist between the variables.

Bound Test of Cointegration

Table 4.3 Autoregressive Distributed Lag (ARDL) Model Bounds Test for Cointegration

MODEL	F-Statistic	
$LGDPY_t$= f ($LDFPY_t$, $LGEPY_t$, $LGRPY_t$)	5.854282**	
Narayan (2005)	k= 3, n=40	
Critical Value	Lower Bound	Upper Bound
1%	5.17	6.36
5%	4.01	5.07
10%	3.47	4.45

Source; Author's computation

From Table 4.3, the F-Statistic is greater than the upper bound critical value at 5% significance level (5.85>5.07). Thus, the null hypothesis of no long run equilibrium relationship between the variable is rejected. The result shows that there exists long-run equilibrium relationship between the ratios of government debt to national income (LGDPYt), budget deficit to national income (LGFPYt), government revenue to national income (LGRPYt) and government expenditure to national income (LGRPYt). The establishment of the existence of conintegration is a necessary condition, and the sufficient condition is that the coefficient of the residual of the cointegrating equation is negative and statistically significant. The cointegrating equation is presented and evaluated below.

Table 4.4 Cointegrrating Equation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LDFPY)	0.076191	0.030390	2.507112	0.0176
D(LGEPY)	0.639318	0.130777	4.888597	0.0000
D(LGRPY)	-0.068280	0.127646	-0.534915	0.5965
D(DV)	0.171713	0.145079	1.183587	0.2456
D(@TREND())	-0.043270	0.014637	-2.956115	0.0059
CointEq(-1)	-0.222002	0.064844	-3.423614	0.0018

Source; Author's computation

The coefficient of the cointegrating as shown in the last row of Table 4.3 is negative and less than one (-0.222002) as well as being statistically significant because the p-value 0.0018 is less than 0.05 which is the choosen level of significance. Thus, there is sufficient condition for the existence of long run equilibrium relationship among the variables of the model. The coefficient of the error correction term 0.22 also measures the speed of adjustment to equilibrium annually and indicates that about 22 per cent of government debt stock is adjusted to equilibrium due to changes in budget deficit, government expenditure and government revenue each year. Following, both the long run and the short run models are interpreted.

Table 4.5 Long run Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDFPY	0.700687	0.221994	3.156333	0.0035
LGEPY	2.879780	0.916379	3.142565	0.0037
LGRPY	-1.662421	0.651463	-2.551827	0.0159
DV	0.773474	0.804103	0.961909	0.3435
C	10.747793	4.329965	2.482190	0.0187
@TREND	-0.194906	0.097981	-1.989236	0.0556

Source; Author's computation

The coefficients of the ratios of budget deficit to national income (LGFPYt), government expenditure to national income (LGEPYt), government revenue to national income (LGRPYt) and that of the dummy variable (DV) are (0.700687. 2.879780, -1.662421 and 0.773474). Their corresponding probability values are (0.0035, 0.0037, 0.0159 and 0.3435). All the probability values are less that 0.05 except the one for the dummy variable. This shows that the ratios of budget deficit to national income (LGFPYt), government expenditure to national income (LGRPYt), government revenue to national income (LGRPYt) have statistical significant effect on the ratio of government debt to national income. The signs of the coefficient of the ratios of budget deficit to national income (LGFPYt) and government expenditure to national income (LGEPYt) (0.700687 and 2.879780) respectively are positive. This is in line with a priori that increase in government debt depends on deficit financing and government expenditure. The responsiveness of government debt stock to budget deficit and government expenditure is less than one (0.700), this is fairly inelastic while the responsiveness of government debt stock to government expenditure is greater than one (2.88) fairly elastic. This indicates that government expenditure has stronger effect on government debt than budget deficit. The sign of the coefficient of government revenue to national income (LGRPYt) is negative (-1.662421), indicating an inverse relationship between government revenue and government debt stock. This also is in line with the a priori. The dummy variable (DVt) captures the effect of the promulgation of Fiscal Responsibility Act on government debt stock and the probability value of the coefficient 0.3435 is greater than 0.05. This indicates that there is no significant change in government finance after the promulgation of the Fiscal Responsibility Act relative to the period before the fiscal consolidation law in Nigeria. In the period under investigation, on the average, sovereign debt, government expenditure and budget deficit have increased, while tax revenue has decreased.

V. Discussion of Findings

Budget deficit and government expenditure are found to be positively related to government debt. This suggests that deficit financing and government expenditure are major drive of government debt in Nigeria. However, government expenditure is shown to have stronger effect on government debt than budget deficit. More so, government revenue is shown to be inversely related to government debt stock which implies that higher government debt is consequent upon fall in government revenue. Furthermore, the promulgation of Fiscal Responsibility Act has not altered the dynamics of government finance and achieved the desire objective of government debt stock reduction in Nigeria. The finding of the study gives credence to that of Makin and Pearce (2016) which provides empirical evidence that fiscal problems emanate from higher government expenditure.

Similarly, the findings align with that of Cogan, Taylor, Wieland and Wolters (2013) which argued that cut in spending could lead to increase in public savings, reduction in tax rate and sovereign debt. Also the findings suggest that reduction in government revenue is a major driver of sovereign debt stock (Martorano, 2015). That the promulgation of fiscal responsibility Act in Nigeria since 2007 is yet to change the dynamics of government finance in Nigeria has implication for the need for institutional and structural reform as complementary factors for the success of fiscal consolidation programmes as argued by scholars (Elekdag, Epstein & Moreno-Badía, 2007; Anderson, Hunt & Snudden. 2014; Figari & Fiorio, 2015; Heylen, Hoebeeck & Buyse, 2013; Pappa, Sajedi & Vella, 2014). Thus, this study also argues that the development of strong institutions and relevant structural changes are necessary to make fiscal consolation more effective in Nigeria.

VI. Conclusions and recommendation

The study investigates the sufficiency of fiscal consolidation legislation in achieving sovereign debt reduction in Nigeria. On the basis of the findings, the study concludes that fiscal consolidation legislation, unaccompanied by appropriate institutional and structural reforms, is not sufficient in reducing a nation's sovereign debt. Both structural and institutional factors define an economy's tax structure, government spending habit and ultimately the stock of sovereign debt. Therefore, the situation in Nigeria has implication for the outcome of enforcing fiscal consolidation law in an environment with counter-productive structural and institutional factors. Following, the study recommends that on the revenue side, government target appropriate reform of the tax structure to increase tax revenue, on the expenditure side, prioritizes funding critical infrastructure rather than recurrent expenditure to enhance output growth in all sectors and ensure that institutions saddle with the responsibility of ensuring prudent management of public fund is strengthened.

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