PRESENT IMPLICATION OF DEBT AND DEBT SERVICE IN NIGERIA

Abstract

Indebtedness in a poor country like Nigeria has recently drawn researchers' attention since after the 2006 debt relief. With the current exchange rate, debt servicing is almost the generated revenue in Nigeria. This has the implication of crowding out fiscal projects for development. This is the crux of this study. The study used secondary data, from CBN financial report from 1985-2021. Using Vector Error Correction (VECM) Estimates, the study established a long-run relationship among the variables. Further findings revealed that Foreign Debt (FDBT) has significant and negative effect (-0.02p-0.015) on Nigerian economic growth. However, against our apriori expectation, debt servicing had a positive impact on NGDP. The government should acquire external debt largely for productive economic reasons to the extent that the debt should be repaid from such productive adventure. This would increase the productivity of the nation.

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INTRODUCTION

Finance is an essential ingredient of economic growth of any economy. Developing countries such as Nigeria require adequate financial resources to finance development projects and programs. Sometimes, the inadequacy of these resources domestically has necessitated the need to source for finance externally. This is usually the reason for most of the less developed

country's excuse for foreign loans. For Nigeria, the trend of foreign debt since the last foreign debt relief has been alarming (Ekperiware and Oladeji, 2012) and hence the development of foreign debt.

Governments often borrow to complement the fiscal gap between proposed expenditure and expected revenue as most developing countries usually have limited financial resources to finance their annual budgets. As a result, developing countries have accumulated enormous external debts over the years optimistic that these loans would be used to finance development projects and foster economic growth. However, most of these debtor countries have been thrown into severe debt crisis with adverse economic effects. As an inquiry to this anomaly, various studies that have been conducted on the relationship between debt and economic growth have therefore produced inconclusive findings. The literature has reported conflicting impact of a country's external debt on the economic agents. The rationale is that a country should borrow provided that the capital borrowed produces a rate of return that is higher than the cost of borrowing. In effect, the marginal product of external debt must be higher than its interest rate. This has not often been the case leading to external borrowing becoming burdensome rather than stimulating the economy (Osipov, Bykanova, Akhmadeev, Kosov, Bogoviz, & Smirnov, (2017).

Kadiu (2015) sees external debt as a source of trade and aid, stressing its importance to the growth process of a nation. Some other studies argue that external debt carries a huge risk that far outweighs its benefits. Examples of some heavily indebted poor countries in Africa are just a pointer (Shehu and Aliyu, 2013; Faraji and Makome, 2013).

Studies have shown that foreign debt is good for economic growth (Elwasila, 2018; Matuka & Asafo, 2018). While some others have claimed foreign debt is harmful to the economic growth of a nation (Ajayi & Oke, 2012; Akram, 2016; Mbah, Agu, & Umunna, 2016 and

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Saxena & Shaner, 2015). Moreso, Tajudee (2012) asserts that borrowing within the country is better than borrowing outside the country because it will help to stimulate the growth of the economy since the repayment of the principal and interest would lead to an increase in the total output in the country when well utilized and no need issue of exchange rate during repayment. This is because debt service is another create a concern to borrowing that can hinder the rate of growth that the debt, would have brought to the economy. But Elom-Obed, Odo, Elom-Obed, & Anoke, (2017) in their study are of the opinion that judicious use of public debt resources whether external or domestic is what will determine its impact on economic growth of any nations. Hence borrowing within and outside the counties is very useful when employed into productive investment such as investment in agriculture, and other lucrative sector which will boast the economy. When money borrowed is not well utilized, it will not bring about the necessary contribution to the economy. Significant positive impact of external debt on economic growth was reported by Utomi (2014), Ebi et al. (2013), (Kharusi, & Ada, 2018; Egbo, & Ajibo, E. (2020) . Together with Izedonmi (2012) and Kadiu (2015) (Omodero, 2020) they see external debt as a source of trade and aid, stressing its importance to the growth process of a nation.

However , some other studies which argue that external debt carries huge risk that far outweigh its benefits, cited the examples of some heavily indebted poor countries in Africa suggested a contrarian effect (Shehu, Aliyu,2013; Faraji and Makome, 2013; Onakoya, & Ogunade, (2017). As stated by (Isibor, Babajide, Akinjare, Oladeji, & Osuma, G. (2018), an escalating debt profile may present serious obstacle to a nation's path to economic growth and development. The cost of servicing the debt may expand beyond the capacity of the economy to cope thereby impacting negatively on the ability to achieve the desired fiscal and monetary policy objectives. Furthermore, a rising debt burden may constrain the ability of government to undertake more productive investment programmes in infrastructure, education and public

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health (Thacker, Adshead, Fay, Hallegatte, Harvey, Meller, & Hall, (2019). The recent movement of attention from external borrowing to domestic borrowing due to limited access to external finance indicates that Nigerian domestic debt is bound to increase continuously and may grow beyond limits. (Udeh, Ugwu, & Onwuka, (2016) posited that .The increasing fiscal deficits driven by the higher level of external debt servicing is a major threat to growth of the nation. The resultant effect of large accumulation of debt exposes the nation to high debt burden.

There is conflicting empirical evidence among researchers on the impact of external debt on economic growth scholars like Sulaiman and Azeez (2012), Odubuasi, Uzoka and Anichebe (2018), Ndubuisi (2017) and Elwasila (2018; Ijirshar, Joseph, & Godoo, 2016) ; with Izedonmi (2012) and Kadiu (2015) all found that external debt had positive impact on economic growth, while researchers like Ajayi and Oke (2012), Forgha, Mbella, and Ngangnchi (2014) and Onakoya and Ogunade (2017) found that external debt had negative impact on economic growth. Yet some studies established insignificant relationship between the variables (Ibi and Aganyi, 2015; Ogunmuyiwa, 2011). Also, Shkolnyk and Koilo (2018) in Ukraine found that external debt and other macroeconomic variables impede economic growth. Given such contradiction, the debate on the impact of external debt on economic growth remains inconclusive so the need to investigate further. Therefore, this study examine the Effect of Foreign Debt on Economic Growth in Nigeria.

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LITERATURE REVIEW

Looking at writeups on debt and economic growth, the dependency theory seeks to establish the factors that have propelled development of the underdeveloped countries. This theory is predicated on the assumption that resources flow from a "periphery" of poor and

underdeveloped states to a "core" of wealthy states, enriching the latter at the expense of the former. It is a central contention and standpoint of dependency theory that poor states are impoverished and rich ones enriched by the way poor states are integrated into the "world system" (Todaro, 2003). This has been one of the theories that captured foreign debt.

Another popular theory is the Overhang debt theory. According to Omodero (2019), debt overhang is a situation where a firm has excess debt such that its business expansion through investment is inhibited and the benefit that would have accrued to the shareholders will rather go to the debenture holders and other creditors. This theory is established on the principle that if the level of debt will exceed the country's capacity to refund with some imminent likelihood, expected debt service is anticipated to be an increasing function of the country's economic growth level (Adedoyin et al., 2016). Monogbe (2016) upholds that the failure of the current generation to service the acquired loans will lead to a greater debt burden for the upcoming generation.

A look into some empirical literature revealed interesting findings. Ayadi & Ayadi (2016) investigated the long and short term association between external debt and economic growth in Nigeria. The study covered a period from 1980 to 2014 and applied error correction model and granger causality test in order to empirically establish the relationship existing among the variables. Thus, the findings showed that external debt had a negative relationship with economic growth in Nigeria. The suggestion is that external debt should be judiciously used for the provision of infrastructures and projects that will result in economic development and growth. In an early research Ayadi and Ayadi (2008) looked at the impact of external debt, debt service on economic growth in Nigeria and South Africa. External debts of Nigeria and South Africa were analyzed with both ordinary least squares (OLS) and generalized least squares (GLS) methods. Among other test results, the negative impact of debt (and its servicing requirements) on growth were confirmed in Nigeria and South Africa. However,

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South Africa performs better than Nigeria in the application of external loans to promote growth. In addition, external debt contributes positively to grow up to a point after which its contribution becomes negative in Nigeria (reflecting the presence of non-linearity effects)

Onakoya and Ogunade (2017) used OLS technique to find the implication of external debt to Nigeria's economic growth. The study covered a period from 1981 to 2014 and found that external debt did not granger cause economic growth at 5% level of significance. This finding implied that external borrowing in Nigeria is not used for developmental projects which is the major driver for foreign loans.

Ekperiware and Olajedi (2012) examine the structural break relationship between external debt and economic growth from 1980 to 2009 with a view to establish the effect of external debt relief on economic growth in Nigeria. The effect of huge external debt of less developed countries is believed to impede investment resources and the debt relief is expected to provide some succor. This has resulted in the debt restructuring of various kinds in Nigeria with some concessional loans, as well as external debt relief in 2005. A decade after the debt relief critical

sectors of the economy such as education, health, electricity, transport and exchange rate etc. suppose to show evidence of such debt relief. The study used quarterly time series of external debt, external debt service and real gross domestic product to determine the structural break effect of external debt on economic growth in the Nigeria as a result of the debt relief. The result of the chow test showed that the 2005 external debt relief caused a structural break in economic growth relationship with external debt in Nigeria. The study further showed that beside the reduction in aids, resources were freed for economic growth projects in health and education sectors.

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Ndubuisi (2017) extended the study on the impact of external debt on the economic growth of Nigeria from 1985 to 2015 using the ordinary least squares method and some other statistical tools. The control variables employed were the exchange rate and external reserve while the major independent variable includes external debt stock and external debt servicing. The study also employed the GDP as the dependent variable. Thus, the findings revealed that debt service payment had an insignificant negative impact on economic growth while the external debt stock had a significant positive impact on the economic growth of Nigeria. The control variable which includes external reserve and exchange rate had significant impacts on GDP. Thus, the study recommended the use of external debt for infrastructural development

METHOD

The study employed a time series data regression analytical technique which was used to offer an answer to the critical question if debt accounts for economic growth in Nigeria. This VECM technique was used as a result of the nature of the data collected for the study. Since the data to be used for the analysis is time series, we employed co-integration tests to avoid spurious regression. The first step would be a diagnostic test of each of the variables for stationarity. This study employs the Augmented Dickey-Fuller test for unit roots. If any of the series are found to be integrated, then a co-integration test is conducted using Johansen Co-integration Test.

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Tables 3.1: Description of Variables

Variables	**Abbreviation**	**Measurement of Variables**	**Previous Studies**
Dependent Variables			
Economy	EG	The economy growth was measured by	Utile, Okwori &

Growth		the natural logarithm of the nominal gross domestic product (NGDP)	Ikpambese (2018)
Independent Variables			
Foreign Debt	FDBT	Measured as the part of the country's debt that was borrowed from foreign lenders.	Arnone et al., (2005); Momodu (2012); Essl, et al. (2017)
Foreign Debt Servicing	FDTS		

Author's computation, (2022)

Model specification

From Krugman (1989), debt is a concern for growth through overhang but how it affects economic growth in Nigeria is specified below as thus;

NGDP = f (FDBT, FDTS) ….. ……. (1)

LOGNGDP=β0+β1LogFDBT+ β2LogFDTSμ…….. (2)

Where:

NGDP = Nominal Gross Domestic Product

FDBT = Foreign Debt

FDTS = Foreign Debt Servicing

β0 = Constant

β1, β2 = Regression coefficients

μ= Error term (5% significance level)

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4. PRESENTATION OF RESULT

Augmented Dickey-Fuller (ADF) Unit Root Test

Time series properties of variables in most economies especially those of developing counties are not very satisfactory and are bound to give spurious result in order to give a more robust estimation which can then be used for policy recommendations the unit root test is conducted. Time series data are assumed to be non stationary and this implies that the results obtained from the OLS method may be misleading. In this vein, it is cognizant that stationarity test should be conducted. The stationarity test is carried out using the Augmented DickeyFuller (ADF) Unit Root Test. The stationarity of data is essential for the Johnasen co-integration test. The decision rule for the ADF Unit root test states that the ADF Test statistic value must be greater than the Mackinnon Critical Value (a) 5% at absolute term for stationarity to be established at level and if otherwise, differencing occurs using the same decision rule.

Table 4.1 shows the results of the stationarity test in summary and the order of integration

Variables	**ADF Test Statistic Value**	**5% Mackinnon Critical Value**	**Remark**	**Order of Integration**
NGDP	-6.2874	-3.576	Stationary	I(1)
FDBT	-4.555	-3.576	Stationary	I(1)
FDTS	-4.835	-3.576	Stationary	I(1)

Source: Researchers' Computation, 2022.

From Table 4.1, it could be deduced that all the variables were stationary at first difference i.e. I(1) series because its respective ADF statistic value is greater than the Mackinnon Critical Value at 5% at absolute term before differencing. However estimates of variables at their first difference will only be useful for short run analysis because the parameters contain only short run information. However if the variables are co- integrated then it implies that there exists a long run relationship among them and as such regression results thus conducted will no longer be spurious. Therefore co–integration test is conducted by taking

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the residuals from the regression analysis as valid error correction terms and if they are stationary we conclude that the variables are co-integrated.

Johansen Co-Integration Test

The co-integration test establishes whether a long run equilibrium relationship exist among the variables. To establish co-integration, the likelihood ratio must be greater than the Mackinnon Critical Value at 1% and 5% levels of significance and the co-integrating equation is chosen from the normalized co-integrating coefficient with the lowest log likelihood.

Table 4.2: Johansen Co-integration

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No of CE(s)	**Eigenvalue**	**Trace Statistic**	**0.05 Critical Value**	**Prob.****
None*	0.312315	43.17934	29.79707	0.0008
At most 1	0,095691	11.35331	15.49471	0.1907
At most 2	0.032446	2.803645	3.841466	0.0940

Source: Researcher's Computation, 2022.

*Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

**denotes rejection of the hypothesis at the 0.05 level

1 Cointegrating Equation(s): Log likelihood 919.9202

Normalized Cointegrating coefficients (standard error in parenthesis

LNGDP	LNFDBT	LNFDTS
1.00000	-4.663220	4.267914
	(0.64496)	(0.73077)

Adjustment coefficients (standard error in parenthesis)

D(LNGDP)	-0.111124

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	(0.02456)
D(LNFDBT)	-0.064193
	(0.03002)
D(LNFDTS)	-0.115600
	(0.02041)

Source: E-views 10, 2022

In Table 4.2 above, LNGDP is positioned as the dependent variable. In the long run, LNFDBT has a positive impact while LNFDTS has a negative impact on LNGDP, on average, ceteris paribus. The coefficient are statistically significant at the 1% level. Therefore the null hypothesis of no cointegration is rejected against the alternative hypothesis of a cointegrating relationship in the model.

The results indicates that on the long run foreign debt has a negative effect on the economic growth, it shows that a unit increase in foreign debt will decrease economic growth (NGDP) by about 3.63 units. While the from the results also reveals that on a long run, a unit increase in foreign debt servicing can significantly increase the economic growth by 2.07 units

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Table 4.3 Relationship between external debt and economic growth in Nigeria

Vector Error correction Estimates
Date 07/11/22 Time: 09:12
Sample (adjusted): 1985 2020
Included observations: 36 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Co-integrating Eq.	CointEq1		
LNGDP(-1)	1.000000		
LNFDBT(-1)	-3.631084		
	(0.44965)		
	[-8.07536]		
LNFDTS(-1)	2.074651		
	(0.50713)		
	[4.13184]		
C	5.78635		
Error Correction	**D(LNGDP)**	**D(LNFDBT)**	**D(LNFDTS)**
CointEq1	-0.156312	-0.067056	-0.121077
	(0.02719)	(0.03539)	(0.02343)
	[-1.42978]	[-3.189487]	[-3.16739]
D(LNGDP(-1))	0.201289	-0.144384	0.144179
	(0.07184)	(0.11952)	(0.07912)
	[2.19201]	[-1.20904]	[1.02221]
D(LNFDBT(-1))	-0.022820	0.440170	0.281961
	(0.09183)	(0.24771)	(0.10597)
	[-0.01487]	[1.27086]	[1.71904]
D(LNFDTS(-1))	0.077020	-0.099760	0.101286
	(0.12742)	(0.16623)	(0.10634)
	[0.02866	[0.02104]	[0.05342]
C	0.024234	0.202000	0.007270
	(0.30123)	(0.01604)	(0.00102)
	[2.57282]	[2.17723]	[0.88310]
R squared	0.717137	0.452750	0.517379
Adjusted R-squared	0.695632	0.414818	0.443566
Sum squared resid.	0.020424	0.019001	2.283628
S.E. of equation	0.015501	0.014961	0.136909

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F-statistic	24.54096	12.69024	7.009043
Log likelihood	513.5906	283.1662	46.10612
Akaike info criterion	-45.77044	-21.4273	-10.6486
Schwarz criterion	-47.1309	-18.0707	-14.2816
Mean dependent	0.014201	0.015116	0.001607
S D dependent	0.023332	0.016001	0.074146

$ECT_{t=1} = [Y_{t-1} - \eta_f X_{t-1} - E_{\zeta m} R_{t-1}]$, the co-integrating equation and the long run model.

From the results above:

$ECT_{t=1} = [1.000lngdp_{t-1} - 3.631lnfdbt_{t-1} + 2.075lnfdts_{t-1} - 5.786]$

Table 4.4: Summary of the VECM

variable	Coefficient in ECT	Coefficient of ECT where variable is Dependent variable	Product= speed of adjustment
LNGDP	1	-0.1563	-0.15631
LNFDBT	-3.6311	-0.0671	0.243486
LNFDTS	2.07465	-0.1211	-0.25119

Source: Researchers Computation, 2022

The table 4.4 above shows that the speed of adjustment (as measured in percentage) of LNGDP is 15%, while that of foreign debt (LNFDBT) is 24% and that of foreign debt servicing (LNFDTS) is 25%. The positive sign on the foreign debt implies that the VECM continues to move away from long run equilibrium after experiencing a shock, instead of converging back to it.

A speed value of less than negative 0.05 indicates a significant relationship. The results above reveals that foreign debt is not statistically significant whereas foreign debt servicing is statistically and significantly related to Nigeria economic growth (GDP).

The adjustment coefficient as seen in the VECM Table 4.3 above shows that the previous period's deviation from long run equilibrium is corrected in the current period as an adjustment speed of 15.6%. The table also reveals that a percentage change in foreign debt (LNFDBT) is associated with a 0.023 (2.3%) decrease in GDP on average *ceteris paribus* in

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the short run. While a percentage change in foreign debt servicing is associated with a 0.077 (7.7%) increase in GDP on average *ceteris paribus* in the short run. The constant term is 5.78.

From the VECM analysis, the goodness of fit of the model as indicated by R-square shows a good fit of the model. R-Square value of 0.717 or 71.7% indicated that the model fits the data well; the total variation in the observed behavior of Nominal Gross Domestic Products is explained by variation in Foreign Debt and Foreign Debt Servicing up to 72 percent. This means that foreign debt and its servicing influence Nigeria's economy substantially. Foreign debt is a macroeconomic factor that its uses and accumulation determine economic growth in the country to a very large extent. In other words, the relationship is so robust that if the foreign debt is accumulated and put into proper use the economy will improve while if wrongly applied, the economy will be depressed as a result of the burden that could arise from servicing of this debt. The remaining 28% is accounted for the stochastic error term.

This result shows that the model is a good fit and statistically significant. It further reveals that all the explanatory variables (foreign debt and foreign debt servicing) collectively impact on economic growth significantly.

5 CONCLUSION

The study reveals that a unit increase in foreign debt will induce on average 23% decrease in economic growth (as explained by gross domestic product) Ceteris paribus on the short run. The results indicate that FDTS has a significant positive impact on NGDP. It implies that foreign debt accumulated within the period under review has a significant negative impact on Nigeria's economic growth while the servicing of the accumulated debt has a positive impact on NGDP.

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