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Effect of Domestic Debt on Economic Growth in Nigeria

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ABSTRACT
The study tends to examine the effect of domestic debt on economic growth in Nigeria. The specific objective of this study is to ascertain the impact of domestic debt on real gross domestic product growth in Nigeria within a period of thirty six years (36) from 1981 to 2016. The researcher adopted Causal-Comparative or ex-post facto research design, (time series analysis). The model used Real Gross Domestic Product Growth (RGDPG) as the endogenous variable for economic growth while Domestic Debt (DODT), External debt (EXDT) Interest Rate (INTR) represents the exogenous variables. The results indicated that the variables are integrated at first difference or of order one, I (1), but real gross domestic product growth is integrated at level I (0) and justifies the use of ARDL as the series are integrated at different levels. Public debt was found to be a significant determinant of economic growth. The study recommended that government should make available sustainable deficit budgeting, and effective utilization of resources, through effective and efficient implementation of projects and programs.
Keywords: domestic debt, economic growth, gross domestic product

INTRODUCTION

The debt structure of a country affects individual citizens, institutions of government, privately owned corporate organizations like banks and consequently the economy at large. Public debt is sum of domestic and external borrowings. As defined according to Dewett and Navalur (2010) public debt refers to the borrowing by a government from within the country or from abroad, from private individuals or association of individuals or from banking and non-banking financial institutions. International Monetary Fund, (IMF, 2017) defined debt as a liability represented by a financial instrument or other formal equivalent owed to other parties. Also World Bank (2012) defined debt as the amount, disbursed and outstanding contractual liabilities of residents of a country to non-residents to repay principal with or without interest, or to pay interest, with or without principal.

Public or government borrowing has a profound effect on various aspects of the economy; capital accumulation, economic growth, income and employment stability and so on. This implies that public debt is both a source of problems and tool of economic management in the hands of the authorities. Apart from its social costs, Nigeria's domestic debt crisis has led to escalating inflationary pressures in the face of falling real incomes, budgetary deficits and the deterioration of social services and infrastructure (Nnol, 2003). Modern government do not subscribe to the philosophy of avoiding a surplus or a deficit budget for its own but are ready to use them as a matter of policy. This is referred to as functional finance in which government is ready to restructure surplus or deficit budgets for achieving a variety of objectives including those of economic growth and stabilization. The issue of Nigeria's public debt became a major economic problem in the face of economic recession in the country because of its magnitude and the amount which is required to service such debts as well as its attendant possible effects on different operating sectors of the economy especially the growth of the economy at large. Nigeria, a country whose debt was minimal and not pronounced in 1970, a country that advanced loans to international monetary fund during the oil boom of mid-80's but between 2000 and 2005 is listed among the leading nations of the world with high and serious public debt problem. The debt burden of the country has not

only served to worsen the general economic woes in the economy, but also has exerted various social, political and economic costs. However, the accumulation of public debt in Nigeria took a significant turn for the worse after the collapse of oil prices (Rahman, Adeola, Abiodun & Tolulope 2010). Thereafter, an increasing portion of borrowings from private overseas lenders was on non-concessionary terms involving shorter maturities and market determined rate of interest. As the years went by, the scheduling of debt on harder terms led to a steep rise in debt service payment for Nigeria.

However, the study tends to examine the effect of domestic depth on economic growth in Nigeria.

Purpose of the Study

The main objective of this study is to examine the effect of public debt on economic growth in Nigeria. The study tends to ascertain the impact of domestic debt on real gross domestic product growth in Nigeria.

Research Question

The following research question was used as a guide for the study:

1. What is the effect of public debt on economic growth in Nigeria?

Hypotheses

The following null hypothesis was used for the study:

1. There is no significant relationship between domestic debt and real gross domestic product growth in Nigeria.

Scope of the Study

The scope of study will enable us to achieve the objective of this study, have a reliable and valid result. The study covered a considerable period of time. To this end, the study time horizon covered a period of thirty six years (36) from 1981 to 2016.

METHODS

To study public debt and economic growth in Nigeria, the researcher adopted Causal-Comparative or ex-post facto research design, (time series analysis). The model used Real Gross Domestic Product Growth (RGDPG) as the endogenous variable for economic growth while Domestic Debt (DODT), External debt (EXDT) Interest Rate (INTR) represents the exogenous variables.

The econometric form of the model is specified as;

RGDPG = *f* (DODT, EXDT INTR)

The econometric equation becomes;

$$RGDPG = C + \beta 1DODT + \beta 2EXDT\ \beta 3INTR + Ut \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3.1)$$

Where:

RGDPG = Real Gross Domestic Product Growth

DODT = Domestic Debt

EXDT= External Debt

INTR= Interest Rate

Ut = Stochastic error term

C = Intercept of relationship in the model/constant

β_1, β_2, and β_3 = slope of the regression equation

Apriori expectation; $\beta_1 < 0$, β_2, and $\beta_3 > 0$

Data collection is a systematic way of obtaining information, fact, evidence or observation towards answering specific research question or listing stated hypothesis of a research as in Apere, (2006).There are two source of data collection in research work, primary data collection method and secondary data collection method, for this research work the secondary data collection method is used due to the nature of the research topic, the secondary source of data collection is a form of gathering information through already collected information. The stability of the model and the coefficients are checked through the CUSUM (cumulative sum), while the graphical presentation of the recursive coefficients is used to judge the stability of the coefficients.

To examine the relationships between focused variables (real gross domestic product growth, domestic debt, external debt and interest rate) the study employs the autoregressive distributed lag model (ARDL) suggested by Pesaran, Shin and Smith (2001) for cointegration investigation and analysis.

DATA PRESENTATION

Data for Domestic Debt, External Debt, Interest Rate and Gross Domestic Product Growth Rate

S/N	YEAR	DODT	EXDT	INTR	RGDPG
1	1981	11.19	2.33	7.75	20.838
2	1982	15.01	8.82	10.25	-1.053
3	1983	22.22	10.58	10	-5.05
4	1984	25.67	14.81	12.5	-2.022
5	1985	27.95	17.3	9.25	8.323
6	1986	28.44	41.45	10.5	-8.754
7	1987	36.79	100.79	7.5	-10.752
8	1988	47.03	133.96	16.5	7.543
9	1989	47.05	240.39	26.8	6.467
10	1990	84.09	298.61	25.5	12.766
11	1991	116.2	328.45	20.01	-0.618
12	1992	177.96	544.26	29.8	0.434
13	1993	273.84	633.14	18.32	2.09
14	1994	407.58	648.81	21	0.91
15	1995	477.73	716.87	20.18	-0.308
16	1996	419.98	617.32	19.74	4.994
17	1997	501.75	595.93	13.54	2.802
18	1998	560.83	633.02	18.29	2.716
19	1999	794.81	2577.37	21.32	0.475
20	2000	898.25	3097.38	17.98	5.318
21	2001	1016.97	3176.29	18.29	4.411
22	2002	1166	3932.88	24.85	3.785
23	2003	1329.68	4478.33	20.71	10.354
24	2004	1370.33	4890.27	19.18	33.736
25	2005	1525.91	2695.07	17.95	3.445
26	2006	1753.26	451.46	17.26	8.211
27	2007	2169.64	438.89	16.94	6.828
28	2008	2320.31	523.25	15.14	6.27
29	2009	3228.03	590.44	18.99	6.934
30	2010	4551.82	689.84	17.59	7.839
31	2011	5622.84	896.85	16.02	4.887
32	2012	6537.54	1026.9	16.79	4.279
33	2013	7118.98	1373.58	16.72	5.394
34	2014	7904.02	1631.52	19.23	6.31
35	2015	8837	2111.53	23.46	4.913
36	2016	11058.2	3478.92	23.72	-1.6

Source: Central Bank of Nigeria Statistical Bulletin from 1981-2016.

Hypotheses Testing

The results of this analysis is organized in a sequential order as first the researcher employed unit root test to ascertain the stationarity status of each variable through the Augmented Dickey Fuller (ADF) technique, we examine the long-run relationship of the model through Autoregressive Distributed Lag (ARDL) Bounds Cointegration Tests, which help to assess if the variables used in the study can be used to explain long-run relationship after which the researcher carry out diagnostic tests and stability test, using Eviews9 econometric software.

Result of Unit Root Test

Table 2 Augmented Dickey Fuller Unit Root Test

	LEVEL	1ST DIFF	LAG	DECISION
RGDPG	-5.766339	-7.981718	0	1(0)
LDODT	-1.481370	-4.519503	0	1(1)
LEXDT	-2.448941	-4.485748	0	1(1)
INTR	-3.126902	-7.610377	0	1(1)
CRITICAL VALUE 1% 5% 10%	 -4.252879 -3,548490 -3.207094			

Source: Authors computation using Eviews9.

As for the analysis of long run relationship between the variables the econometric time series must be stationary, and the test applied is Augmented Dickey Fuller (ADF), by checking for Stationarity at the level of the time series shows that the series exhibit non Stationarity, except the series of the real gross domestic product growth, which fails to reject the null hypothesis of non Stationarity, while by taking the first difference all other series become stationary at the same level given in the table 4.1 This indicates that the variables are integrated at first difference or of order one, I (1), but real gross domestic product growth is integrated at level I (0) and justifies the use of ARDL as the series are integrated at different levels.

The Augmented Dickey-fuller unit root test in table 2 shows that LDODT, INTR and LEXDT, are stationary at first difference while RGDPG is stationary at level, it means that there is no serial correlation among the variables hence the researcher proceeds for cointegration test for long-run relationship among the variables. With the variables been stationary at level and first difference it further confirm and validate the use of Autoregressive distributed lag (ARDL) model.

Table 3; Autoregressive Distributed Lag (ARDL) Model.
Dependent Variable: RGDPG
Method: ARDL

Sample (adjusted): 1982 2016
Included observations: 35 after adjustments
Maximum dependent lags: 1 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (1 lag, automatic): LDODT LEXDT INTR
Fixed regressors: C
Number of models evalulated: 8
Selected Model: ARDL(1, 0, 1, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
RGDPG(-1)	0.071957	0.155455	0.462883	0.6469
LDODT	-0.246756	1.039401	-0.237402	0.8140
LEXDT	-2.189162	2.724045	-0.803644	0.4281
LEXDT(-1)	3.618157	2.380045	1.520206	0.1393
INTR	0.122177	0.305092	0.400459	0.6918
C	-5.069950	5.121336	-0.989966	0.3304

R-squared	0.249243	Mean dependent var	4.065057
Adjusted R-squared	0.119803	S.D. dependent var	7.157334
S.E. of regression	6.714927	Akaike info criterion	6.801348
Sum squared resid	1307.617	Schwarz criterion	7.067979
Log likelihood	-113.0236	Hannan-Quinn criter.	6.893389
F-statistic	1.925540	Durbin-Watson stat	2.062537
Prob(F-statistic)	0.120546		

Source: Authors computation using Eviews9
Before applying the method of bound testing for the Wald statistics the regression based on equation 3.1 is run shown in table 3 by taking the difference or the change in the variables the change in the lag value and the lag value of all the variables and keeping real gross domestic product growth as dependent variable.

DISCUSSION OF FINDINGS
The coefficient of the error term indicates speed of adjustment. Given that the coefficient of the short run model is 0.92 in absolute terms, it implies that 92% (percent) of disequilibrium in real gross domestic product growth is adjusted or corrected every year due to changes in domestic debt, external debt and interest rate, the result further shows that there is no individual significant effect of the independent variables on the dependent variable. This is applicable to the long run also.
This further confirm the theory of functional finance According to Abba (1943) who says that, the size of the Public Debt in absolute or relative numbers is immaterial, as is the level of taxes and the money printed by the government. The only thing that matters is to maintain the level of the national income to

the level of full capacity and full employment without inflation. The government should do whatever it takes to achieve this without caring about the existence of budget deficits or the size of the national debt. Anything else is immaterial and reflects the scholasticism of doctrines of bygone eras.

CONCLUSION

Based on the result we conclude that, public debt is a significant determinant of economic growth, this may be due to developed debt management policies and good implementation of debt funded projects and programs by the authorities with the nature of debt management authorities and office where there are perfect information about the level of contribution of debt to gross domestic product growth. In other words public debt in Nigeria is an injection into the economy.

RECOMMENDATIONS

Finally, it was recommended that government should make available sustainable deficit budgeting, and effective utilization of resources, through effective and efficient implementation of projects and programs.

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