

DOMESTIC DEBT AND THE PERFORMANCE OF NIGERIAN ECONOMY (1987-2014): AN EMPIRICAL INVESTIGATION

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ABSTRACT

The study examined the empirical relationship between domestic debt and the performance of Nigerian economy using data spanning (1987-2014). Secondary data were used and collected from Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics. Hypotheses were formulated and tested using Ordinary Least Square (OLS) model. The study indicates that interest rate has inverse significant relationship with Gross Domestic Product in Nigeria. There is a positive significant relationship between domestic debt and Gross Domestic Product in Nigeria. The coefficient of determination indicates that about 68% of the variations in gross domestic product can be explained by changes in domestic debt variables (DMD, INT, INFR) in Nigeria. This implies that a good portion of gross domestic product trends in Nigeria is explained by domestic debt variables. Government should maintain a debt bank deposit ratio below 35 percent and resort to increase use of tax revenue to finance its projects as it is our believe that tax revenue is far from the optimum. Government should divest itself of all projects which the private sector can handle including refining crude oil (petroleum product) and transportation but should provide enabling environment for private sector investors such as tax holidays, subsidies, guarantees and most importantly improved infrastructure.

Keywords: Causality, Domestic Debt, Gross Domestic Product, Economic Growth, Nigeria.

INTRODUCTION

Theoretical and empirical studies on the importance of financial development and economic growth relationship had occupied a central position in the macroeconomics literature for developing economies like Nigeria. Domestic debt and economic growth had been identified as one of the areas in the macroeconomics literature that can increase the process of development in an economy. Unfortunately in Nigeria domestic debt has taken a key stage in the economy, because of its negative rising profile. According to Iweala (2011), if not controlled could create some unfavorable consequences in the economy. According to her, Government has to finance projects to grow and one of such options is by using domestic debt instrument. For example, the 2012 national budget presented to the national house of assembly contains a deficit of N1.11 trillion which has to be financed majorly through domestic debt. As at September 2011, Nigerian domestic debt stood at N5.3 trillion, an equivalent of \$34.4 billion which amounted to 19.6 percent of GDP (Nwankwo, 2011).

Domestic debt is therefore a major topic to examine at point of national development when unemployment is critically high and the global economic crisis is far from being solved.

According to Gbosi (2004), domestic debts are debt issued by the federal government and denominated in local currency. State and local government also issue debt instrument, but the debt instrument currently issue must consist of Nigerian treasury bills, treasury bonds and federal government development bonds. Alison et al (2003) revealed three principal reasons for government domestic debt. The first is for budget deficit financing, second is for implementing monetary policies and the third is to develop instrument so as to deepen the financial market. Domestic debt have a positive effect on growth via triggering aggregate demand and output in the short run; but in the long-run the positive effect turns into a negative effect because of crowding out of capital and output (Elmendorf et al, 1998).

Domestic debt reduces macro-economic risk; the absorption of the domestic financial resources by the government brings some question like inefficient credit to the private sector and poor financial development. Whatever the purpose, the government should find a way of managing debt so that the level of debt is not counter-productive. The researcher therefore set out to investigate the structure and effect of rising domestic debt on Nigerian economy. Nigerian domestic debt has been on the rise from N1.1 billion in 2001 to N3.2billion in 2009 and N7.1 billion in 2013 (CBN 2013)

The impact of domestic debt on economic growth has been previously studied and the findings are numerous. This research is motivated by the fact that domestic debt has been a major macro-economic problem especially since 1980. For many years now, the country's domestic debt has been growing in spite of the effort being made by the government to manage and minimize its crushing effect on the economy. The increasing domestic debt profile has affected the growth of the Nigerian economy with some of the identified factors as high budget deficit, low output growth, large expenditure growth and high inflation rate.

CONCEPTUAL FRAMEWORK

Oshandami (2006) defined domestic debt as debt instrument issued by the federal government and dominated in local currency. In principles, state and local government areas can issue debt instrument, but their ability to issue such debt instrument must consist with the treasury certificates, federal government development stock and treasury bonds. Out of these, treasury bills, treasury certificate and development stocks are marketable and negotiable while treasury bonds ways and advances are not marketable but held solely by the central bank of Nigeria. Odozi (1996) in his opinion sees domestic as the gross liability of government property considered should include federal state and local government transfer obligation to the citizen and corporate firms within the country. Consequently, the central bank of Nigeria (CBN) as banker and financial adviser of the federal government is charged with the responsibility for managing the domestic public debt.

Lipsey (1986) defined economic growth as the positive trend in the nation's total output over a long period of time; this implies a sustained increase in gross domestic product (GDP) for a long time. Sciller (1999) opined that economic growth is an increase in output (real GDP), an expansion in product possibility curve. Sciller (1999) views was not different from that of Dolan and Lindsey (1991) who sees economic growth as most frequently expressed in terms of increase in gross domestic product (GDP) a measure of the economy's total output of goods and services. This GDP as a measure of economic growth, like any other economic quantitative must be expressed in real terms, that is, it must be adjusted for the effects on inflation as for it to provide a meaningful measure of growth overtime.

Economic theory suggests that reasonable levels of borrowing by a developing country are likely to enhance its economic growth. When economic growth enhance (at least more than 5% growth rate), the economy's poverty situation is likely to be affected positively. In order to encourage growth, countries at early stages of development like Nigeria borrow to augment because of dominance in small stock of capital. Hence they are likely to have opportunities with the rates of return higher than that of their counterpart in developed economies. This becomes effective as long as borrowed funds are internally ploughed back. Funds are properly utilized for productive investment, and do not suffer from macro-economic instability. Growth therefore is likely to increase and allow for timely debt repayment. When this cycle is maintained for a period of time growth will affect per capital income positively which is a request for poverty reduction.

This prediction are known to hold even to theories based on more realistic assumption that countries may not be able to borrow freely because of the risk of debt denial. Although the debt overhang model do not analyze the impact on growth explicitly the implication still remains that large debt stock lower growth by partly reducing investment with a resistant negative effects associated with the debt stocks tends to reduce the benefit expected from policy reform that would enhance efficiency and growth, such as trade liberalization and fiscal adjustment. When this happens to government they will be less willing to incur current cost if it perceives that the future benefit in terms of higher output will accrue partly to foreign lenders.

The history of public sector debt in Nigeria predated 1960. Sanusi (2003) chronicled the national debt from \$23million (1.0%GDP in 1960), N8, 231.5 million (16.2% GDP in (1980) and subsequently reaching N1, 160 billion (83.6%GDP in 2002) and stood at \$6.54Trillion (17.8 % GDP) (December, 30th, 2012) (DMO, 2012). According to Udoka and Ogege (2012), these positions exclude contractor debts and supplier credit owed by the government, by way of un-honoured contractual payment certificates, which are estimated at about N1.1trillion (\$650million). This trend may continue as \$7.2Billion has been appropriated in the 2013 budget as short and medium term (2013-2015) fiscal years' projected loan requirement out of which the provision for domestic borrowing is N565 billion(\$3.67Billion).

THEORETICAL FRAMEWORK

This study is premised on the debt cum growth model and threshold school of thought. The first stand of though in the debt cum-growth theory is to considered external debt as a substitute for domestic savings and investment (Krugman, 1988; Asesina, 1990 and Tabelline, 1992). This is familiar with debt overhang theory which argued that foreign savings may be used for consumption rather than for investment. Consequently, studied by Cohen and Sachs (1986) and Cohen (1992) present endogenous growth model where capital accumulation has been used as the driving force for growth. The burden of external debt is the concern of threshold school of thought which emphasizes the non-linear relationship between debt and growth (Caudo, 1998).

This links debt and growth to the problem of capital flight where at high debt level growth falls. According to the threshold, the fall of growth is due to the higher distortionary tax burden on capital required to service the debt. It leads to lower rate of return in capital, investment and hence lower growth is maintained that low debt regimes have higher growth rate and lower strand of thought in the debt- growth. These sees external debt as capital inflows with positive effect on domestic savings and investment and thus on growth which

leads to poverty reduction via appropriate targeting of domestic savings and investment domestic debt is a debt denominated in local currency. Ajayi (1989) traces the origin of Nigeria's debt problems to the collapse of the international oil price in 1981 and the persistent suffering of the international oil market and partly due to domestic lapses. As a result of the debt problem, credit facilities gradually dried up, which led to a number of project getting stalled. He advocated the revival of the economy growth as the best and most durable solution to the debt burden.

The needed growth, however, is disturbed by two factors, which include, limitation imposed by inappropriate domestic policies and the external factors, which are beyond the control of the economy. Sanusi (1988) was of the view that faulty domestic policies which range from project financing mismatch, in appropriate monetary and fiscal policies was responsible for domestic borrowing problem. He believes that some of the policies were of little significance because of the perceived temporary effect of the external shocks. The expansionary policies, he believes, led to stupendous macroeconomic fallout, which encourage import and discourage export production

EMPIRICAL REVIEW

Literature is scanty on the relationship between domestic debt and economic growth which most researchers are focusing on external debt. Barro (1978) investigates the effect of domestic debt on economic growth using the unanticipated component of domestic debt, or the debt stock and growth. He concludes that the unanticipated component of domestic debt affects growth. Kormendi (1983). Kormendi use a cross-section study of 34 countries. The sample extends widely from the highly developed countries (the USA, the UK, Japan and Australia) to the underdeveloped countries (Sri Lanka). He concludes that debt and growth are not related. However, many of his critics viewed that the aggregation of such diverse groups may not yield meaningful results.

Charan (1999) investigates the relationship between domestic debt and economic growth for India using the co-integration and Granger causality tests for India for the period 1959-95. Co-integration and Granger causality tests support the Ricardian equivalence hypothesis between domestic debt and economic growth. Ricardian equivalence suggests that it does not matter whether a government finances its spending with debt or a tax increase; the effect on total level of demand in an economy is the same. Christensen (2005) uses a cross country survey of the role of domestic debt markets in sub-Saharan Africa based on a new data set of 27 sub-Saharan African countries during the 20 year period (1980-2000) and found out that domestic markets in these countries are generally small, highly short term and often have a narrower investor base. He also found out that domestic interest rate payments present a significant burden to the budget with significant crowding-out effects.

Asogwa (2005) employs a more comprehensive technique in investigating the effect of domestic debt on economic growth concluded that domestic government debt in Nigeria has continued to suffer form of confidence crisis as market participants have consistently shown greater unwillingness to hold longer maturities. The government has only been able to issue more of short term debt instrument. Abbas (2007) and Abbas and Christensen (2010) analyze optimal domestic debt levels in low income countries (including 40 sub-Saharan Africa countries) and emerging markets between 1975 and 2004 and found that moderate levels of marketable domestic debt as a percentage of GDP have significant positive effects on

economic growth. The study provided evidence that debt levels exceeding 35% of total bank deposits have negative impact on economic growth.

Gurley and Shaw (1973) observed that mounting volume of public debt is a necessary feature of a strong and healthy financial structure of an economy and some secular increase in public debt should be planned by every government. Patillo et al. (2002), in their study assessed the non-linear impact of external debt on growth using a panel data of 93 countries over 1969-98 employing econometric methodologies. Their findings suggested the average impact of debt becomes negative at about 160-170 % of exports or 35-40% of GDP. Their findings also show that the marginal impact of debt starts being negative at about half of these values. Were (2001) in her study of Sub Saharan Africa (SSA) stated that SSA is still plagued by its heavy external debt burden compounded by massive poverty and structural weaknesses of most of the economies, which has made attainment of rapid and sustainable growth and development difficult.

Maana, I. (2008) examines the impact of domestic debt in the Kenyan economy using the Barro Growth Regression Model (BGRM). The results indicate that although the composition of Kenya's public debt has shifted in favor of domestic debt. Domestic debt expansion had a positive but not significant effect on economic growth during the period. He further stated that the Barro Model needs a sophisticated data set which may not be available for a developing country like Kenya.

Adofu and Abula (2010) investigate the relationship between domestic and economic growth in Nigeria for the period 1986-2005. Their findings showed that domestic debt has affected the growth of the Nigerian economy negatively and recommended that it be discouraged. They suggested that the Nigerian economy should instead concentrate on widening the tax revenue base. This study investigates the relationship between debt and economic growth in Nigeria using advanced econometric technique.

METHODOLOGY

The study adopted *ex-post-facto* research design. Data for this study consist of 27 years annual observation period (1986-2014). Secondary data were used, and collected from the Central Bank of Nigeria Statistical Bulletin and Debt Management Office. The study used annual data, because quarterly data may not be accessed for some of the variables. Gross Domestic Product (GDP) was employed as the dependent variable to measure economic performance in Nigeria, while Domestic Debt (DMD,) Inflation Rate (INFR) and Interest Rate (INT) were also employed as the independent variables as indicated in appendix 1.

Model Specification

Model specification involves the determination of the dependent and explanatory variables based on specified theoretical sign and size of the parameters. The analytical technique employed in this study is the Ordinary Least Square (OLS) model. The study adopted regression equation as:

$$Y = f(X_1, X_2, X_3) \dots \dots \dots (1)$$

Therefore, the modified model for this study is stated as:

$$GDP = a_0 + b_1DMD + b_2INTR + b_3INF + \mu \dots \dots \dots (2)$$

Where:

GDP = Gross Domestic Product

DMD = Domestic Debt

INFR = Inflation Rate

INT= Prime Lending Rate

a_0, b_1, b_2, b_3 = Regression parameters

μ = stochastic error term which absorbs the influence of omitted variables.

Data Analysis and Discussion

The descriptive and analytical methods of data analysis were used in testing the hypotheses. And also the analytical technique employed in this study is the regression analysis.

Table 1: Dependent Variable: GDP

Method: Least Squares, Time: 19:45

Sample: 1987- 2014

Included observations: 27

Date: 07/04/2016	Coefficient	Std. Erro	t-Statistic	Prob.
C	145.8045	10.95743	13.30646	0.0000
DMD	5.78536	0.007654	0.758345	0.0800
INT	1.94E-05	8.34E-06	2.325182	0.0307
INFL	-6.11E-05	0.000565	-0.108270	0.9149
R-squared	0.6762647	Mean dependent var		206.9160
Adjusted R-squared	0.625176	S.D. dependent var		67.22186
S.E. of regression	35.87555	Akaike info criterion		10.17485
Sum squared resid	25741.10	Schwarz criterion		10.41862
Log likelihood	-122.1856	F-statistic		6.806566
Durbin-Watson stat	1.866977	Prob(F-statistic)		0.000000

Source: Author's computation with the use of E-view 5.1

From **table 1** the coefficient of determination ($R^2 = 0.6762647$) indicates that about 68% of the variations in gross domestic product can be explained by changes in domestic debt variables (DMD, INT, INFR) in Nigeria. This implies that a good portion of gross domestic product trends in Nigeria is explained by domestic debt variables. The F-Statistics of 6.806566 which is significant at 5% confirms the the relationship between domestic debt and the performance Nigerian economy. The influence of the explanatory variables on the dependent variable is statistically significant and this is also confirmed by the F-probability which is statistically zero and finally, the value of Durbin-Watson (DW) shows the absence of autocorrelation.

DISCUSSION OF RESULTS

During the study it was discovered that, domestic debt has a positive significant relationship with Gross Domestic Product in Nigeria. The relationship is strong because the coefficient of the explanatory variable is statistically above 5% significant level. The study also discovered that interest rate has a positive significant relationship with Gross Domestic Product in Nigeria in the short run. The coefficient of determination is 68% of variations in Gross Domestic Product (GDP) in Nigeria that can be explained by changes in domestic debt variables (DMD, INT and INFR). This implies that a good portion of gross domestic product trends in the economy is explained by the domestic debt variables. There is a positive significant relationship with Gross Domestic Product in Nigeria. This is also strong because

the coefficient of the explanatory variable is statistically above 5% significant level and finally, the value of Durbin-Watson (DW).

RECOMMENDATIONS

Government should maintain a bank deposit ratio below 35 percent and resort to increase use of tax revenue to finance its projects. Government should divest all projects which the private sector can handle including refining crude oil (petroleum product) and transportation. The regulatory authorities should provide enabling environment for private sector investors such as tax holidays, subsidies, guarantees and most importantly improved infrastructure. Government should maintain a proper balance between short-term and long-term debt instruments in such a way that long-term instruments dominate the debt market. Even if the ratio of the long-term debt is a multiple of deposit, the economy can still accommodate it so long as the proceeds are channeled towards improving Nigerian investment climate.

CONCLUSION

The study shows that domestic debt has a positive significant relationship with Nigerian economy, as against the null hypotheses. Therefore the study concludes that the government, policy maker and productive sector should work together to ensure stable economy. This will be achieved through the provision of macro-economic environment and appropriate investment incentives. The investors are expected to reciprocate the gesture through commitment to the use of funds and promptly honoring loan obligations. Government through its relevant authorities should design favorable monetary policy that would enable domestic debt to be made available for private sector at affordable rate (this is because low credit or high lending rate will amount to low level of investment which transmit to low output) for massive development of the sector.

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Appendix 1: Domestic Debt and the Performance of Nigerian Economy (1986-2014)

Year	GDP at Current Basic Price (N' Billion)	Domestic Debt (N' Billion)	Interest Rate (%)	Inflation Rate (%)
1987	134.60	34.78	12.00	5.40
1988	193.13	36.80	19.20	10.2
1989	263.29	178.00	17.60	56.1
1990	382.26	167.3	24.60	50.5
1991	472.65	187.34	27.70	7.5
1992	545.67	116.04	20.80	12.9
1993	875.34	178.0	31.20	44.6
1994	1,089.68	273.8	36.09	57.2
1995	1,399.70	407.6	21.00	57.0
1996	2,907.36	477.7	20.79	72
1997	4,032.30	420.0	20.86	29.3
1998	4,189.25	501.8	23.32	8.3
1999	3,989.45	576.22	21.34	8.5
2000	4,679.21	634.66	27.19	6.6
2001	6,713.57	642.89	21.55	6.9
2002	6,895.20	652.67	21.34	16.5
2003	7,795.76	713.86	30.19	12.9
2004	9,913.52	726.88	22.88	23.8
2005	11,411.07	755.83	20.82	10.0
2006	14,610.88	763.26	19.49	17.6
2007	18,564.59	867.34	18.70	8.2
2008	20,657.32	2,153.66	18.36	5.4
2009	24,296.33	2,453.32	18.70	11.6
2010	24,794.24	2,118.32	22.62	12.5
2011	54,204.80	2,182.64	22.51	13.7
2012	63,258.58	2,100.23	22.42	11.8
2013	71,186.53	2,142.67	24.25	12.0
2014	80,222.13	2,363.88	24.94	8.0

Sources: (i) Central Bank of Nigeria Statistical Bulletin (1986-2014).
(ii) Debt Management Office of Nigeria (1986-2014).