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DOMESTIC DEBT EFFECT ON NIGERIA'S ECONOMIC GROWTH

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ABSTRACT

This study empirically investigates the effect of domestic debt and the growth of Nigeria's economy for the period of 1980 to 2020. The study is based on the crowding-out hypothesis. To achieve its objectives treasury bills, treasury certificates, and treasury bonds were used as a proxy for domestic debt which constitutes the study's independent variables. Also, gross domestic product (GDP) was used as a proxy for Nigeria's economy which forms the study's dependent variable. Secondary data sourced from the Central Bank of Nigeria (CBN) statistical bulletin was made use of. Multi-linear regression was adopted in the study. While the Ordinary Least Square (OLS) approach was used to carry out a short-run analysis, the Johansen cointegration test was used to carry out a long-run analysis. The statistical result shows that in the short-run domestic debt largely determines economic growth in Nigeria. Also, the obtained result reveals a long-run relationship between domestic debt and the growth of Nigeria's economy. Recommendations were made for the purpose of ensuring that Nigeria's economy benefits largely from its government's acquisition of domestic debt.

KEYWORDS

Economic Growth; Domestic Debt; Treasury Bills; Treasury Certificates; Treasury Bond



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Introduction

Debts are incurred by the government through domestic and foreign borrowing, which implies that a country's debt can be either internal or external. Whenever government total revenue is less than its expenditure requirement, it resorts to borrowing (Yusuf, 2021). But any way the method of borrowing is, it is carried out for the purpose of growing the economy, sustaining development and ultimately improving the standard of living of citizens. However, every debt incurred, be it domestic (internal) or foreign (external) is associated with a corresponding price which is referred to as interest (John, 2016). Interest is the sum of money which the borrower pays for the privilege of making use of the lender's money (Ezirim, 2005). It is the cost of servicing a debt until the principal amount is amortized. It is stated as an agreed percentage of the principal amount.

Our focus in this study is domestic (internal) debt. It is a part of the total government debt in a country which is owed to lenders within the country. It refers to the funds borrowed by the government from various sources within the country (Nwinee, 2012). It is seen as all claims against the government that is held by the private sector of an economy. According to Babu et al. (2015) it is debt owed to holders of Government securities such as treasury bills, treasury certificates, treasury bonds, etc. John (2016) opined that the government of Nigeria usually borrows domestically by issuing its financial securities such as government bonds and bills. This type of government debt is denominated in the local currency (Oshadami, 2006). Thus, Nigeria's domestic debt is denominated in naira and its origin dates back to 1946 when the first development stock of ₦600,000 was floated (Ezirim, 2005). Adofu and Abula (2010) opined that the beginning of the existing market for government borrowing in Nigeria is the financial reforms introduced by the colonial government in 1958. These reforms led to the creation of the Central Bank of Nigeria (CBN) and the creation of Marketable Public Securities to finance fiscal deficit.

Domestic debt plays a vital role in an economy because it provides economic agents with an alternative option to banking, for them to allocate their savings accordingly (Ngereboa-A, 2014). Furthermore, the instruments which the government issues to its lenders are majorly used as collateral in the financial markets as such it play a vital role in monetary policy implementation. As earlier stated, domestic debt is incurred by government through the issuance of some financial instruments which includes treasury certificates, treasury bills, treasury bonds, development stock, promissory note, the green bond of Federal Government of Nigeria (FGN), and the recently introduced FGN Sukuk (CBN, 2019). These instruments are tradable in the secondary market. That is, a person who holds any of them can exchange such for a valuable e.g. money, shares, etc., in the secondary market. Okunronmu (2012) states that Nigeria's domestic debt shows that treasury bills constitute the main component of government domestic debt.

The government of Nigeria borrows domestically in the hope to put such funds on a faster route to economic development through increased investments, increased employment, poverty reduction, increased standard of living, etc. Therefore, the aim of government domestic debt is to bring about the country's economic growth and development. Ngerebo-A (2014) and Muhammad et al. (2020) states that it plays a very important role in the economy. However, over the years, Nigeria's domestic debt has greatly increased (Okonjo-Iweala, 2011) while most of the indicators of economic growth and development are yet to be seen within its economy, even though in recent times the government often resort to domestic borrowing as a way of financing its budget deficit, implementing monetary policy, etc. Domestic debt has been accelerating both in loans and service cost (Asaolu et al., 2020). Okwu et

al. (2019) states that internal borrowing by the government from the CBN amounts to the injection of high-powered money into the system, which has serious adverse implications on price and exchange rate stability. Hence, Ogunbiyi (2015) opined that in Nigeria domestic debt is always increasing without a corresponding tangible real sector growth. Domestic debt as a source of government finance results in the crowding-out of investments in the private sector (John, 2016). On the other hand, the Nigerian economy is the total value of goods and services that are produced within the country (Meedee et al., 2014). It is measured with its yearly Gross Domestic Product (GDP).

From the foregoing, it can be clearly seen that there abounds the existence of conflict in literature with regard to how domestic debt affects the economy of Nigeria. Mba et al. (2013), Ngerebo-a (2014), John (2016), Muhammad (2020), Yusuf and Mohd (2021) found that domestic debt positively affects Nigeria's economic growth authors and studies such as Anyanwu and Erhijakpor (2004), Okonjo-Iweala (2011), Onyeiwu (2012), Asaolu et al. (2020) are of the opinion that domestic debt negatively affects the economic growth of Nigeria. Hence, this study is motivated by these conflicting opinions obtained from literature as we intend to ascertain how domestic debt affects the growth of Nigeria's economy with the employment of recent data. As such, the major thrust of this research work is to investigate the effect of domestic debt on the growth of the Nigerian economy.

Review of Relevant Literature

Conceptual Review

Domestic Debt

Domestic debt can be defined as part of the total government debt in a country. It is that aspect of government debt which is owed to lenders within the economy. As such, Abbas (2007) opined that domestic debt refers to the domestic currency indebtedness of a country's consolidated public sector (government) to its citizens. It includes the various liquidity absorbing papers issued by the central bank. Liquidity absorbing papers as used in this context refer to those financial instruments which the Government Issue to members of the public when it wants to reduce the supply of money in the economy, for example treasury bills, treasury certificates, treasury bills and the likes. Ezirim (2005) refers to domestic debt as government borrowings from other economic agents in the economy. Domestic debt is a liability represented by a financial instrument. Hence, Babu (2015) posits that domestic debt is mainly debt owed to holders of government securities such as treasury bills and treasury bonds. Oshadami (2006) defined domestic debt as debt instruments issued by the federal government denominated in the local currency. Nwinee (2012) opined that domestic debt refers to funds borrowed by the government from various sources within the country. According to Ezirim (2005), the origin of domestic debt can be traced back to 1946 when the first development stock of N600,000 was floated. As at September 2011, total domestic debt stood at N5.3 trillion an equivalent of \$34.4 billion (Charles, 2012). Little wonder Okonjo-Iweala (2011) opined that Nigeria's domestic debt has been rising astronomically and if not controlled could create unfavourable consequences. Nigeria has not been alone in experiencing escalating levels of government domestic indebtedness, but in comparison to other countries in Sub-Saharan Africa, Nigeria's domestic debt to GDP ratio is clearly on the high side (Asogwa and Ezema, 2005). Most domestic debts were raised majorly by issuing treasury bills as well as treasury certificates. Domestic debt is sourced from the financial markets. Its acquisition by the government is made possible through the various players in the

financial markets. These players include banks, insurance companies, finance institutions, investment trust, etc. They are referred to as financial intermediaries.

Domestic debt may have positive effect on growth in the short-run but in the long-run if the debt service repayment regime exceeds the ability to pay with some probability, it will lead to debt overhang and at a point, the interest becomes higher than the principal and the effect becomes negative. At this point, crowding-out of investment and private sector constraints will arise due to capital shortages (Mba et al, 2013).

Types of Domestic Debt

Nwinee and Torbira (2012) identified different types of debts as follows: Domestic or internal debt, foreign or external debt, productive debt, unproductive debt, voluntary debt, compulsory debt, short-term debt, medium-term debt, long-term debt, redeemable debt, irredeemable debt, funded debt and unfunded debt.

Domestic Debt Implications on Revenue Generation in Nigeria

- **Government Domestic Debt Affects Investment in the economy:** The government has many competing demands for financial payments in the form of spending. Any spending should be tempered by fiscal responsibility and by looking carefully at the spending's impact. When a government spends more than it collects in taxes as well as from other sources of revenue, it runs a budget deficit which then requires her to borrow. When government domestic borrowing becomes especially large and sustained, it can substantially reduce the financial capital available to private sector firms thereby crowding out private investment in the economy. These private investments that are crowded out are those individually owned companies that would have been set up or expanded with the domestic financial resources borrowed by the government either from individuals or institutions. Given this situation domestic debt reduces private investment which results in reduction in national output that amounts to a reduced gross domestic product (GDP).
- **Government Borrowing Affects Private Savings:** Private savings suffer or are reduced when government borrows funds domestically. When the government borrow the funds that would have been used by citizens for investments purposes thereby making it unable or relatively expensive for local investors to source funds to finance their businesses, these investors within the economy will not have the needed funds to do businesses. The savings that would have been made from the income of those persons who would have been employed had it been the funds were not collected as debt by the government, will elude the economy. As such, reducing the savings from private savings. Also, when firms source funds at higher interest rate as a result of having the government as a competitor of such funds, its profits after interest payments will be reduced thereby reducing its ability to save which would amount to a reduction in private savings.
- **Transfers Obligation to Future Generations:** When the government borrow domestically on a long-term basis without using the funds for productive purposes, from which the interest as well as the loan amount can be amortized over the tenure of the loan it creates a situation where future generations who were not part of those who enjoyed the loan proceeds would

be part of those who would pay that loan. Thus, such unproductive domestic debt use-up the resources that would have been enjoyed by future generation to off-set debt consumed by previous as well as present generation (Thaun, 2018).

- **Hinderances to Economic Growth of a nation:** Economic growth of a country is measured with its gross domestic product (GDP) which is the total value of all finished goods produced in an economy within a certain period of time. GDP can be classified into nominal gross domestic product and real gross domestic product (Oliinyk, 2019). When government borrows domestically it crowds out private investments thereby reducing the national output which can be referred to as the gross domestic product (GDP) that is used to measure economic growth. Hence, domestic debt can constitute a hindrance to economic growth in an economy if it is not properly managed.
- **Nigeria's Economic growth:** The Nigerian economy refers to the total value of goods and services produced within its boundary. It is seen as a middle income, mixed economy and emerging market with expanding service, communication, financial, technology and entertainment sectors (Meedee et al., 2014). It is usually measured with the annual value of gross domestic product (GDP). As such, growth in the gross domestic product (GDP) would mean growth in Nigeria's economy. Nigeria's economic growth is of great importance to the government and every other economic agent/unit within the country. Such growth portrays the viability of investing within the economy.

Empirical Review

Yusuf and Mohd (2021) examined how Nigeria's government debt affects its economy using data for the periods 1980 to 2018, with the technique of ARDL. In their result, they found out that domestic debt significantly and positively impacted on economic growth within the long-run and had a negative impact on the economy within the short-run. Hameed et al. (2020) in their study, where they researched on domestic debt dynamics with implications on some Asian countries' economic growth with the aid of some panel data for the period of 1990 to 2020. ARDL technique was employed to for the investigation of both long-run and short-run relationship. They found negative relationship between domestic debt and economic growth both in the long-run and short-run. John (2016) examined the existing relationship between Nigeria's domestic debt and its economy for the periods 1980 to 2015. Multi-linear regression was made use of by the researcher for data analysis. The study found a positive relationship between domestic debt and Nigeria's economy.

Ogunbiyi and Okunola (2015) in their work where they looked whether domestic debt impact on real sector growth in Nigeria with particular emphasis on the agriculture and industry sector growth. The study concludes based on its findings, that in an advent of consistency and project tied borrowing, real sector will experience growth and development. Singh (1999) explores the relationship between domestic debt and economic growth in India by applying co-integration technique and Granger causality test for the period of 1959-95. The results of the Engle-Granger co-integration test indicate that the domestic debt and economic growth are not co-integrated. Abbas and Christensen (2007) highlight the impact of domestic debt on economic growth for ninety-three low- income countries from the period of 1975 to 2004 by applying Granger Causality Regression model. The analysis shows that moderate levels of marketable domestic debt as a percentage of GDP had significant positive, non-linear impacts on economic growth, but debt levels exceeding thirty-five percent of total bank

deposits have negative impact on economic growth. Ahmad, Sheikh, and Tariq (2012) investigated the impact of domestic debt on inflation in Pakistan for the period 1972 to 2009. The study observes that domestic debt and domestic debt servicing enhance the price level in Pakistan. The effect of the volume of domestic debt and domestic debt servicing on price level is found to be positive and statistically significant. Floating debt i.e. treasury bills comprise a large part of total domestic debt, which are short-term securities and have a high return in the form of interest rate. Uzochukwu (2003) investigates the quantitative effects of public debt (domestic and external) and economic growth on poverty in Nigeria by applying the per- capita income approach using annual data of 1970 to 2002. The study uses growth and debt variables and suggests that these variables have played very vital role towards poverty acceleration in Nigeria. Kernal (2001) investigated the debt accumulation and its implications for growth and poverty in Pakistan. The study shows that debt accumulation (domestic and external) and debt servicing affects the poor adversely. The findings of the study suggests that even though debt burden as a percentage of GDP of Pakistan exceeds that of all South Asian countries, it is not still as high as to go for debt write off. This means that Pakistan has the capacity to service the debt. Emmanuel (2012) empirically analyzed the impact of public debt on economic growth of Nigeria from 1975 to 2005. The study employed Augmented Cobb Douglas model and co-integration technique to capture the long run impact of debt variable on economic growth. The result shows that the joint impact of debt on economic growth is negative and significant in the long run though in short run.

Muhamad and Sasaki (2009) examine the roles of external and domestic debt in Indonesia's macroeconomic situation. The study applied Ordinary Least Square (OLS) estimation using annual data from the period 1991 to 2006. The study shows that the rising trend of domestic debt has become a central policy to overcome deficit. It has created positive effects on both investment and economic growth. But aside from these positive effects, the policy produces domestic currency depreciation. Conversely, rising trend of domestic debt discouraged private investment due to crowding-out effect, which reduces capital stock and total production. Adofu and Abula (2010) examine the effects of rising domestic debt on the Nigerian economy by applying OLS technique using time series data from 1986 to 2005. The findings of the study reveal that several factors responsible for rising domestic debt in Nigeria are high budget deficit, low output level, increased government expenditures, high inflation rate and narrow revenue base. The analysis shows that domestic debt has negatively affected the growth of the economy and recommends that government should make efforts to resolve the outstanding domestic debt. Onyeiwu (2012) equally investigated the relationship between domestic debt and economic growth in Nigeria by employing Ordinary Least Squares Method (OLS), Error Correction and parsimonious models to analyze quarterly data between 1994 and 2008. The study reveals that domestic debt holding of government is far above a healthy threshold of 35 percent of bank deposit as the average over the period of study is 114.98 percent of bank deposit presenting evidence of crowding out of private investments. Thus, it does not have a positive relationship with the Nigerian economy.

From the foregoing empirical studies reviewed, there seems to be a mixed reaction with regards to the effect of domestic debt on Nigeria's economic growth. While studies are of the opinion that domestic debt negatively affects economic growth in Nigeria, others are of the view that domestic debt positively affects the economic growth of Nigeria.

Theoretical Review

Theories are propositions which offer explanations of phenomena. Often times when issues relating to government debt and economic growth are mentioned, theories such as crowding-out hypothesis, Keynes, Wagner's law and Wiseman-Peacock, Solow, Endogenous, Mckinon and Shaw theories among others are discussed in their nexus (Ezirirn 2005, Ogunbiyi & Okunlola 2013). This work is greatly hinged on the crowding-out hypothesis.

Crowding-out Hypothesis

This can be referred to as an economic occurrence which takes place anytime the participation of the government in a certain sector or industry largely affects the funds available to another sector or industry within the same economy. In this case, it means that as a result of the government's involvement in sourcing borrowed funds through the financial market activities, thereby giving rise to increasing interest rate within the local economy, there would be decreased funds in the market for investment in the private sector. This increased interest rate necessitated by the government being a competitor of funds would dissuade some investors from obtaining loans for investment purposes in the local economy. In the same vein, when the government gets funds as domestic debt, it reduces the loanable funds which would have been available for private investment in the economy. This case would reduce private investment in the entire economy due to the private sector being crowded out by the government's participation.

Methodology

This part of the study is focused on the method through which the research work was carried out. It is divided into the following:

Data and Description of Variable Used: The independent variable of this study is domestic debt and it is proxied with treasury bills, treasury certificates and treasury bonds. Whereas the dependent variable of the work is Nigeria's economy proxied with gross domestic product. The study makes use of annual data from 1991 to 2020 (30 years) of treasury bills, treasury certificates and treasury bonds to measure or represent the independent variable. Also, in this study we made yearly data of gross domestic product (GDP) to proxy the dependent variable (Nigerian economy) within the period stated above. Data used for this study were sourced from Central Bank of Nigeria (CBN) statistical bulletin.

Model Specifications: Based on the literature survey and the existing empirical evidences on the subject, the models for this study are presented. This model is specified in three different equations below:

The functional form of the model is:

$$GDP = f(TBI, TRC, TRB) \dots\dots\dots (1)$$

Where

GDP = Gross domestic product

TBI = Treasury bills

TRC = Treasury Certificates

TRB = Treasury bonds

The mathematical form of the model is:

Because it is imperative to include the estimation parameters, equation (1) is re-written thus:

$$GDP_t = a_0 + a_1TBI_t + a_2TRC_t + a_3TRB_t \dots\dots\dots (2)$$

Where

GDP = Gross domestic product

TBI = Treasury bills

TRC = Treasury Certificates

TRB = Treasury bonds

a_0 = Intercept

a_1, a_2, a_3 = Estimation parameters for the independent variables

For estimation purposes equation (2) is re-written thus:

$$GDP_t = a_0 + a_1TBI_t + a_2TRC_t + a_3TRB_t + e_t \dots\dots\dots (3)$$

Where

GDP = Gross domestic product

TBI = Treasury bills

TRC = Treasury Certificates

TRB = Treasury bonds

a_0 = Intercept

a_1, a_2, a_3 = Estimation parameters for the independent variables

e_t = Stochastic error term

Apriori expectations : From theory, it is expected that the employment of the financial resources (funds), which the government sources through domestic debt, in the Nigerian economy, is expected to give an effect that is greater than zero (0),
i.e. $a_1 > 0, a_2 > 0, a_3 > 0$.

Specification of Analytical Tools Used for Test

The major objective of this study is to empirically ascertain the relationship and influences of domestic debt on Nigeria’s economic growth. In this study, the under listed tools are used for analytical purposes.

Stationarity Tests: Stationarity characteristics of the time series data need to be verified by employment of unit root tests so as to validate their usage and avoid spurious estimates. In this study, according to Brooks (2009), the Augmented Dickey Fuller (ADF) test is relevant. The decision rule is to reject the implied null hypothesis if ADF test statistic on absolute basis, is greater than all associated Mackinon’s Critical values at 1%, 5% and 10% levels respectively.

Multiple Regression Test (Ordinary Least Square)

Multiple regression test captures the short-run dynamics of a predictive regression equation. Accordingly, the significance of the t-statistics of any of the independent variables is expected not to be less than 0.05, for the null hypothesis of no significance to be rejected.

Probability

This probability is also known as the p-value or the marginal significance level. Given a p-value, you can tell at a glance if you reject or accept the hypothesis that the true coefficient is zero against a two-sided alternative that it differs from zero. A probability lower than 0.05 is taken as strong evidence of rejection of that hypothesis.

Summary Statistics

The Coefficient of Multiple Determination

R- Squared (R^2): This is a statistical measure that represents the proportion of the variance for a dependent variable that is explained by an independent variable or variables in a regression model. It explains the extent to which the variance of one variable is explained by the variance of another variable. In this case, the R^2 is used purely as a measure of the goodness of fit, which is a measure of the explanatory power of the model.

Adjusted R-Squared

The adjusted R^2 , commonly denoted as \bar{R}^2 , penalizes the R^2 for the addition of regressors which do not contribute to the explanatory power of the model. The adjusted \bar{R}^2 is never larger than the R^2 , can decrease as you add regressors, and for poorly fitting models, may be negative.

Johansen's Co-integration test

The aim of Johansen's Co-integration test is to ascertain the significance of long-run equilibrium relationship which exist among the chosen set of variables used in the study (Brooks, 2009). The decision rule implied is that the magnitude of Max-Eigen statistics must be more than the associated critical value at 0.05 level.

Granger Causality Test

According to Brooks (2009), PairWise-Granger Causality test attempts to evaluate the extent to which variations in a given set of explanatory variables tend to support or promote changes in the dependent variable.

Presentation of Results

The clear and logical presentation of the results obtained from the different analysis is a key tasks for the researcher as well as other persons who are drawing inference from the research. Results presentation should be made in a way through which the aims and objectives of the work is addressed as well to satisfy future users of the results. Hence, this part of the work.

Presentation of Stationarity Test result

Table 1

Variable	ADF Test Statistics	Critical Value 5%			Order of Integration	Prob.
		1%	5%	10%		
GDP	-1.922584	-3.615588	-2.941145	-2.609066	I (1)	0.3188
TBI	-2.497862	-3.610453	-2.938987	-2.607932	I (1)	0.1237
TRC	-3.214497	-4.004425	-3.098896	-2.690439	I (1)	0.0409
TRB	-4.707236	-3.670170	-2.963972	-2.621007	I (1)	0.0007

Source: Extract from Eviews 8.0 output

Analysis of Stationarity Test result

From our result the data is integrated at order one (1) which means that the data is stationary after first differencing. It should be noted that for the non-stationary series to be stationary the first difference of each series must be taken.

Presentation of Multiple Regression (OLS) Results:

In order to evaluate the relationships in the short run and the percentage of variation that is accounted for by changes in explanatory variable in the short run, the multiple regression test was utilized. The results are shown in Table 2 below.

Table 2 Results of Multiple Regression (OLS) test:

Dependent Variable: GDP
 Method: Least Squares
 Date: 09/01/22 Time: 07:38
 Sample (adjusted): 1989 1995
 Included observations: 7 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TBI	9.640183	2.081416	4.631550	0.0190
TRC	-10.26698	9.675918	-1.061086	0.3665
TRB	-0.023754	2.361065	-0.010061	0.9926
C	313.4293	314.8867	0.995372	0.3929
R-squared	0.958246	Mean dependent var		1096.094
Adjusted R-squared	0.916493	S.D. dependent var		877.7663
S.E. of regression	253.6540	Akaike info criterion		14.20538
Sum squared residue	193021.0	Schwarz criterion		14.17447
Log likelihood	-45.71882	Hannan-Quinn criteria.		13.82336
F-statistic	22.94995	Durbin-Watson stat		2.492282
Prob(F-statistic)	0.014301			

Source: Extract from Eviews 8.0 output

Analysis of Multiple Regression Results

From our multiple regression analysis (OLS) result shown, we can clearly see that the coefficient of determination (R^2) is 0.958246. This means that changes in the independent (explanatory) variable account for 95.82% of changes in the dependent variable. Therefore, changes in the dependent variable which are accounted for by other variables not captured in this study is 4.18%. Thus, from our result we obtain that there is a positive and significant relationship between treasury bills (TBI) and gross domestic product (GDP). Our result tells that there is a negative and insignificant relationship between treasury certificate (TRC) and gross domestic product (GDP). Also, from our result we found out that there is a negative and insignificant relationship between treasury bond (TRB) and gross domestic product (GDP). Our result shows that in the short-run there is no significant relationship between domestic debt and the Nigerian economy.

Presentation of Johansen's Co-integration Test Result

As a way of evaluating the long-run relationship between the explanatory variable and the dependent variable we employed Johansen co-integration test. The results are shown in Table 3 below.

Table 3 Presentation of Johansen's Co-integration test

Date: 09/01/22 Time: 18:29
 Sample (adjusted): 1982 2020
 Included observations: 39 after adjustments
 Trend assumption: Linear deterministic trend
 Series: GDP TBI TRB TRC
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.424248	49.48169	47.85613	0.0349
At most 1	0.377733	27.95065	29.79707	0.0804
At most 2	0.204955	9.449568	15.49471	0.3254
At most 3	0.012857	0.504686	3.841466	0.4774

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Extract from Eviews 8.0 output

Analysis of Johansen's Co-integration Test Results

From the Trace result and the Eigen value result there is at most one co-integrating equation which tells that there is a long-run co-integrating relationship among the variables. Thus, there is a long-run relationship between domestic debt and the growth of Nigeria's economy.

Discussion of Findings

From our multiple regression result it is observed that 96% of the dependent variable (Nigeria's economy) is determined by the explanatory variable (domestic debt) while the remaining 4% is determined by other variables not captured in the study. It shows that there is a positive and significant relationship between treasury bills (TBI), a parameter of the explanatory variable and gross domestic product (GDP) which is used to proxy economic growth in Nigeria. The result goes on

to show a negative and insignificant relationship between treasury certificates (TRC), a proxy of the explanatory variable and gross domestic product which is used in the study as a measure for Nigeria's economic growth. Also, the result shows that there is a negative and insignificant relationship between treasury bonds (TRB) and gross domestic product which is used in the study as a measure for economic growth in Nigeria.

Conclusion

This study is a significant improvement on the findings of Mba et al. (2013), Ngerebo-a (2014) and John (2016) in terms of the recency of data and greatly restates the findings of Ahmad et al. (2012) on international frontiers with regards to Pakistan data. In the short run domestic debt largely determine Nigeria's economic growth. Also, it can be clearly seen that there is a long-run relationship between domestic debt and the economic growth of Nigeria which supplies the hope that domestic debt can be used to grow the Nigerian economy if the borrowed funds are actually channeled into productive

Recommendations

- Government should subject every request for domestic loan to critical and objective public scrutiny to prevent contracting avoidable debts.
- 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 proceed is channeled towards improving Nigerian investment climate.
- Government should invest funds sourced as domestic debt in projects that would generate revenue from which the debt would be amortized, which would leave future generations better off. Hence Ogunbiyi and Okunlola (2015) states that in an advent of consistency and project tied borrowing, the real sector will experience growth and development. This would make the economy of Nigeria to grow.
- The government should improve infrastructure such as electricity, good road network, etc. which would reduce the cost of doing business within the economy. This would mean that many businesses would have reduced cost, increased profits and savings from which they could lend to the government. Thus, the provision of infrastructure in the economy would help the government to source more funds through domestic debt for the financing of its budget deficit, implementing monetary policy, etc.
- Government should reshuffle its domestic debt management team for a more efficient and proactive one, which will comprise of all stakeholders including the academia.
- The government should resort to the issuance of long-term instrument such as bonds in sourcing funds as domestic debt since there is a long-term relationship between domestic debt and Nigeria's economic growth. This would permit the usage of the funds for a long-term investment such as the setting up of a firm in the real sector of the economy that would bring about employment, profit realization and general economic growth.
- Individuals within the Nigerian economy should subscribe to government long-term financial instruments e.g. treasury bonds, in order to allow the government, invest these supplied funds in long-term developmental projects in the economy.

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APPENDIX 1

DATA TABLE

Year	GDP B(₦)	TREASURY BILLS B(₦)	TREASURY CERTIFICATES B(₦)	TREASURY BONDS B(₦)
1980	49.63	2.12	2.73	0
1981	94.33	5.78	2.06	0
1982	101.01	9.78	1.67	0
1983	110.06	13.48	4.89	0
1984	116.27	15.48	6.41	0
1985	134.59	16.98	6.65	0
1986	134.60	16.98	6.65	0
1987	193.13	25.23	6.65	0
1988	263.29	35.48	6.79	0
1989	382.26	24.13	6.94	11.35
1990	472.65	25.48	34.21	20.00
1991	545.67	57.76	34.21	20.00
1992	875.34	119.75	35.24	19.01
1993	1089.68	116.38	36.58	117.14
1994	1399.70	170.93	37.34	195.96
1995	2907.36	276.91	23.60	174.06
1996	4032.30	179.63	0	237.39
1997	4189.25	364.52	0	134.39
1998	3989.45	378.53	0	179.62
1999	4679.21	361.76	0	430.61
2000	6713.57	465.54	0	430.61
2001	6895.20	584.54	0	430.61
2002	7795.76	733.76	0	430.61
2003	9913.52	825.05	0	430.60
2004	11411.07	871.58	0	424.94
2005	14610.88	854.83	0	419.27
2006	18564.59	695.00	0	413.60
2007	20657.32	574.93	0	407.93
2008	24296.33	471.93	0	402.26
2009	24794.24	797.43	0	392.07
2010	54612.26	1277.10	0	372.90
2011	62980.40	1727.91	0	353.73
2012	71713.94	2122.93	0	334.56
2013	80092.56	2581.55	0	315.39
2014	89043.62	2815.52	0	296.22
2015	99102.01	2772.80	0	255.99
2016	109160.4	2730.08	0	215.99
2017	119218.79	2687.36	0	175.99
2018	129277.18	2644.64	0	195.99
2019	139335.57	2601.92	0	185.99
2020	149393.96	2559.2	0	190.90
2021	144364.60	2580.56	0	188.45

Source: Central Bank of Nigeria Statistical Bulletin 2021