Domestic Debt and Private Sector Credit in Nigeria:
An Empirical Investigation

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Abstract: Government domestic borrowing and private sector access to credit are two complex economic scenarios that require absolute harmonization for an economy to thrive. There is no economy that survives without the private sector operation which also relies on accessibility to funds. This study examines the impact of government domestic debt on private sector credit in Nigeria. Data for the study have been collected from the Central Bank of Nigeria Statistical Bulletin, 2018 edition, Debt Management Office and the World Bank. The variables on which data are sourced include private sector credit, domestic debt, interest rate and the inflation rate. The scope of the study spans from 1988 to 2018 and the data are analyzed using the ordinary least squares multiple regression technique. The study finds that domestic debt has a significant positive impact on private sector credit while the interest rate exerts substantial negative influence on the private sector credit. However, inflation rate is found insignificant in explaining the growth of private sector credit in this study. These findings lead to the recommendation that government domestic borrowing activities should always be done with the interest of the private sector businesses in mind. The study further suggests moderation of interest rates by the relevant authorities in order to boost private sector access to finance and encourage entrepreneurship in the country.

Keywords: Domestic debt; private sector credit; interest rate; inflation rate; economy

JEL Classification: H74; H81; E43; E31; 040

1. Introduction

Private sector credit or business finance is a fundamental part of most productive economies. Finance naturally serves as the livewire of an economy and allows the private sectors to expand their businesses and implement new ideas. Private sectors often attribute their business successes to fund accessibility. Thus private sectors' access to bank credit determines the survival of businesses and entrepreneurships in a nation. In the same manner, government domestic debt in a nation has a complex way of affecting the private sector access to credit and operations. According to Likita (1999) debt is a predetermined commitment of outstanding or accrued borrowing with an undertaking for reimbursement at a future date. Asogwa (2010)
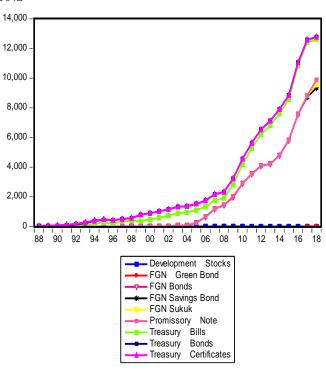
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defines domestic debt as debt instrument issued by the federal, state and local governments but is dominated in local currency. Patillo, Poirson, and Luca (2002) posit it that, emerging nations going through financial pressure coupled with the enormous responsibility to provide their citizens with sufficient goods and services, will invariably want to obtain some loans either internally or externally in order to augment the insufficient domestic savings. Usually, developing countries borrow because they lack the capacity to have adequate savings necessary for economic growth investment. This is due to low level of income commonly experienced by emerging nations such as Nigeria. Every evolving country desiring to raise enough capital for its economic advancement will certainly resort to borrowing (Aminu, Aminu & Salihu) due to inadequacy of funds generated through domestic savings in filling the investment gap. Alison (2003) emphasized that government domestic obligation is majorly caused by budget shortfall which has to be funded in order to achieve fiscal stability, another reason is to employ monetary policy instrument of "open market operation" to buy and sell treasury bills and finally to improve the financial sector through the widening of the financial markets. Behind this backdrop, Mba, Yuni and Oburota (2013) noted that government domestic borrowing serves as the yardstick for the insurance of private sector debt security which includes corporate bonds and treasury bills, so as to build investors' confidence that their returns are failsafe and secured.

The growth of government borrowing in Nigeria gained its prominence from the introduction of financial reform by the colonial administration in 1958 which led to the establishment of marketable public securities to fund economic discrepancies. Paragraph 35 of the central Bank of Nigeria ordinance 1958 provides that the apex bank will be charged with the responsibility for the issue and management of federal government debts publicly issued in Nigeria, this is based on terms and conditions agreed between the government and the bank. From table 1 and figure 1 below, domestic debt in Nigeria comprises treasury certificates, treasury bonds, treasury bills, promissory note, Federal Government of Nigeria (FGN) savings bond, FGN bonds, FGN green bond, development stocks and FGN Sukuk included in 2017 (CBN, 2018).

NGN BILLIONS

Figure 1. Components and Trend of Domestic Debt in Nigeria from 1988 to 2018

Sources: Central Bank of Nigeria and Debt Management Office

Out of these debt instruments, Treasury bills and development stocks are marketable and negotiable while treasury bonds and other advances are not marketable but are held solely by the Central Bank of Nigeria (Adofu & Abula, 2010). The Central Bank of Nigeria (CBN) as the Apex Bank and financial adviser to the federal government has the duty to manage the domestic public debt (Aminu *et al.* 2013) of the government in Nigeria. Thus, domestic debt represents the money government borrows locally from banks, individuals and companies through sale of government securities such as treasury bills and bond, among others. According to WB and IMF (2001), broad usage of domestic debt can have adverse effects on the economy through crowding out of private investments, this is due to the fact that domestic debt has components that are usually marketable. Abbas and Christensen (2007) posit that reasonable levels of domestic debt could have a favorable consequence on the economy if the debt is saleable. By implication, the marketability of domestic debt could make the money and financial markets stronger, encourage investment and enhance private savings (Bakare, Ogunlana, Adeleye & Mudasiru, 2016).

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Domestic debt servicing cost can take major part of government revenues, especially where domestic interest rate is higher than interest rate of foreign loans. The interest cost of domestic borrowing can rise quickly along with increases in the outstanding stock of debt, especially in shallow financial markets. The increase in interest rates may even be more noticeable if the investors' base is relatively constricted, consequently, the government may be held responsible by some group of investors because domestic debt financing has the capacity to crowd-out private investment through hike in the interest rates. When interest rate of banks' credit to private sectors increases, the cost of borrowing rises and private sector investment is negatively affected (Omodero & Mlanga, 2019). According to Igbodika, Jessie and Andabai (2016) "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". The exorbitant profile of domestic debt in Nigeria (see Table 1 & Figure 1 below) emanated from the accumulation of government borrowing from different local sources, thus, it is adversely affecting the GDP growth and also crowding out private sector investment (Okonjo-Iweala, 2011; Obademi, 2012). However, Okonjo-Iweala (2011) expressed optimism that if private sector growth could be encouraged, it would lead to multiple job creation in the country.

When issuing domestic debt, governments tap domestic private savings that would otherwise be available to private sector. Subsequently, it results to an increase in domestic interest rates, especially where they are flexible, thereby adversely affecting private investment. However, even when interest rates are controlled, domestic borrowing can lead to credit rationing and crowding-out of private sector investment (Fischer and Easterly, 1990).

2. Literature Review

2.1 Conceptual Clarifications

2.1.1 Domestic Debt

Domestic Debt is debt that originates from within a country (James, Magaji, Ayo & Musa, 2016). Domestic debt refers to debt owed to holders of government securities such as treasury bills and treasury bonds which represent government borrowing through issuance of securities, government bonds and bills (Babu, Kiprop, Kalio & Gisore, 2015). Domestic debt in Nigeria is usually acquired through debt instruments such as treasury bills, treasury certificates, treasury bonds, development stocks, FGN bonds, Promissory notes. The other debt instruments introduced in Nigeria with effect from 2017 include: FGN Sukuk, FGN Green Bond and FGN Savings Bond. According to Babu *et al.* (2015), the two major reasons why governments choose to borrow domestically include: when there is excess projected expenditure over

projected revenue and urgent need to pay off maturing loans or to meet up with an immediate external debt servicing obligation.

2.1.2 Treasury Bills

Treasury bills are short-term sovereign debt securities maturing in one year or less. They are sold at a discount and redeemed at par. These bills are by nature, the most liquid money market securities and are backed by the guarantee of the Federal Government of a nation. The Federal Government of Nigeria, through the Central Bank of Nigeria, issues Nigerian Treasury Bills to provide short-term funding for government budget deficit. The treasury bills are usually issued through a competitive bidding process, quoted and traded on FMDQ's platform (FMDQ, 2019). Treasury bills are debt instruments used by the federal government to borrow funds for short periods of about three months pending the collection of its revenues. Following the Treasury bill Act of 1959, No 11 which took effect from 19th of March 1959, Treasury bill first public issue in Nigeria was made on April 7, 1960. The tremendous achievement made in the process gave a boost that led to the issuance of further monetary debt instrument of this nature (Anyanfo, 1993). At the moment, the allotment of treasury bills are issued via an auction – based system and in multiples of =N=1000.00 per tender, its subscriptions are usually sold through official dealers.

2.1.3 Treasury Certificates

A treasury certificate was a debt security issued by the United States Treasury, with maturities of less than one year and which was sold at par, the certificates were not issued after 1975 (Accounting tools, 2018). Treasury certificates are medium term government securities which have a maturity of between one to two years. It serves as bridge between treasury bills (Short term instruments) and long term government stocks. Treasury certificates were introduced in Nigeria in 1968 and are similar to treasury bills in all respects, except that the tenure is different. Both instruments are eligible for rediscount at the secondary market. Treasury certificates have played a major role in the development of the money market in Nigeria. The instrument has also assisted government in meeting its financial needs, especially during the civil war years and the reconstruction period of the 1970's. Further issues were suspended in 1975 due to excess liquidity in the system occasioned by the oil boom. The TC.s were again introduced in 1976 as a result of pressure on government finances.

2.1.4 Treasury Bonds

Bonds issued though the government are called treasury bonds. These bonds are issued to help the government pay off debts and to fund government activities. Of all the bonds, these have the lowest returns or yields. However, government bonds are exempt from local and state taxes and they are lower in risk if you hold them until they mature (Your Dictionary, 2019). A Treasury bond (T-bond) is a government debt security that earns interest until maturity, at which point the owner

is also paid a par amount equal to the principal. Treasury bonds are part of the larger category of government bonds, a type of bond issued by a national government with a commitment to pay period interest payments known as coupon payments as well as the principal upon maturity (Chen, 2019). T-bonds are known in the market as principally risk-free; they are issued by the government with very little risk of failure to pay (Chen, 2019). T-bonds market began in Nigeria towards the end of 1989 when the monetary authorities of Nigeria decided to convert =N=11.35 billion of maturing treasury bills into 5% denominated treasury bonds with maturity profile in excess of ten years (James *et al.,* 2016). Treasury bonds emerged not as a consequence of issuance of new instruments using the term but as an essential facet of internal debt administration scheme designed to elongate debt repayment period. The implication of this concept is that the instruments are not suitable for trading at the money market and cannot serve as an instrument for open market operations. The major objective of treasury bonds is to provide a cost effective source of deficit financing for the government and to seek to minimize debt service obligations in government debts occasioned by the high level of deficit financing by the government (Nzotta, 2004).

2.1.5 Development Stock

Development stock is fairly long term debt instruments issued by the CBN on behalf of the federal government. Development stock is also known as development loan stock which the long-term, interest-bearing securities of the Federal Government of Nigeria traded on the Stock Exchange (Securities & Exchange Commission Nigeria, 2019). They have fixed rates of return and definite maturity. In an attempt to improve the liquidity and profitability of banks, the central bank classified government development stocks of less than 3 years to maturity as eligible liquid assets for the purpose of computing the liquidity of banks. This move further broadened the scope of activities in the money market. (Nzotta, 2004). FGN Bonds are debt securities (liabilities) of the federal government of Nigeria issued under the authority of Debt Management Office (DMO) and listed on the Nigerian stock exchange. The FGN has an obligation to pay the bondholder the principal and agreed interest as they fall due. A bond holder has simply lent to the federal government for a specified period of time. The FGN bond is considered as the safest of all investments in domestic currency securities market because it is backed by the full faith and credit of the federal government. They have no default risk, meaning that it is virtually certain your interest and principal will be paid as and when due. The income thus earned is exempt from state and local taxes. The minimum subscription of FGN Bond is =N=10,000.00 + multiples of =N=1000.00 thereafter .Most FGN Bonds have fixed interest rates which are paid semi-annually. Tenor of an FGN Bond is for a minimum of two years (Debt Management Office).

2.1.6 Promissory Note

A promissory note is a written agreement to pay a specific amount to specific party at a future date or on demand. In other words, it's a written loan agreement between two parties that requires the borrower to pay the lender on a day in the future. This could be a set date or a date chosen by the lender (My Accounting Course, 2019). Promissory notes are documents stating that a person promises to pay another a specified sum at a certain date (James et al., 2016). Following the Government Promissory Notes Act 1960 No 6, promissory note is another source through which the federal government of Nigeria can borrow locally.

2.1.7 FGN Sukuk

Sukuk is an investment certificate that denotes the ownership interest of the holder in an asset or pool of assets (Debt Management Office, 2019). Sukuk is backed up by the full faith and credit of the Federal Government of Nigeria (FGN) and the certificate entitles the holder to receive income from the use of the asset based on the Sukuk units allotted to him/her (DMO, 2019). The FGN issued Sukuk to fund the construction or rehabilitation of major economic infrastructure projects across Nigeria such as roads, it provides FGN varying funding sources and also offers ethical investors the opportunity to invest in government issued securities (DMO, 2019). Sukuk certificate can be traded on the Secondary Market by licensed dealers on the floor of the Nigerian Stock Exchange and on the Nigeria's foremost debt capital, foreign exchange and derivatives over-the –counter securities exchange (FMDQ OTC).

2.1.8 FGN Green Bond

Green Bonds are any type of bond instrument where the proceeds are exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible green projects that align with the four core components of the Green Bond Principles (GBP) which consist of Process for Project Evaluation and Selection, Reporting of list of eligible green projects, Management of Proceeds and Use of Proceeds (The Nigerian Stock Exchange, 2019).

2.1.9 FGN Savings Bond

Federal Government of Nigeria (FGN) savings bond is a new retail investment programme introduced by The Debt Management Office (DMO) of Nigeria, on behalf of the Federal Government of Nigeria. FGN savings bond has been launched to help enhance the savings culture among Nigerians while providing all citizens irrespective of income level, an opportunity to contribute to National Development; as well as the comparatively favourably returns available in the capital market.FGN Savings Bond is safe and backed by the full faith and credit of the Federal Government of Nigeria, with quarterly coupon payments to bondholders. The features include a

Minimum subscription of N5,000 with additions in multiple of N1,000; subject to a maximum of N50 million. The bond duration ranges from 2 to 3 years while a fixed coupon will be paid quarterly to investors. The issuance is on a monthly basis through an offer for subscription, from the date the offer is announced, it will remain open for 5 days. Investors are only meant to subscribe through the accredited Distribution Agents who are the dealing members of The Nigerian Stock Exchange (NSE) as approved by the Debt Management Office. The coupon/interest of the FGN savings bond is paid to the bondholders on a quarterly basis and it is tax-free. FGN savings bond is liquid asset which can be traded at the NSE Secondary Market, it encourages financial inclusion, and it is also acceptable as collateral for loans while its returns is guaranteed.

2.1.10 Private Sector Credit

Private sector credit refers to financial resources provided to the private sector, such as through loans, purchases of non-equity securities, trade credits and other accounts receivables, which establish a claim for repayment (World Bank, 2018).

2.2 Theoretical Review

2.2.1 Ccrowding Out Theory

Crowding out theory holds that debt servicing could be such a burden that the government revenue may no longer be adequate for provision of public services which complements private investment and boost private sector involvement in the economy. Thus, substantial debt obligation suggests that the government short-term revenue must be used to service the debt, thereby crowding out public investment into the economy (Serieux & Yiagadeesen, 2001). Reduction in public investment can lead to a decrease in private investment since some private investments and public investments are complementary (Diaz-Alejandro, 1981; Taylor, 1983). It has been established that extreme domestic borrowing results in financial precariousness and crowding out of the private sector (Panizza, Sturzenegger & Zettelmeyer, 2010) through high interest rates and reduction of public sector investment occasioned by debt servicing consequences.

2.2.2. Debt Overhang Theory

Krugman (1988) postulated that there is a likelihood that in the near future, a nation's level of accumulated debt might outgrow the repayment capacity of that nation. In other words the expected cost of servicing will begin to dissuade both internal and external investments since efforts towards achieving economic growth through profitable ventures will still lead to increasing loan acquisition. Debt overhang leads to economic growth decline due to the fact that it discourages internal and external investments of private sectors which give boost to economic expansion (Krugman, 1988).

2.3 Empirical Review

2.3.1 Studies Outside Nigeria

Levan, Nguyen-Van, Barbier-Gauchard and Duc-Anh (2019) analyzed the relationship existing among government expenditure, tax on returns to assets, public debt and economic growth; where public debt was assessed using the external debt and the domestic debt components. The study found among others that tax led to explicit increase in the domestic debt, thereby establishing that the effect of high tax rate results to reallocation of public debt in favour of domestic debt.

Kueh, Liew and Yong (2017) investigated the effect of domestic and external debts on economic growth of Malaysia using data that covered a period from 1980 to 2015. The statistical result indicated that domestic debt was approximately 37% of GDP while external debt was only 4% of GDP. The findings also revealed that domestic debt accumulation below the threshold level contributed positively to economic growth which when it exceeded, the economic growth was depressed. Contrarily, the study confirmed that external debt below the threshold level had a negative impact on economic growth but when it exceeded the threshold, it had a positive effect on economic growth. Tawfiq and Shawawreh (2017) assessed the impact of public debt on economic growth of Jordan using data from 2000 to 2015. In order to ascertain the impact of public debt on economic growth, the study employed least squares regression method and the result indicated that public debt had a negative impact on economic growth. The findings further revealed that external debt had a more significant negative impact on economic growth than the domestic debt.

Srinivasa and Lakshmi (2016) used Auto Regressive Distributed Lag (ARDL) technique to assess the impact of domestic debt on India's economic growth for a period covering 1980 to 2014. The study found evidence that domestic debt had a negative impact on India's economic growth. Anning, Ofori and Affum (2016) investigated the impact of both external and domestic debt on economic growth of Ghana from 1990 to 2015. The study was motivated by the fact that Ghana was adjudged as one of the Heavily-Indebted Poor Countries (HIPC) by the IMF and World Bank in 1999 which enabled the country to enjoy debt relief. The study used both primary and secondary data sources as well as building on the study of many other scholars. The findings revealed that both domestic and external debts had negative relationship with Ghana's economic growth. Thus, the study recommended the use of tax reform programmes to increase the revenue base of the country instead of borrowing.

Saifuddin (2016) adopted a two-stage least squares (TSLS) regression technique to study the impact of public debt on economic growth of Bangladesh from 1974 to 2014. The study used government investment and economic growth as the explanatory variables which helped to determine the effect of public debt on economic growth in Bangladesh. The regression results indicated that public debt

had positive relationship with both investment and economic growth. The findings further revealed that public debt had significant positive impact on investment which invariably suggested favorable influence on economic growth. Babu *et al.* (2015) used Levin-Lin-Chu (LLC) test and Hausman specification test to investigate the effect of domestic debt on economic growth of the East African Community (EAC) from 1990 to 2010. The result indicated that domestic debt had a positive significant effect on per capita GDP growth rate in the EAC. The study suggested promotion of sustainable level of domestic borrowing as a way of enhancing economic growth.

Mbate (2014) investigated the impact of domestic debt on economic growth and private sector credit using panel data of 21 Sub-Saharan African (SSA) countries for a period covering 1985 to 2010. The study made use of system-GMM and the result indicated the existence of non-linear relationship between domestic debt and economic growth. The findings also revealed that domestic debt was found to crowd out private sector credit by an elasticity of negative 0.3 percent of GDP, deterring capital accumulation and private sector growth. The study suggested to restrict domestic indebtedness and financial policies to enhance credit availability. Giovanna, Pradelli and Presbitero (2014) also did a panel study of 36 low-income countries from 1971 to 2011 examining the trends and structure of domestic public debt. The study found evidence that there has been an increase in domestic government debt since 1996, and that poor countries were able to increase the share of long-term instruments which also resulted to decrease in the cost of borrowing due to the long period of time involved. The study indicated that commercial and central banks credit to the private sector for investment might be crowded out if the trend in domestic public debt in the 36 low-income countries should continue growing.

Putunoi and Mutuku (2013) considered the implication of domestic debt on economic growth of Kenya using quarterly data that spanned from 2000 to 2010. The study employed Augmented Dickey Fuller Error Correction Model and other statistical tool for analysis. The findings showed that domestic debt had a significant and positive impact on economic growth of Kenya. Following the statistical result, the study suggested that the government should support sustainable domestic borrowing. Njoroge (2013) employed causal research design and quarterly time series data ranging from 2003 to 2013 to evaluate the effect of domestic public debt on economic growth of Kenya. The correlation analysis revealed that GDP had a negative relationship with the public domestic debt and all other explanatory variables. However, the study suggested that government borrowing should be minimized while all forms of domestic borrowing should be focused on economic benefit of the country.

Ahmad, Sheikh and Tariq (2012) examined the impact of domestic debt on inflation in Pakistan from 1972 to 2009. The study found that the effect of domestic debt and

debt servicing on inflation was statistically significant and positive. The study also established that interest rate was one major reason for budget deficit in Pakistan and since then government had depended on various sources of financing caused by the budget deficit that also led to inflation. Atique and Malik (2012) extended the study on Pakistan from 1980 to 2010 by examining the influence of domestic and external debts on economic growth using an ordinary least squares approach to co-integration, unit root and serial correlation testing. The findings revealed that external debt had a more robust and significant negative impact on economic growth of Pakistan than the domestic debt. Although the study found the existence of an inverse relationship between domestic debt and economic growth as well as between external debt and economic growth.

EL-Mandy and Torayeh (2009) studied the effect of domestic debt on economic growth of Egypt following the concerns for the persistent increase in Egypt's public domestic debt. The study covered a period from 1981 to 2006 and the statistical result revealed that public domestic debt in Egypt had a robust and significant negative impact on Egypt's economic growth. Using algebra techniques to test sustainability of debt, the result showed that Egypt's debt was sustained in the recent path of debt followed in the country.

2.3.2 Studies within Nigeria

Ayuba and Khan (2019) examined the long-run relationship between domestic debt and the fiscal policy of economic growth in Nigeria for a period covering 1981 to 2013. The study made use of autoregressive distributed lag approach and the bounds test postulated by Narayan (2005). The findings indicated that domestic debt had adverse effect on the economy but positively affected the cumulative government revenue within the period covered by the study. Ugwu (2017) employed ordinary least squares method to assess the effect of domestic debt on Nigeria's economic growth using data spanning from 2000 to 2016. The findings revealed that domestic debt had significant relationship with the Gross Domestic Product (GDP) of Nigeria.

Bakare *et al.* (2016) used ordinary least squares regression method to investigate the effects of domestic debt on Nigeria's economic growth from 1981 to 2012. The study used GDP as the dependent variable while the predictor variables included domestic debt, private sector credit, interest rate and budget deficit. The study found a positive relationship between domestic debt and economic growth and also confirmed that the level of increase in domestic debt should be in the same proportion with the increase in economic growth. James *et al.* (2016) extended the work on the impacts of domestic debt on economic performance of Nigeria from 1970 to 2013 using multiple regression statistical tool for analysis. The findings indicated that domestic debt had a negative impact on unemployment while the influence on economic growth was not significant. On the contrast, domestic debt impacted on inflation positively and significantly. By implication, the study is suggesting that domestic

debt serves as a fiscal tool to suppress inflation since it allows the government to reduce the money in circulation through selling of treasury bills and other marketable debt instruments.

Onogbosele and Mordecai (2016) made use of the domestic debt components and examined the degree of pressure each had on GDP growth rate. The study covered a period from 1985 to 2014 and the domestic debt elements used as explanatory variable were: treasury bonds, development stocks, federal government bounds and interest. Thus, the study empirically established that the federal government bonds exerted the highest influence on GDP, and it was succeeded by treasury bonds while development stocks and interest rate had the least effect on GDP. Okwu, Obiwuru, Obiakor and Oluwalaiye (2016) employed relevant econometric tools to investigate the effects of domestic debt economic growth in Nigeria from 1980 to 2015. The study used real gross domestic product (RGDP) as proxy for economic growth while the explanatory variables included domestic debt stock, debt servicing expenditure, government expenditure and banks' lending rates. The results showed that domestic debt stock had both short and long term positive significant effect on RGDP while debt servicing expenditure exerted a significant negative impact on RGDP. The study also revealed that bank lending rate and government expenditure were not significant in explaining economic growth variations in Nigeria within the period covered by the study.

Igbodika *et al.* (2014) assessed the relationship between domestic debt and the economic performance in Nigeria using data that covered 1984 to 2014 and the OLS statistical tool for analysis. The study found that domestic debt had a significant positive relationship with GDP in Nigeria. The study therefore recommended that the government should ensure that debt ratio is at equilibrium with the acceptable bank deposit ratio while ensuring that tax revenue is increased to reduce borrowing to finance projects.

Aminu *et al.* (2013) investigated the impact of external debt and domestic debt on the growth of the Nigerian economy. The study covered a period from 1970 to 2010 and ordinary least squares method was used for the impact analysis. The results indicated that the external debt had a negative impact on economic growth of Nigeria while the domestic debt had a positive impact on the Gross Domestic Product (GDP). The study further established that proper management of the country's domestic debt could lead to high level of economic growth. Mba *et al.* (2013) analyzed the implication of domestic debt on economic growth in Nigeria using error correction model and annual time series data covering a period from 1980 to 2011. The data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and Debt Management Office. The findings revealed that domestic debt and credit had a direct significant correlation with economic growth while the debt servicing was inversely

correlated with the GDP. The study also found the existence of an insignificant relationship between economic growth and government expenditure.

Onyeiwu (2012) carried out a study to establish the effect of domestic debt on Nigeria's economic growth using ordinary least squares method (OLS), error correction and parsimonious models to analyze quarterly data covering a period from 1994 to 2008. The result revealed that domestic debt held by the government within the period under study was 114.98 percent which was above the benchmark of 35 percent debt-bank deposit. The result provided evidence that domestic debt could be crowding out private investment if not checked. In other words, the level of domestic debt in Nigeria had a significant negative effect on economic growth. Thus, the study recommended a healthy threshold of debt-bank deposit which must be below 35 percent.

3. Methodology

3.1. Research Design and Sources of data Collection

This study employed causal research design in order to achieve the purpose of the study. According to Kothari (2004) a causal research is used to explore the effect of one variable on another and this is consistent with this study which seeks to establish the effect of domestic debt on economic growth (using private sector credit as proxy). Here, the research adopted the econometric analysis techniques of ordinary least squares (OLS) multiple regression technique. The study made use of secondary form of data spanning from 1988 to 2018. All the data employed in this study were obtained from the Central Bank of Nigeria Statistical Bulletin, 2018 edition, Debt Management Office (DMO) Nigeria and The World Bank. Due to the difference in the values, all the data were expressed in logarithm form for uniformity.

3.2 Model Specification

The functional and econometric relationship between the dependent variable and the independent variables are seen in the equation below:

$$PSC = f(DDT, INT, INF) \tag{1}$$

$$LOGPSC = \beta_0 + \beta_1 LOGDDT + \beta_2 LOGINT + \beta_3 LOGINF + \mu \tag{2}$$

Where:

PSC = Public Sector Credit; DDT = Domestic Debt; INF = Inflation Rate;

β_0 = Constant;

β_1-β_3 = Regression coefficients; μ= Error term.

On the a priori, we expect; $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$.

4. Analysis of Data and Interpretation

4.1 Trend analysis

TREND OF DATA FOR MODEL 2 FROM 1988 TO 2018
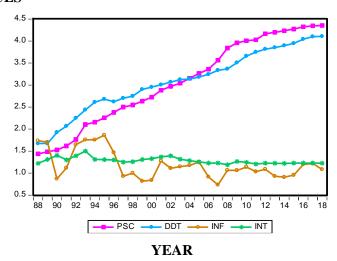
LOG VALUES

YEAR

Figure 2. Sources of Data: Central Bank of Nigeria and Debt Management Office

Figure 3 above, depicts the trend of private sector credit (PSC), domestic debt stock and other predictor variables. It could also be seen clearly that the DDT depressed PSC from 1988 to 2004, but PSC gained strength from 2005 and then started increasing significantly from 2006 to 2018. This shows that if domestic borrowing is done with caution it will boost private sector investment instead of crowding it out. Usually government public investment using the domestic debt supplements private sector investment. The growth of the PSC from 2005 to 2018 is an evidence that private sector investment in the country is no longer being suppressed by the government domestic sourcing of fund.

4.2. Regression Analysis

Dependent variable – PSC. Independent variables – DDT, INT & INF

Table 1. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.989	.979	.977	.149621475	.938

a. Predictors: (Constant), LOGINF, LOGINT, LOGDDT
b. Dependent Variable: LOGPSC
Source: Researcher's computation, 2019

From table 2 above, the correlation (R) value is 98.9% representing a very high association between PSC and the predictors (DDT, INT and INF). The result implies that private sector credit has a robust relationship with domestic borrowing in Nigeria. The conceptual clarifications applied in this study revealed that domestic debt in Nigeria is dominated by saleable securities which help to reinforce the financial markets and also improve the economy through private sector investment. Thus the existence of a strong correlation shown in the result has also established that domestic borrowing through marketable securities aids economic expansion via private sector operations. The R Square value of 97.9% is also very significant. This result implies that domestic borrowing and other predictors explain about 97.9% of the changes in PSC with the exception of 2.1% accountable by other factors which were not included in the model. The Durbin-Watson is within the limit that does not give cause for concern.

Table 2. Anova

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.310	3	9.437	421.539	.000
	Residual	.604	27	.022		
	Total	28.915	30			
a. Dependent Variable: LOGPSC						
b. Predictors: (Constant), LOGINF, LOGINT, LOGDDT						

Source: Researcher's computation, 2019

The study has provided an empirical evidence in table 3 above that the predictors (DDT, INT and INF) collectively influence the PSC statistically and significantly. This is evidenced by the F- Statistic result which is 421.54 with the p-value of 0.000 < 0.05, thereby indicating that the model is very fitting for the study and that the independent variables jointly affect the dependent variable positively.

Table 3. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.994	.695		1.430	.164		
	LOGDDT	1.274	.050	.920	25.267	.000	.585	1.711
	LOGINT	-1.390	.469	-.101	-2.963	.006	.665	1.504
	LOGINF	-.054	.101	-.017	-.540	.594	.737	1.357
a. Dependent Variable: LOGPSC								

Source: Researcher's computation, 2019

The study tested for multicollinearity to establish its non-existence among the independent variables. Multicollinearity exists in a situation where two or more related explanatory variables are used to assess the same element (Gujarati & Porter, 2009). The rule is that the Vector Inflation Factor (VIF) should be below the value of 10 to establish the absence of collinearity among variables, but in a situation where a variables has a VIF value that is above 10, it shows the presence of multicollinearity (Gujarati & Porter, 2009), then the variables will be checked again which will requires removal of some of the variables having the VIF above the benchmark. In this study, the VIF of all the predictor variables are far below 10, thus there is absence of multicollinearity.

The impact analysis is done with the t-statistic to establish the effect of domestic debt and other influential variables on the PSC. DDT t-statistic is 25.267 with the p-value of $0.000 < 0.05$ level of significance. This result shows that domestic debt has a robust significant positive impact on the private sector credit of Nigeria. The result confirms the findings of numerous scholars such as (Ahmad et al., 2012; Aminu et al., 2013; Putunoi & Mutuku, 2013; Igbodika et al., 2014; Babu et al., 2015; Bakare et al., 2016; Okwu et al., 2016; Saifuddin, 2016) who also empirically established that domestic debt positively affects economic growth and does not crowd out private investment. However, the result of this study is in discrepancy with the findings of (EL-Mandy & Torayeh, 2009; Onyeiwu, 2012; Njoroge, 2013; Mbate, 2014; Giovanna et al., 2014; Anning et al., 2016; Srinivasa & Lakshmi, 2016; Ayuba & Khan, 2019) whose works found that domestic borrowing causes economic depression and crowds out private sector investment. The t-statistic of INT is -2.963 with the p-value of $0.006 < 0.05$ significance level. The implication is that interest rate used by the banks in Nigeria affects private sector investment negatively and significantly. What it means is that private sectors find it difficult to access bank credits and if obtained the interest rate is too high for them to bear. However,

inflation rate (t-statistic -0.540; p-value 0.594 > 0.05) is not significant to explain the growth in the private sector credit in this study.

5. Summary of the Study

The study evaluates the influence of domestic borrowing on private sector credit in Nigeria. The investigation is motivated by the fact that government domestic borrowing is believed to be depressing the economy and crowding out private sector investment. In a nutshell, the study finds that domestic borrowing positively and significantly affects the PSC. This result demonstrates that the domestic borrowing has positive effects on the PSC in Nigeria. The study also finds that interest rate exerts significant negative influence on PSC while inflation rate has insignificant negative impact on PSC. The statistical evidence shows that domestic debt in Nigeria is not crowding out private sector investment as estimated.

Therefore, the study is suggesting that the interest rate should be minimized by the relevant authority in order to encourage more access to private sector credits while ensuring that inflation rate is stabilized to encourage investors because inflation has the tendency to reduce investment by shifting resources to household consumption. The study also recommends that local sourcing of fund by the government should be within the limit that will continue to boost private sector operations. In addition, the borrowed funds should be applied to public expenditures that will equally encourage private sector investments.

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