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Research Article

BOND RETURNS IN NIGERIA: THE ROLE OF PUBLIC DEBT OVER TIME

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Abstract

This study examined the effect of public debt on the return on traded bonds in Nigerian bond market. The study sourced time series data from Central Bank of Nigeria statistical Bulletin. Return on traded government development bond and Treasury bond were used as dependent variables while public external and domestic debt were used as independent variables. The ordinary least square was used as data analysis methods. Two multiple regression models were formulated. Model one found that 85.4 percent variation in return on government traded development bonds over the periods covered in this study and further found that external debt have negative effect on return on government traded development bond such that a unit increase reduces return on traded government development bond by 2.4 percent while domestic debt have positive and significant effect on return on traded government development bond such that a unit increase lead to 0.78 percent increase in return on traded government development debt. Model two found that 77.3percent variation in return on government traded treasury bonds over the periods covered in this study. The model estimated further found that external debt has positive effect on return on government traded treasury bond such that a unit increase reduces return on traded government treasury bond by 0.2 percent while domestic debt has positive and significant effect on return on traded government treasury bond such that a unit increase lead to 0.58 percent increase in return on traded government treasury bond. From the findings the study conclude that public debt has significant effect on return on traded bonds in Nigeria. We recommend that further public borrowing should be tied to specified productive sectors of the economy that would affect positively on return on traded bonds. The study recommends borrowing loans by the government domestically rather than externally because it is discovered to have a positive impact on return on traded bonds.

Keywords: Public Debt, Traded Bonds

INTRODUCTION

Public debt is the amount of money owed by a country to individuals, businesses, institutions, and public corporations residing inside or outside the country. Money is borrowed by a government when a country has insufficient savings and revenue to carry out productive activities that foster economic growth and development. Public debt is all the money owed at a given time by any level of the government. It encompasses debt owed by the federal government, state government and local government. Public debt accumulates over time when government spends more than it earns in revenue. It increases as the government engages in more deficit

financing. Public debt is divided into domestic and external debts. External debt is money owed by the government to foreign lenders, where as domestic debt is money owed to lenders within the country. Public debt can either be external or internal domestic debt profile presents serious obstacles to a (domestic), domestic debts are incurred by government in nation's path to economic growth and development. The domestic markets in order to finance domestic cost of servicing the debt may expand beyond the investments. The financial reforms introduced by the capacity of the economy to cope thereby impacting colonial government in 1958 were the beginning of the negatively on the ability to achieve the desired fiscal and existing market for government domestic borrowing in monetary policy objectives.

Similar to many developing frontier capital markets, the Nigerian capital market is shallow. Issues of public debt management and capital market underdevelopment are linked. The underdevelopment of capital market results in institutional investors limiting the amount and maturity of funding available to the government locally and can substantially increase the rollover and currency risks in managing public debt (Shah et al., 2007). Similarly, poor debt management practices result in fragmented issuance of debt instruments and a lack of a liquid benchmark yield curve makes it difficult for all borrowers to obtain long-term financing, as well as undermine ability of institutional investors to apply appropriate risk management. Moreover, many scholars have documented that excessive public debt may discourage investment. For example, Akujuobi (2012) observes that borrowing heavily from internal and external sources to fund different sectors of Nigerian economy with doubtful corresponding gains is not sustainable. Such unsustainable public debt, as Emenike (2015) stated that a potential threat to investment in physical assets and foreign investment. High level of external debt lowers investors' expectations on investment returns, with the possibility of progressively more distorted taxes by the government for debt repayment.

The issuer of a bond presents the bond as a promise to make available regular, fixed, income payments to the investor or the buyer of the bond who is also the bondholder. These income payments are known as coupons and bonds which pay coupons twice a year are known as semiannual coupon bonds. There are also bonds that make coupon payments annually, known as annual coupon bonds. Bonds which make no coupon payments are called zero coupon bonds, or deep discount bonds. In making a decision to buy a bond, investors should consider a number of factors such as the tenure of the bond, the coupon payments expressed as a single percentage rate, and the yield-to-maturity or just simply, yield. One of the most important sources of mobilizing funds for development is by issuing bonds. Bonds are "I Owe You's," generally called IOUs (debt) that are issued by the Federal and Municipal governments, and corporations to mobilize funds to manage infrastructural development.

Bonds are issued in tenors (maturities) of three, five, ten, and twenty years long. A bond is a debt instrument that must be paid back with interest at a future date by the issuer or borrower. When a borrower issues a bond, they

must price it with a coupon rate based on the prevailing interest set by the CBN's monetary policy rates. In the case of a municipal government, the rating of the municipality also factors in the interest rate pricing of the bond. The longer the tenor of the bond the higher price (interest) the lenders of money to the borrower expect to be paid and vice versa for the shorter maturities. The borrower pays the lender periodic interest, usually every six months, on the bond until the bond matures and at that time, the final interest and principal are paid back to the lender. In reality, no lender (bond investor) of money to the bond issuer (borrower) wants or expects to hold the bonds they have bought for the entire duration to maturity, regardless of how short the tenor is.

Bond trading becomes an important capital market. Since the bond market is very sensitive to interest rates (the main determinant for prices and yields on bonds) and other economic management factors such as inflation, unemployment, and economic growth the CBN's policy plays a significant impact on the stability of the bond market. Just as margin trading is important in equity investing, repos are the life line of bond traders. High level of public debt discourages investment (both domestic and foreign) as well as slows down accumulation of physical capital. There are so many empirical studies had analysed the linkage between public debt and economic development (Anyanwu, 1994; Akujuobi, 2012; Emmanuel, 2012; Erhieyovwe & Onovwoakpoma, 2013; Udoka & Anyingang, 2010). Based on the previous research, the author suggests there should be research to examine the influence of public debt on capital market.

In theory, the size and composition of government debt influence the financial sector both directly and indirectly. The direction of impact is however ambiguous depending on the nature of government debt and the level of economic development. The emergence of local financial markets boosts domestic public debt thus lowering government borrowing costs (Özkan et al., 2010). However, the effect of public debt on the financial system is more complicated. On the one hand, the government bond sector plays a fundamental role in the development of local securities markets. Namely, the government bond is a safe asset for banks in many developing and transition countries which have observed low financial intermediation (Kumhof & Tanner, 2005). The safety of government bonds facilitates financial development by serving to reduce risk for domestic banks. Domestic banks and institutional investors mostly prefer government bonds because of providing a regular flow of earnings, privileged treatment and offering high liquidity. Nigeria's capital markets lack the liquidity needed for a sustainable bond market that can fund growth and development in the public and private sectors. This is a proposal to remedy market illiquidity and provide solution recommendations. The economic environment in Nigeria is sophisticated and suitable to create a sustainable vibrant bond market that can be vital in economic development. The success of the bond market depends on the collaboration between the market operators and financial institutions including the Central Bank of Nigeria (CBN). The Municipal Securities Rulemaking Board (MSRB) , Debt Management Office (DMO), Securities and Exchange Commission (SEC), CBN, and the Nigerian Stock Exchange (NSE) must

ensure that regulated bond trading operations in a shadow and little understood repo market (repurchase agreements) is protected against illicit operations.

The clear problems of government borrowing include repayment of high interest, increase in taxes, and inflationary pressures among others. As public debt increases, the government would have to service the debt with the accumulated interest and principal including the difference in exchange rate over the period of time to those who hold the bonds. To raise funds, the government could adopt contractionary fiscal that means increase in taxes and limiting of government spending as a way to service the debt. This would lead to a decrease in disposable income, greater inefficiencies, and distortions of the population- which will cause people to experience lower standards of living. In some cases, the government could respond to the high levels of debt by printing more money. There are many studies on the effect of public debt, however, most of the studies focused on the relationship between public debt and economic growth. Therefore, this study examined the relationship between public debt and return on traded bonds in Nigeria.

LITERATURE REVIEW

Overview of Nigeria's Public Debt:

Nigeria's indebtedness dates back to pre-independence era. The debts incurred before 1978 were relatively small and mainly long-term loans from multilateral and official sources such as the World Bank and Nigeria's major trading partners. The loans were majorly obtained on soft terms and therefore did not constitute a burden to the economy. However, due to the fall in oil prices and oil receipts, the country in 1977/78 raised the first jumbo loan to the tune of US$1.0 billion from the international capital market. The loan was used to finance various medium to long-term infrastructural projects. Domestic debt management in Nigeria had hitherto been carried out by the CBN through the issuance of government instruments, such as the Nigerian Treasury Bills (NTBs); Nigerian Treasury Certificates; Federal Government Development Stocks; and Treasury Bonds.

The debt management strategy adopted at that time led to inefficiencies resulting in fundamental challenges. In consideration of these numerous difficulties, the government established an autonomous debt management office in order to achieve efficient debt management practices. The Debt Management Office (DMO) was thus established on October 4, 2000 to centrally co-ordinate the management of Nigeria's debt for all the tiers of government. While the state governments' external borrowing is guaranteed by the Federal Government (FG), their domestic borrowings required analysis and confirmation by the FG based on clear criteria and guidelines that the states can repay based on their monthly allocations from the Federation Account Allocation Committee (FAAC) and internally generated revenue (IGR).

The past couple of decades have witnessed rising concern on the increase in Nigeria's public debt. The first most significant rise in Nigeria's public debt occurred in 1987 when the total debt rose by 96.9 per cent to N137.58

billion. From then, the rise in Nigeria's public debt continued unabated such that as at 2004, total public debt stood at N6,188.03 million. In 1986, total debt which was hitherto driven largely by the domestic debt witnessed a reversal and was being driven by the external debt. Thus, the dominance of the external debt as well as the steady rise in total debt remained till 2005 when the country was granted debt pardon by the Paris Club. The debt forgiveness saw Nigeria's total debt and external debt plummeting by 59.0 per cent and 90.8 per cent, respectively between 2004 and 2006 to N2,533.47 billion and N451.5 billion. Incidentally, as external debt shrunk, domestic debt continued to grow unabated such that by 2011, total debt which was being driven by the domestic debt had exceeded the 2004 level and stood at N6,519.65 billion. By 2012, Nigeria's total debt had hit an all-time high of N7,564.4 billion. Between 2006 and 2012, the domestic debt had accounted for 82.2 to 87.2 per cent of the total debt.

Current debates on fiscal consolidation emphasized the crucial role of prudential limits on public debt-to-GDP ratios. A debt-to-GDP ratio of 60 per cent is quite often noted as a prudential limit for developed countries, while for developing and emerging economies, a ratio of 30.0 per cent was maintained before 2008 and 40 per cent was being applied since 2009" (DMO, 2013). "However, these ratios are not sacrosanct as countries are encouraged to adapt different strategies to achieve fiscal consolidation" (IMF, 2011).

Nigeria's public debt was unsustainable between the periods of 1985-1995 and 1998-2004. While brief sustainability was enjoyed in 1996-1998, Nigeria's debt had been below the threshold since 2005. The sustainability of the former was due to astronomical increase in Gross Domestic Product (GDP) whereas that of the later could be attributable to both GDP growth and debt forgiveness. Though Nigeria's debt had remained sustainable since 2005, it is however noteworthy that both public debt and GDP had been on continuous rise. At 62.41 per cent, by end-2012 the bulk of Nigerian domestic debt was made up of Federal Government of Nigeria (FGN) bonds. This was followed by the treasury bills at 32.47 per cent.

Most of Nigeria's domestic debt which was mostly long-term in 2010 became more of shortterm, that is, they had maturity of less than one year. This led to increased debt service burden. As at end-2012, the Nigerian total public debt service / GDP ratio stood at 0.5 per cent. With the debt forgiveness in 2005, Nigerian foreign debt which was hitherto being driven by Paris Club was being dominated by the multilateral debt. The holding of the domestic debt which was mostly taken up by the CBN from 1981 to 2003 changed such that the Deposit Money Banks (DMBs) and the Non-Bank Public surpassed the CBN and became major players in the domestic debt market with the DMBs taking the lead.As stated by Oyejide (1985) Debt is the resource or money used in an organization that is not contributed by its owner and does not in any other way belong to them. It is a liability represented by a financial instrument or other formal equivalent. Public debt is the total money owed by the Government of a country to various creditors, institution, other and individuals' resident in and outside Nigeria.

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Domestic Debt

Ozurumba and Kanu (2014) define domestic debt as "a portion of a country's debt borrowed from within the confines of the country. These loans are usually obtained from the central bank of Nigeria, deposit money banks, discount houses and other non-bank financial houses. In Nigeria, domestic government debt is defined as debt instruments issued by the Federal government and denominated in local currency. In principle, State and Local governments can also issue debt, but they are still limited in their ability to issue debt instruments. Therefore, government domestic debt refers to debt instruments issued by the federal government, and does not include contractor debts and supplier credit by the government. It therefore consists of:

i. Nigerian Treasury Bills
ii. Nigerian Treasury Certificates
iii. Federal Government Development Stocks
iv. Treasury Bonds
v. Ways and Means Advances

Out of these, treasury bills, treasury certificates and development stocks are marketable and negotiable, while treasury bonds, ways and means advances are not marketable, but held solely by the CBN. Of the three marketable government debt instruments, only treasury bills are currently traded in the money market, since treasury certificates was discontinued in 1996. Development stocks are traded in the capital market, but since1987, the federal government has not issued any new development stock.

The beginning of the existing market for domestic government debt in Nigeria is the financial reforms introduced by the colonial government in 1958. These reforms saw to the creation of the Central Bank of Nigeria (CBN) and the creation of marketable public securities to finance fiscal deficits. According to paragraph 35 of the CBN ordinance 1958: "The Bank shall be entrusted with the issue and management of federal government loans publicly issued in Nigeria, upon such terms and conditions as may be agreed between the federal government and the Bank"

Structure of Domestic Debt in Nigeria

Domestic government debt instruments play an important role in any economy, as they provide economic agents with alternative options to banking for allocating their savings accordingly. It is a key part of the collateral used in financial markets and as such plays an important role in monetary policy implementation. Significant changes in the size, structure and composition of government debt instruments may influence financial stability. In order to maintain financial stability, it is therefore important to monitor the structure, characteristics and the level of risk inherent in the debt portfolio. Reliable statistics on the composition, investor's base and maturity structure is

necessary to assess these risks. In this section, we shall analyse the structure and characteristics of domestic government debt portfolio in Nigeria.

Composition

Treasury Bills constitute the main component of the outstanding stock of government debt accounting for 77.4 percent of total domestic debt in 1960, declining to 51 percent by 1970 but climbing up to 62 percent in 2003. The decline in the percentage share of treasury bills in the mid 1970's was as a result of the decision not to issue new treasury bills because of the boost in government revenue in the mid 1970's as revenue from the oil sector improved substantially (Okunrounmu, 1992). As soon as there was a decline in revenue from this source, government reliance on credit from the CBN through the issue of treasury bills resumed as from 1981.

The growth in the level of treasury bills also reflected the practice of rollover of maturing securities and continuous recourse to conversion of ways and mean advances outstanding at the end of the year to treasury bills as a way of funding the fiscal deficit. Treasury certificates, which were first issued in 1968, constituted one of the largest securities between 1983 and 1988. It even surpassed treasury bills between the period 1976-1980. It was first issued to further deepen the domestic money market by increasing short-term investment options available. In 1995, the federal government decided to convert treasury certificates outstanding to non- tradable treasury bonds in an attempt to further reduce its debt service obligations on domestic debt. Treasury certificates were therefore abolished in 1996.

Reason for Rising Domestic Debt Profile in Nigeria

Theoretically, there are three reason often advanced for government domestic debt (Alison et al 2003). The first, is for budget deficit financing, the second is for implementing monetary policy and the third, is to develop the financial sector (supplying tradable financial instrument so as to deepen the financial markets) In Nigeria, several factors have been advanced to explain the changing domestic debt profile between the 1960s and now (see Odozi 1996, Rapu, 2003). The major factor include: high budget deficits, low output growth, large expenditure growth, high inflation rate and narrow revenue base witnessed since the 1980s. The fiscal operation of the federal government resulted in large deficit averaging 1.93 percent of GDP between 1994 and 2008. From an average deficit of 1.56 percent of GDP for the period 1994-1979, it increased on average to 3.35 percent in 1999-2003 and then reduced to 0.86 percent of GDP in 2004-2008. A very remarkable feature of the government fiscal expansion was the financing of the excess expenditure from domestic debt averaging 114.98 percent of bank deposit between 1994 and 2008.

Cross country relationship between fiscal deficits (as a percentage of GDP) and the size of government debt markets confirms that countries with large fiscal deficits have issued more government securities in domestic markets (Mihaljek et al 2002). Generally, declines in government revenue were met by borrowing from the central

bank through the instrument of ways and means advances. These advances were never defrayed by the federal government but refinanced by the flotation of new treasury bills and treasury bonds to pay holders of maturing debt instruments thereby contributing to the continued growth of the debt stock, (Adofu et al 2010)

Macroeconomic Effect of Domestic Debt Large internal domestic debt tends to crowd out private investment

The process of crowding out arises from the fact that once the government borrows heavily from the domestic market, a shortage of loan able fund arises forcing interest rate up which is the situation. Between 1994 and 2003, a period of large deficit financing, interest rate was an average of 23.05 percent but between 2004 and 2008, a period of low deficit financing and lower debt ratio, interest on the average reduced to 19.23 percent.

High rate of poverty

The welfare implication of domestic debt is the unemployment rate increase due to the closure of industries and decline in government finance on social service, infrastructure service since most part of government revenue is used to service the debt. The resultant effect of all these is the rate of poverty continues to rise in the country, (Olukole, 1991). For instance, in 1996 a period of high debt ratio, the poverty line was 65.6 percent whereas in 2004, a period of reducing debt ratio, the poverty line reduced to 54.4 percent, though it further increased to 63 percent in 2009(NBOS, 2009)

Internal debt may aid government development program if the government sells bonds and development stocks to members of the public to finance its capital expenditure thereby pulling out funds out of personal and corporate income which is effectively utilize in infrastructural projects which by a multiplier effect facilitate generation of a multiple of that income leading to economic growth. It is this situation that commends the switch from overtly preponderance of short-term debt instruments in the 1990s to long term debt instruments from 2006.

Investor Base

An important component of debt management is to stimulate a diverse investor base and develop instruments, trading facilitation and distribution network that best suits the needs of the invertors (IMF, 2001), In fact, it is crucial to have a diversified investor base in term of time horizon, risk preference and trading motives, especially for fixed income securities (Sidaou 2003). This will help ensure high liquidity and a satisfactory demand.

Non-bank holders comprise a wide range of both private and public institutions as well as individual investors, including insurance companies, saving type institution, state and local government etc. Between I994 and 2003, CBN holding of domestic debt averaged 67.92%, while Deposit Bank holding averaged 19.11% and non-bank holding averaged 12.03%. This situation changed between 2003 and 2009 as CBN holding plummeted to an average of 18.56% and that of Deposit Money Bank skyrocketed to an average of 52.52% and that of non-bank public holdings of debt instrument averaged 27.45%. The situation where CBN holds more than 50 percent of

debt instruments is a reflection of a shallow market with elements of financial repression and therefore a more active participation of the banks and non-banks from 2003 is indicative of increase in depth, breath and liberalization which should improve the effectiveness of monetary policy. However, policies should be initiated to make the market more attractive for non-bank public as the large pool of fund with the pension managers could find a safe haven in the domestic debt market.

External Debt

External debt as that portion of a country's debt that is acquired from foreign sources such as foreign corporations, government or financial institutions, it is that part of the total debt of a country that is owed to creditors outside the country. The debtors can be the government, corporations or private households (Abula et al, 2016). Nigeria is reported to have incurred her first official external debt, when she borrowed the sum of US$28million from the World Bank in 1958 for her railway lines extension programme. As the foreign exchange positions of the country worsened during the era of the international monetary crisis of the 1970s and the 1980s Nigeria had no other options than to obtain trade credits and medium-long-term capital from the world money and capital markets to proceeds with her development programmes. The foreign exchange problems of the Nigerian economy can be traced to 1964, when Nigeria's balance of payments position began to flash warning signals in the current account. This led CBN, for the first time into imposing qualitative and quantitative import restrictive measures in order to conserve foreign exchange (Onoh, 2007).

The adverse balance of payments position was worsened by the Nigerian-Biafra war, which lasted from July 1967 to January, 1970. During the war period exports of palm produce and crude oil, the major export products of the war-torn area were drastically reduced. As the balance of payments worsened, so also did the external reserves position. Reserves were partly applied to support normal imports and partly to finance the importation of arms. The depletion of the foreign exchange reserves coupled with the abolition of the convertibility of the Nigerian currency by Decree No. 51 of 1968, shook international confidence in the Nigerian economy and the currency. By 1968, the external reserve level of 1960 had dropped to 1/3. With the abolition of the convertibility of the Nigerian currency, international payments were settled at the CBN level only and deferred payments were imposed on all imports.

Debt Burden Indicators

The burden of a country's external debt may not be easily discernible until the total arrears of debts outstanding (principal + interest) are calculated and presented in ratio forms. To obtain a clearer picture of Nigeria's external debt burden the following conventional ratios have been computed from the relevant statistics of CBN's publications (Okereke, 2003). The ratios are:

i. Debt service/export receipts;

ii. Debt stock/export receipts; and
iii. Debt stock/GDP.

Ratio of Debt Service to Export- Receipts

It is the ratio of matured debt or debt-service payment due for a given year to the export earnings or receipts of the same year. Service payment of a given year is the sum of the matured principal sum plus the accrued interest due. The magnitude of the export earnings of a given year determines how high or how low the debt-service ratio of a country will likely be, by a given debt service payment of the same year. The repayment of the principal loan and the accrued interest is an important international obligation of a debtor country. It is, however, possible to defer the matured debt, if a moratorium or a rescheduling agreement is reached with the creditor country. Any debt not rescheduled on due date or after the period of grace is deemed to be in default. A default could have international repercussion. International confidence in the debtor country's ability to discharge her international obligations becomes eroded and the prospects of the debtor country securing future loans or credit lines become jeopardized. The World Bank recommends a debt-service ratio of not more than 10% for public debts, which take precedent over private debts. The precedent of the public debt owed to the Paris Club of creditors over private debt owed to the London Club is reiterated by the modus operandi led down for debt negotiation. Debtor countries must first negotiate with the London Club of short-term creditors. Unless a rescheduling agreement was reached with the London Club the official Paris Club of medium/long-term creditors will not reschedule or negotiate with the debtor country.

Ratio of Debt Stock to Export

The ratio measures the outstanding debt stock of a given year as a percentage of the export receipts of the same year. It is important to note that debt stock of a given year is many folds greater than debt service payment of the same year. The ratios for the period 1983-2011, are significantly high and suggest that the outstanding debt stock of each year could 'swallow' the export proceeds of the same year several times. In order words if the export receipts for each year in the period, 1983-2005 were to be applied in full to retire the outstanding debt stock of the same year in question then the export will be grossly inadequate.

Return on Traded Bonds

According to this theory, a rising term structure of rates means the market is expecting short-term rates to increase. So, if the two-year rate is higher than the one-year rate, rates should rise. If the curve is flat, the market is expecting that short-term rates will remain low or hold constant in the future. A declining rate-term structure indicates the market believes that rates will continue to decline. Under this theory, the curve starts to get a little bit more bent. With an upward sloping yield curve, this theory really has no opinion as to where the yield curve is headed. It could continue to be upward sloping, flat, or declining, but the yield premium will increase fast enough to continue

to produce an upward curve with no concerns about short-term interest rates. When it comes to a flat or declining term structure of rates, this suggests that rates will continue to decline in the short end of the curve given the theory's prediction that the yield premium will continue to increase with maturity. Under this theory, any type of yield curve can occur, ranging from a positive slope to an inverted one, as well as a humped curve. A humped curve is where the yields in the middle of the curve are higher than the short and long ends of the curve. The future shape of the curve is going to be based on where the investors are most comfortable and not where the market expects yields to go in the future.

Bond Market

The concept of bond and bond market Bond is a financial debt instrument (Ogilo, 2014). A borrower issues bond as an issuer; with the financial obligation to pay back to the lender both the amount borrowed and interest with a defined time frame. The lender is regarded as the investor. As a lender (investor) he buys the bond from the issuer. Therefore, in a general simple market notion the bond issuer is the seller while the lender is the buyer. SEC (2010) specifically opines that a bond is: a generic name for a tradable loan security issued by governments and companies as a means of raising capital. The bond is an interest-bearing security. It guarantees its holder both repayment of capital at a future specified date (Maturity date) and a fixed rate of interest also known as the coupon. On the other hand, bond market is interpreted as the environment where the issuance, buying and selling of financial debt securities take place (Ogilo, 2014). The bond market is alternatively called debt market in financial terminology.

According to Securities Industry and Financial Market Association, SIFMA (2011) bond market could also be described as a component of financial market where participants can issue new debt securities (regarded as the "primary market") or buy and sell an existing debt securities known as secondary market. In light of the above, it is perhaps unarguable that the overall goal of bond is the provision of a mechanism for long term funding of public and private investments and expenditures. The maturity period of bond market instruments ranges from 6 years to a maximum of thirty years depending on the type of the instruments. A typical bond market is composed of international bonds and domestic bonds. While the domestic bond market is made up of the government bonds, corporate bonds and municipal bonds, the Eurobonds and other global bonds makes up the international bonds (Ogilo, 2014).

Nigeria Bond Market

Bonds are fixed income financial instruments issued by governments or private corporations for the purpose of raising capital to finance projects. In essence, when an investor buys a bond, he is loaning money at predetermined interest rate to the borrowing institution. Generally, there are two categories of bonds - government bonds and corporate bonds. Governments issue bonds to fund government programs and/or meet its budget deficit. Because

these bonds are backed by the government, they pay a fixed amount of interest and are, therefore, virtually risk free. Government bonds usually mature in 1 to 50 years. In some cases, interest earned is non-taxable (Okumagba, 2006). Corporate bonds are issued by business firms to raise capital and they carry higher risks than government bonds and therefore attract higher interest.

A bond market is a market in which debt instruments known as bonds are issued to raise funds, and where such instruments are traded before their maturity. In a capital market, the segment where bonds are issued and traded is generally termed as the debt market (ADP, 2000). As with most other markets, bond markets comprise primary and secondary markets. The primary market enables borrowers to raise funds by issuing securities to investors, while the secondary market provides investors with the ability to restructure their investments by altering the mix, maturity or level of holding. A crucial role of bond market is therefore to bring issuers and investors together and to facilitate the progress of generating a continuous flow of long-term funds at the right price (Okumagba, 2006). Following the commencement of trading in the secondary market of FGN Bonds to create and develop a vibrant and liquid bonds market in Nigeria and the licensing of the Primary Dealers and Market Markers (PDMMs), to provide underwriting capacities for the Bonds, the FGN Bonds market in Nigeria witnessed a major growth in all its parameters. The DMO, on behalf of the FG offered a total of N592 billion worth of FGN Bonds in 2007 up by 47.03% from a total of N402.65 billion offered in 2006. The total subscription was NL, 167.14 billion, up by 50.48% from N775.59billion subscribed in 2006. The subscription level in 2007 at 197.15% was 4.49% higher that the subscription level of 192.66% recorded in 2006. The total amount of Bonds sold in 2007 at N592billion increased by 33.12% over the N444.72billion sold in 2006 (SEC, 2007).

Debt Overhang Theory

This theory originated from Krugman (1988) who argued that "debt overhang" is a situation where a country's expected external debt payment capacity falls below the contractual debt value. According to Cohen"s (1993) theoretical model, foreign borrowing has a nonlinear impact on investment and this is supported by Clements et al., (2003) who purports that this association could arguably be extended to growth. Thus, foreign debt accumulation promotes investment up to a certain level after which debt overhang will begin injecting negative pressure on the willingness of the investor to make capital contributions. Similarly, the model proposed by Aschauer (2000) demonstrates a nonlinear effect of public capital on economic growth which could be extended to cover the effect of public debt. If the government debt is partly in financing productive public capital, increasing debt would bring positive outcomes up to a certain level where negative effects begin to emerge.

The recent development of fiscal crises database has highly triggered the emergence of public debt overhang in recent years. This database was advanced by Reinhart et al., (2012) and before it was developed, no one knew that economic growth is affected by balance of public debt. For instance, Sala-i-Martin and Barro (1995)

demonstrated empirically that the government consumption to GDP ratio negatively influences per capital GDP. The impact of the amount of public debt was however not identified. Moreover, Fischer (1991) demonstrated empirically that a fiscal deficit negatively influences per-capita GDP but failed to confirm whether per capital GDP is affected by the amount of public debt (Kobayashi, 2015). This theory is relevant to the study as it recognizes the effect of public debt on economic development and in essence financial development. If this theory was to apply, domestic public borrowing would affect financial development positively but beyond a certain level the impact would change to a negative one.

Keynesian Theory of Public Debt

This is a macroeconomic model developed by Keynes (1936) that is based on the Keynesian economics principles that is used in identification of equilibrium levels, analysis of disruptions and aggregation of incomes and production (King, 1993). According to this model, the aggregated equilibrium of production and income fall at the intersection of the aggregate expenditure line at 45-degree line. There are there three versions of Keynesian model. This categorization is done based on the number of macroeconomic sectors included which are two sector, three-sector, and four sector respectively. This model is also presented in the form of leakages and injections apart 14 from the standard aggregate expenditures format. The Keynesian model is used in the analysis of many vital topics and issues, including business cycles, multipliers, monetary policy and fiscal policy. Keynesian Model came about as a result of the Great Depression (1929-1939). Economist John Maynard Keynes noted that the economy was always operating below its maximum potential. Massive unemployment was witnessed during ring the Great Depression with many businesses failing and thus the economy was not at full employment. The Keynesian Model was first pioneered by Keynes (1936). This model argues that Public Debt is not associated with any form of real burden and it has no effect on Economic Growth (Metwally & Tamaschke, 1994). The real burden during the period of expenditure execution: that's during consumption the consumption of real resources. Internal public debt is debt we owe to ourselves.

Empirical Review

Ekong, Effiong and Inyang (2021) examined the linkages between public borrowing and the growth in productivity. The Cobb-Douglas production function modified to include debt accumulation and other variables – broad money supply, inflation rate, exchange rate, trade openness, and interest rate – was used to achieve the objectives. The data covering 1981 to 2019 were analyzed using the unit root test, Autoregressive Distributed Lag bounds test for cointegration, and the error correction model and threshold regression. Findings from the study revealed that both domestic and foreign borrowings exhibit negative effect on growth of the Nigerian economy in the short-term and in the long-term, thereby suggesting a crowding out effect of debt on the economy.

Nzeh (2020) investigated public debt and economic growth in Nigeria using annual data spanning a period of 1981-2018 and under the framework of Autoregressive Distributed Lag (ARDL) bounds technique, the results of findings revealed that public debt contributes to the growth of the economy both in the short-run and in the long-run. The study also found the optimal threshold level of debt to be 40.2% in both the long-run and short-run. Also finding revealed that while trade openness contributes to GDP positively, both inflation and fiscal deficit adversely affect GDP.

Didia and Ayokunle (2020) examined the impact of public and publicly guaranteed debt on the economic growth of Nigeria. The study disaggregates total public and publicly guaranteed debt into external debt and domestic debt, and examines whether the two kinds of debt have differential impact on economic growth in Nigeria. Utilizing data from the Central Bank of Nigeria, and the World Bank analysis using the Vector Error Correction Model (VECM) and covering 1980 – 2016, revealed that domestic debt has a statistically significant positive relationship with economic growth in the long run while external debt exhibiting a negative relationship with economic growth was not statistically significant. As a policy recommendation from this study, the Federal Government of Nigeria may want to start paying more attention to the mix of domestic debt and external debt in Nigeria's loan portfolio.

Ehikioya, Omankhanlen, Osuma and Inua, (2020) examined the relations between public external debt and economic growth in African countries. The paper used the Johansen Cointegration test and system Generalized Method of Moments (sysGMM) to examine the dynamic relations between external debt and economic growth in 43 African countries over the period 2001–2018. The study used data from World Development Indicators (WDI) as published by the World Bank and the World Economic Outlook database as provided by the International Monetary Finance (IMF). The study provides an understanding of how the importance of external debt could be short-lived due to its misapplication. The result reveals evidence to support a long run equilibrium relationship between external debt and economic growth in Africa. The result demonstrates that beyond a specific capacity, the short-run converges to equilibrium in the long run and external debt would start to have a deteriorating impact on economic growth in Africa. The findings of this study reinforce the need for policymakers to ensure proper application of external debt on economic activities that would lead to sustained long-term economic performance. Moreover, the government and development partners must put in place a monitoring mechanism to ensure the efficient use of borrowed funds.

Olusegun, Olufemi, Olubunmi, (2020) investigated the impact of public debt on economic growth in Nigeria between 1981 and 2018 using ARDLECM estimation technique. The variables used in the study were tested for stationarity using the Augmented Dickey Fuller. The result revealed that EDS, DDS, FDI and GOVE were stationary at first differencing while GDPGR was stationary at level. The study revealed that external debt and

foreign direct investment positively affect economic growth while domestic debt and government expenditure hinders economic growth in Nigeria. The error correction model coefficient which is -0.969 means that nearly 96.9 percent of any disequilibrium in economic growth is corrected by the external debt, domestic debt, foreign direct investment and government expenditure within one period (one year), the study recommends that the country can borrow from external sources when the need arise, however, caution should be taken to avoid putting the country into debt crises. Also, government should reconsider her spending structure to favour infrastructure development which would motivate both local and foreign investors to invest and in turn enhance economic growth. Lastly, government and policy makers should formulate policies that would attract foreign investors and provide enabling environment vis-à-vis security of lives and properties

Hussain (2019) explored the association between government expenditure and private investment in the long run and the results revealed that current government expenditures such as debt defense and debt servicing are the main cause of reduction in private investment and government expenditures which are used for development. The development expenditures facilitate health and education. Time series of between the time span 1975-2008 in Pakistan was used and the Johansen co integration technique was used.

Rousseau and Demetriades (2010) examined the impact of government spending on England's financial development from 1960-2010. The analysis was spread over 84 countries and noted that government borrowing deters financial development in the short run. Furthermore, government borrowing is also crowded out by financial development. They concluded that in the long run, crowding in is highly vital for financial development. They also argued that countries with low income fail to show how financial development is increased by government spending.

Mun and Ismail (2015) examined the relationship between public domestic borrowing and financial development in Malaysia. Time series data was collected for 30 years on 21 an annual basis between 1980 and 2010. Autoregressive-Distributed Lag regression model was used for analysis purposes. Private to credit sector as a percentage of GDP was used to measure financial development while bank credit to government was used to represent government domestic borrowing. The results indicate that public domestic borrowing over time has a negative effect on financial development. Credit out effect was the reason given for the negative causation between the two study variables.

Khalfaoui (2015) undertook a study to identify the main determinants of financial development in growing economies. The findings identified institutional variables (financial and banking sector) and the degree of human and economic development as the core determinants while the core determinants of financial development in growing nations were identified as legal framework, economic stability and other components of the institutional framework. Financial development was measured using the level of lending advanced to the private sector while

the variables employed for banking and financial sector included financial structure, inflation, nonperforming loans, broad money, legal framework, market capitalization, trade openness, index for credit information and current account deficit.

Harmon (2012) examined the effect of public debt on GDP growth, inflation and interest rates in Kenya. The study period was from 1996-2011, secondary data was collected for the study. Using 3 linear regression models the study established between public debt and the inflation existence of a weak positive relationship. For the public debt and interest rate, the study established a strong negative association. The study concluded that there were various relationships evidenced by some 22 variables showing a strong relationship like public debt and interest rates, while others showed a weak connection in the case of public debt and GDP and inflation.

Waiyaki (2013) examined how financial development and economic growth contribute to poverty eradication in Kenya between the time span 1997-2012. The study's aim was to establish the association between financial development and economic growth and how economic growth is influenced by financial development in the Kenyan banking industry. The main variables were credit to private sector, broad money supply M3, bank deposits, stock market turnover, volume of stocks traded and stock market capitalization. The OLS technique falling under PARCH model. The results reveal that financial development variables including M3 and private sector credit lending don't result in growth while bank deposits were profitable across the period.

Onuonga (2014) investigated the relationship between currency related developments and Kenya's financial development between the time frame 1980– 2011. The improvements related with money were ascertained using M2 and the substantial credits awarded to the private sector. Both Granger causality examination and autoregressive disseminated slack structure were used to establish the extent of the relationship. The findings revealed that a sustainable long-run relationship exists between, exchange sincerity, monetary developments and budgetary growth in Kenya. It was concluded from the study that there is a strong connection between fiscal expansion and economic growth in the country. The research findings implied that that financial extension and expansion of fiscal policies accelerated economic growth in Kenya.

Aduda, Murayi and Chogii (2014) examined the effect of capital market development on Kenya"s financial development. The study aimed at establishing the influence of extension of money related improvements by the Capital Market in Kenya. The exploration proposed five autonomous effects for extension of money by capital market extending and one factor for financial development. The study recommended that three out of the cited factors had a positive association with GDP and was therefore an asset showcase depicting a major impact on Kenya's monetary advancement. The discoveries were however rather unfulfilling and linking them with previous studies resulted to financial improvement. The scrutiny depicted a strong association between financial advancement injections of funds into the capital markets for potential investors. Mogaka (2017) explored the

impact of domestic public debt on financial market development in the EAC Countries. The study used secondary data collected from World Bank website, Central banks websites, national treasuries and the Kenya Bureau of Statistics. The data was collected for period of 10 years (2007 to 2016). Descriptive research design was used in the study. The findings revealed that domestic public debt had a significant effect on the financial market development of the East Africa Countries.

Amani (2018) examine the impact of government debt on macroeconomic indicators: evidence from G7 and ASEAN countries. The aim was to investigate the impact of government debt on certain macroeconomic and wellbeing indicators in a group of industrialized and developing countries. The results of empirical analysis of correlation indicated a positive relationship between government debt and macroeconomic indicator (GDP per capita) in G7 countries while government debt of ASEAN countries has a negative impact on macro-economic and wellbeing indicators. Cristiana and Philipp (2010) carried out an investigation into the impact of high and growing government debt on economic growth: An empirical investigation for the Euro area. The study investigated the average impact of government debt on per capita GDP growth in twelve (12) Euro area countries over a period of 40 years starting from 1970. Findings revealed a non-linear impact of debt on growth with a turning point beyond which the government debt to GDP ratio has a deleterious impact on long term growth.

Robert (2014) conducted a study on the impact of domestic public debt on private investment in Kenya. Data on domestic debt, GDP, interest rates and private investment of the country for the period 1967-2007 were obtained. Results of unit root test revealed that GDP growth has induced private investment in the countries. Nur, Shafinar and abdul (2019) did a review on whether or not public debt affects economic growth. The aim was to ascertain whether there exists mutual consensus on the effects of public debt on the economic growth of a country of group of economies. A systematic review on related articles from scopus data base was conducted. A standard procedure in the preferred reporting items for systematic review and Meta-analysis adopted. Thirty-three (33) articles were chosen and reviewed. It was found that there is no mutual Conesus on the relationship between public debt and economic growth.

Naeem (2011) examined the impact of public debt on the economic growth of Pakistan. The purpose was to investigate the consequences of public debt on economic growth and investment in Pakistan for the period 1972-2009. Hybrid model was developed that explicitly incorporates the role of public debt in growth equations. Auto Regressive Distributed Lad (ARDL) technique was applied to estimate the model. It was revealed that public external debt has negative relationship with per capital GDP and investment conforming to the existence of debt overhang effect. It was also found that domestic debt has negative relationship with investment and per capita GDP.

Ogege and Ekpudu (2010) conducted a study on the effects of debt burden on the Nigerian economy. The purpose was to ascertain the effect of debt burden on the growth of the country's economy. Data for the study were obtained from the Central Bank of Nigeria (CBN) statistical bulletin. Ordinary Least Square (OLS) statistical tool was employed to test the relationship between debt burden and growth of Nigerian economy. Findings showed that there is a negative relationship between debt stock and economic growth implying that increase in debt stock of the nation will lead to decrease in the growth rate. Essien and Ndalo (2017) studied the impact of public debt burden in Nigeria. The aim was to examine the effects of government borrowing on the growth of the economy. Data on internal, external borrowing and GDP growth rate for five years (2014-2018) were obtained from the statistical bulletins of CBN, the National Bureau of statistics (NBS) and the Debt Management Office (DMO). The result of regression analysis revealed a negative impact of public debt on GDP growth rate.

Sylvester (2020) carried out a study on external debt and economic growth nexus: Empirical evidence from Nigeria. The aim was to examine the relationship between external debt and economic growth for policy analysis on public finance and public debt management. Data collected on the country's external debt and GDP growth rate were analyzed using root test and cointegration long run tests. The results showed that debt overhang variable and crowding out effect variable depress the level of investment affecting adversely, the economic growth of the country. Mobolaji, Salau and Ola (2018) in a study examined the impact of public borrowing on Nigeria's economy for the period 2010- 2016. The result obtained from regression analysis showed that public debt (borrowing) has negative impact on the economic growth of the country as the GDP growth rate indicated no significant improvement within the period considered.

Nbukwe and Kalu (2016) examined the relevance of public debt to economic growth in Nigeria. This is with a view to determining whether public debt has significantly impacted on the growth of the economy. Secondary data were sourced from the CBN, NBS and DMO on the nation's debt stock, GDP growth rate and employment and unemployment rates. The Generalized Least Square (GLS) regression method was employed on the panel model of analysis. Findings indicated that public borrowing has no significant impact on the growth of Nigeria's economy.

Musa and Tahir (2014) carried out a study for empirical evidence on the impact of public debt on the growth of Nigerian economy. The study examined the influence and impact of public debt on infrastructural development and GDP growth rate for the period 2007-2013. Evidence from review indicated that the impact of public debt on infrastructural development and GDP growth rate was not significant as the GDP of the country during the period showed a Zigzag/inconsistent growth pattern.

Abula and Ben (2016) studied the impact of public debt on economic development of Nigeria. The aim was to investigate the impact of public debt on economic growth in Nigeria. Using secondary sources, data were obtained

from annual time series spanning 1986-2014. The study employed Augmented Dickey-fuller test and Johansen co-integration test. Results revealed the presence of a long-run relationship among the variables viz: External debt stock, domestic debt stock, external debt servicing, domestic debt stock servicing and economic growth proxied with GDP per capita income in Nigeria. The ECM result revealed that external debt stock and external debt servicing have significant negative relationship with economic growth in Nigeria. However, domestic debt servicing has a direct significant relationship with economic growth in the country.

Oyetunde (2015) in a study examined the effect of public debt on the growth of Nigeria's economy. Using trend analysis for the period 2000-2014, data obtained on public debt stock and GDP growth rate were analyzed using Ordinary Least Square (OLS) regression method. The result of the analysis indicated that the impact of public debt on the GDP growth rate did not follow a particular pattern or trend of growth. Cordelia and Ogechi (2019) investigated the effect of foreign debt on the economic growth in Nigeria. Data for the study were obtained from the statistical bulletin of the WB and CBN for the period 1997-2017. The variables of the study were GDP, foreign debt stock, foreign debt servicing, inflation rate and exchange rate. While the nominal GDP represents the dependent variable, foreign debt stock inflation rate, exchange rate and foreign debt servicing were the explanatory variables. Results of analysis using OLS indicated that foreign debt exerted a significant negative influence/impact on economic growth of the country while foreign debt servicing showed a strong and significant positive impact on economic growth. Theoretical Framework The study is anchored on the classical/traditional theory of public debt pioneered by Adam Smith, Hume and David Ricardo in the 18th century. According to the classists, if government expenditure is financed through public borrowing, the present generation gets relieved from the cost and the burden is shifted to the future generation. The future generation suffers when the present generation reduces its savings in order to meet debt servicing obligation there by leaving a smaller amount of capital resources for the future. Reduction of savings of the present generation will amount to reduced inherited capital and productive capacity of which the future generation will stand to lose. The theory has three (3) key assumptions namely: (i) That public debt is more costly method of financing public expenditure than taxation (ii) That if the present generation does not reduce its consumption and increase its savings, the burden of public debt may pass on to the future generation and (iii) That Excess borrowing and mounting public debt by government may undermine the very credit worthiness of a nation and therefore, debt should be kept at the barest minimum and be offset as quickly as possible. The theory is quite relevant to this for the fact that one its critical assumptions meaningful to economic growth is warning to reduce consumption and increase savings. One of the numerous reasons for mounting public debt in Nigeria, is her propensity for consumption especially imported goods and services detrimental to saving, investment and growth (Khalil & Junaidu,2019).

Panagiotis (2018) empirically investigated the nexus between public borrowings and the determinants of economic growth such as private and government consumptions, investment, trade openness, and population growth in Greece through the applications of unit root tests, and auto-regressive distributed lag (ARDL) model. The unit root tests indicated mixed integration of order zero and order one among the variables. The results of the ARDL model revealed a long-run relationship between variables. It also showed that private and government consumption, investment and trade openness had positive effects on economic growth; while government borrowings and population growth had a negative impact on growth. The study also addresses the break effects issue between government borrowings and economic growth. The results indicated that the nexus between borrowings and growth depends on borrowings breaks. Particularly, at borrowings levels before 2000, increases in the government borrowings to-GDP ratio were associated with insignificant effects on economic growth. However, as the government borrowings rises after 2000, the effect on economic growth diminishes rapidly and the growth impacts become negative.

Literature Gaps

This empirical study is an extension of other studies carried out on the topic of public debt and economic growth across the globe including Nigeria. From the studies reviewed, huge gaps were discovered ranging from geography to wrong applications of analytical methods and time scopes. The studies associated with the geographical or location gaps include Panagiotis (2018), Alejandro and Ileana (2017), Traum and Yang (2010), Isaac and Rosa (2016), Precious (2015) etc.; most of which were carried out in the developed economies such as Greece, Mexico, United States, etc. Some other studies reviewed applied wrong methods of analysis which this study would correct to achieve accurate results at the end of this research. A few studies employed OLS in their analysis but failed to test for unit root. While others used cointegration test and VECM approach instead of ARDL model after achieving mixed order of integration at both level and first differencing. Abula and Ben (2016) utilized ECM instead of VECM when the study involves multiple regression analysis. Thus, the above gap this study examined the effect of public debt and return on traded bonds in Nigeria.

METHODOLOGY

The study is quantitative and data analysis is carried out using econometric method to find the relationship between public debt and return on traded bonds in Nigeria. In order to achieve comprehensive analysis, the dependent variable used was return on government development bonds and treasury bonds which is a proxy to measure return on government traded bonds. While the domestic debt stock and external debt stock is the independent variables used in the analysis. Secondary sources of data were used in this study. It was sourced from the Central Bank of Nigeria (CBN) Statistical Bulletins, the Debt Management Office (DMO) statistics, and National Bureau of Statistics (NBS). The variables for which data were sourced include: External Debt Stock and

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Domestic Debt Stock for the period 1990-2020. The study employed statistics and econometric tools to analyze the data. The statistics tools comprised of descriptive statistics, graphs and charts, while the econometrics tools include regression analysis.The method of ordinary least square (OLS) of econometric technique was used in the analysis. It was used to estimate the relationship between the dependent variable return on traded bonds and domestic debt stock and external debt stock, as the independent variables. This reason this method was chosen is because it is the best linear unbiased estimator (BLUE).

Model Specification

Model was formulated as follows:

RDB = F (EXD, DMD) (1)

RTB = F (EXD, DMD) (2)

The Above equation can be defined econometrically as below:

RDB = $\alpha o + \beta 1 EXD + \beta 2 DMD$ + ui …… (3)

RTB = $\alpha o + \beta 1 EXD + \beta 2 DMD$ + ui …… (4)

Where $\alpha o = constant, \beta 1 \; and \; \beta 2,$ = coefficient of the independent variables

RDB = Return on development bond

RDB = Return on Treasury bond

EXD = External Debt Stock DMD = Domestic Debt Stock ui = error term

ANALYSIS AND DISCUSSION OF FINDINGS

Table 1: Public Debt and Return on Traded Development Bond

Dependent Variable: RDB

Method: Least Squares

Date: 04/26/24 Time: 22:12

Sample (adjusted): 1990 2023

Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t- Statistic	Prob.
EXD	-2.440679	0.220500	-11.06884	0.0000
DMD	0.780261	0.135843	5.743827	0.0000
C	-0.276459	6.838674	-0.040426	0.9681

R-squared	0.865622	Mean dependent var	2.019643
Adjusted R-squared	0.854871	S.D. dependent var	94.94029
S.E. of regression	36.16822	Akaike info criterion	10.11520
Sum squared resid	32703.51	Schwarz criterion	10.25793
Log likelihood	-138.6127	Hannan-Quinn criter.	10.15883
F-statistic	80.52090	Durbin-Watson stat	2.193034
Prob(F-statistic)	0.000000		

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Source: extracted by research from E-view 9.0 2024

From the regression results, public debt explained 85.4 percent variation in return on government traded development bonds over the periods covered in this study. An empirical assessment of the model through f-statistic and probability found that the model is statistically significant as the value of f-probability is less than the critical value of 0.05. The Durbin Watson statistic justifies that the model is free from autocorrelation. The model estimated further found that external debt has negative effect on return on government traded development bond such that a unit increase reduces return on traded government development bond by 2.4 percent while domestic debt has positive and significant effect on return on traded government development bond such that a unit increase lead to 0.78 percent increase in return on traded government development debt.

Table 2: Public Debt and Return on Traded Treasury bond

Dependent Variable: RTD
Method: Least Squares
Date: 04/26/24 Time: 22:12
Sample (adjusted): 1990 2023
Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXD	0.026241	0.094813	0.276763	0.7838
DMD	0.580132	0.162250	3.575554	0.0012
C	0.006164	0.046133	0.133614	0.8946
R-squared		0.817492	Mean dependent var	0.011765
Adjusted R-squared		0.773459	S.D. dependent var	0.091336
S.E. of regression		0.077852	Akaike info criterion	-2.183909
Sum squared resid		0.187890	Schwarz criterion	-2.049230
Log likelihood		40.12645	Hannan-Quinn criter.	-2.137980
F-statistic		7.210356	Durbin-Watson stat	2.075485
Prob(F-statistic)		0.000683		

Source: extracted by research from E -view 9.0 2024

From the regression results, public debt explained 77.3percent variation in return on government traded treasury bonds over the periods covered in this study. An empirical assessment of the model through f-statistic and

probability found that the model is statistically significant as the value of f-probability is less than the critical value of 0.05. The Durbin Watson statistic also justifies that the model is free from autocorrelation. The model estimated further found that external debt has positive effect on return on government traded treasury bond such that a unit increase reduces return on traded government treasury bond by 0.2 percent while domestic debt has positive and significant effect on return on traded government treasury bond such that a unit increase lead to 0.58 percent increase in return on traded government treasury bond.

Discussion of Findings

The formulated model one found that 85.4 percent variation in return on government traded development bonds over the periods covered in this study. The model estimated further found that external debt has negative effect on return on government traded development bond such that a unit increase reduces return on traded government development bond by 2.4 percent while domestic debt has positive and significant effect on return on traded government development bond such that a unit increase lead to 0.78 percent increase in return on traded government development debt. The negative effect of external debt contradicts the a-priori expectations of the study while the positive effect of domestic debt confirms the expectations of the study. The positive effect of the variables confirm our a-priori expectations and in line with the expectation theory. It is empirically in line with the findings of Nwiado and Deekor (2013) the various relationships shows little or none relationship between domestic market participation in domestic bond market and liquidity in the domestic bond market, Olaniyan and Ekundayo (2020) that the value and the number of listed government bonds' positively and significantly affect capital market growth in Nigeria, Ogbebor, Ajibade, and Onoja, (2020) that Composite all share index and Treasury bills rate have no significant effect on economic growth of Nigeria, there is a significant effect of bonds market capitalization and Equities market capitalization on economic growth of Nigeria within the period under review, the findings of Pradhan, Arvin, Norman and Bahmani (2018) result from the panel Granger causality test is that bond market development, stock market development, inflation rate and real interest rate are demonstrable drivers of economic growth in the long run, Yener, Kun, Murat and Talat (2022) that there is a long-run cointegrating relationship between capital market development and economic growth and also a unidirectional causality running from capital market development to economic growth.

The formulated model two found that public debt explained 77.3percent variation in return on government traded treasury bonds over the periods covered in this study The model estimated further found that external debt have positive effect on return on government traded treasury bond such that a unit increase reduces return on traded government treasury bond by 0.2 percent while domestic debt have positive and significant effect on return on traded government treasury bond such that a unit increase lead to 0.58 percent increase in return on traded government treasury bond. It is empirically in line with the findings of Nwiado and Deekor (2013) the various

relationships shows little or none relationship between domestic market participation in domestic bond market and liquidity in the domestic bond market, Olaniyan and Ekundayo (2020) that the value and the number of listed government bonds' positively and significantly affect capital market growth in Nigeria, Ogbebor, Ajibade, and Onoja, (2020) that Composite all share index and Treasury bills rate have no significant effect on economic growth of Nigeria, there is a significant effect of bonds market capitalization and Equities market capitalization on economic growth of Nigeria within the period under review, the findings of Pradhan, Arvin, Norman and Bahmani (2018) result from the panel Granger causality test is that bond market development, stock market development, inflation rate and real interest rate are demonstrable drivers of economic growth in the long run, Yener, Kun, Murat and Talat (2022) that there is a long-run cointegrating relationship between capital market development and economic growth and also a unidirectional causality running from capital market development to economic growth.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study examined the effect of public debt on the return on traded bonds in Nigerian bond market using time series data from 1990-2023. Two regression models were formulated. Model one found that 85.4 percent variation in return on government traded development bonds over the periods covered in this study and further found that external debt have negative effect on return on government traded development bond such that a unit increase reduces return on traded government development bond by 2.4 percent while domestic debt have positive and significant effect on return on traded government development bond such that a unit increase lead to 0.78 percent increase in return on traded government development debt.

Model two found that 77.3percent variation in return on government traded treasury bonds over the periods covered in this study. The model estimated further found that external debt have positive effect on return on government traded treasury bond such that a unit increase reduces return on traded government treasury bond by 0.2 percent while domestic debt have positive and significant effect on return on traded government treasury bond such that a unit increase lead to 0.58 percent increase in return on traded government treasury bond.

The study concludes that domestic public debt has significant effect on the return on traded government development bonds in Nigeria. The study concludes that external public debt has significant effect on the return on traded government development bonds in Nigeria. The study concludes that domestic public debt has significant effect on the return on traded government treasury bonds in Nigeria. The study concludes that external public debt has no significant effect on the return on traded government treasury bonds in Nigeria.

Recommendations

Based on the findings from the analysis on the impact of public debt on return on traded bonds in Nigeria, the study offers the following recommendations:

1. Following the attained results, it is evident that external debt accumulated over the years in Nigeria has been unproductive or "dead-weight" debt because it exerted negative effects on the return on traded government development bond. This could be because of the fact that most of the borrowings before 2005 were mainly to finance trade deficits for consumable goods. Thus, it is recommended that further public borrowing should be tied to specified productive sectors of the economy that would affect positively on return on traded bonds.
2. The study recommends borrowing loans by the government domestically rather than externally because it is discovered to have a positive impact on return on traded bonds. Though carefulness should be put in place because the findings also reveal that domestic debt accumulation causes increase in inflation and crowding out effect of private investment.
3. Based on the findings that changes in domestic debt can lead to changes in the general it is recommended that government channels their expenditure on capital goods and infrastructure that could increase productivity rather than recurrent expenditure that potentially leads stability of the financial market that enhances return on traded bonds
4. Lastly, the government of Nigeria should increase their efforts in developing Nigeria financial market.

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