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*Research article*

# Boosting Nigeria's Bond Market: Evidence from Macroeconomic Perspective

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**ABSTRACT**

Macroeconomics and finance drive bond markets in developing countries, allowing governments to raise money for businesses and infrastructure. However, many factors in developing countries like Nigeria hinder the growth of the bond market. This study investigates a novel contribution by focusing exclusively on the Nigerian bond market and considering a set of macroeconomic drivers that have not been studied collectively. The study applies the Autoregressive Distributive Lag (ARDL) model to examine the short-run dynamics between key macrofinancial drivers and the Nigerian bond market. The findings show that an increase in fiscal deficit does not support the development of the bond market in Nigeria. Similar results are found for GDP per capita, inflation, interest rates, and banking scale; all negatively affect bond market development. However, domestic debt and stock market development positively promote bond market development. The policy implications offered from these findings are to redirect their spending to projects that have the potential to stimulate economic activities that help the government generate more revenue. Policymakers should also cut unnecessary spending on recurrent expenditure, which is a significant part by implementing efficient fiscal discipline.

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## 1. INTRODUCTION

The macroeconomic and financial factors play critical roles in developing bond markets in emerging economies like Nigeria. Financial markets promote economic development and growth (Phung Thanh, 2022). Bond market development in emerging nations is positively correlated with a variety of structural, financial, and institutional parameters (Yıldırım et al., 2020). In particular, bond markets provide an essential medium for long-term funding, allowing governments to raise funds for infrastructure projects and companies to fund expansion (Hossain et al., 2022). The bond market in developed economies is important for economic growth and the development of capital market infrastructure (Nkwede, 2020). However, the growth of bond markets in developing economies, Nigeria included, is not as promising as expected. Pradhan et al. (2020) opined that macro-financial variables like economic growth, inflation, interest rates, and trade openness will likely have a long-term impact on global bond market performance. In Africa, fiscal deficits and inflation impede development, whereas bank size, economic growth, and some corporate bonds positively impact development (Ekomabasi & Ekong, 2023; and Baita, 2024). Additionally, studies have shown that Nigeria's financial market has been in existence since the 1960s, yet its performance has been inconsistent, specifically relative to more developed markets. The bond market serves as a means for governments to raise funds for infrastructure projects and for companies to fund expansion (Hossain et al., 2022), Nigeria's bond market has not yet achieved these potentials.

Despite aforesaid challenges, the Nigerian bond market is crucial for the African economy as it serves as a blueprint for developing other African bond markets, making it an essential reference point for investors and fixed-income analysts (Omodero & Alege, 2021). It plays an important role in shaping the African economy through its impact on financial sector development, fiscal management, and regional integration (Musah et al., 2019). Therefore, enhancing the efficiency of Nigeria's bond market can improve financial integration within the African continent. Given the importance of the Nigerian financial market to the African economy, this research delves deeper into the Nigerian context by analyzing the short-run dynamics between key macro-financial drivers and the Nigerian bond market. This suggests that by improving understanding of the short-run dynamics, this work contributes to developing strategies that support stronger financial integration within the African economy which eventually encourages economic growth and financial stability. While prior research such as by Adeyemi et al. (2021); and Ogbonna & Onyia (2021) explored the broad connection between these factors and bond markets, it often lacks a granular understanding of short-run influences in individual developing economies. This gap can have a negative implication on investors and policymakers because they have an incomplete understanding of the immediate impacts of policy changes that may affect the bond market's performance. Analyzing the short-run dynamics helps policymakers understand how the bond markets respond to short-run fiscal and monetary policy changes. Therefore, this research contributes to the existing body of literature by studying the interrelationships between the Nigerian bond market and the macroeconomic variables, intending to understand how these factors affect the market performance while considering short-run and long-run dynamics. Furthermore, studying the interrelationships between the bond market and macroeconomic variables equips investors and policymakers with the knowledge and skills to analyze the financial market performance and mitigate risks attached to short-run economic fluctuations.

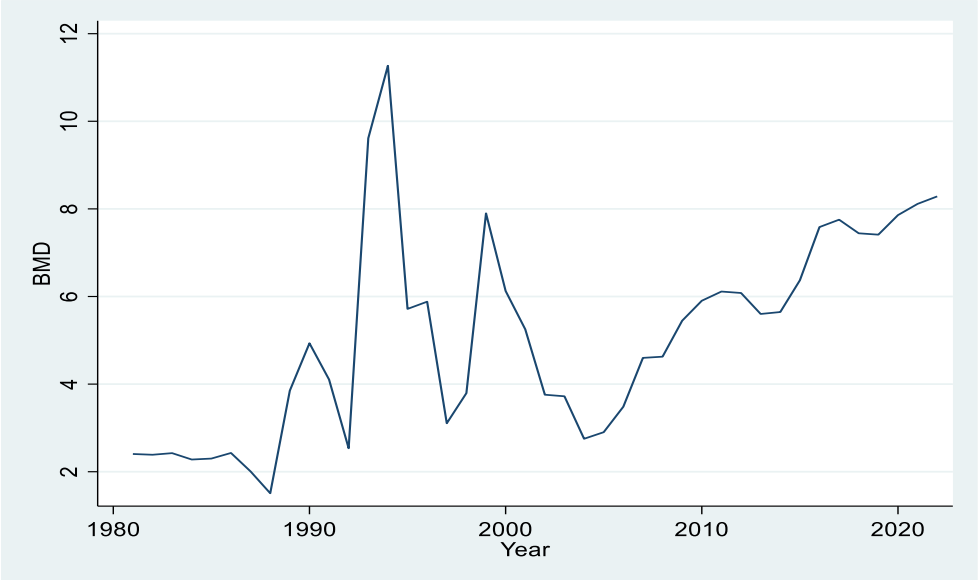


**Figure 1.** Nigeria's Bond Market Development (BMD) 1981-2023

Figure 1 is a line graph explaining Nigeria's bond market development (BMD) from 1981 to 2023. It highlights significant changes influenced by economic reforms, such as the 1986 Structural Adjustment Program (SAP), the transition from the military to the democratic government in late 1998, and the global financial crisis of 2008. The bond market performance has been on the increase due to policy reforms despite some minor fluctuations due to instability in global oil prices and the impact of COVID-19.

The development of bond markets can also be understood from a theoretical perspective. This study is specifically built upon the foundation of the McKinnon-Shaw hypothesis (Hassan et al., 1993). The McKinnon-Shaw hypothesis otherwise known as the financial development theory

argues that institutions and financial markets are important in promoting economic development through mobilizing funds that facilitate investments that ensure sustainable economic growth. The theory further highlights how macroeconomic variables like inflation, interest rates, and economic growth influence the performance of bond markets (Hassan et al., 1993).

Several works have been written on the dynamics of the bond market development across different contexts. For instance, Pradhan et al. (2020) examined the causality between the bond market and economic growth across the G20 economies and they found that stock and bond markets granger cause economic growth. In the African context, study by Taghizadeh-Hesary et al. (2022) used a case study approach to analyze the effectiveness of green bonds in some selected countries and the result showed that although the green bond market is at its earlier stage, these countries are using innovative ways of issuing these bonds. Countries such as Nigeria and South Africa green bonds have recorded tremendous success in providing energy-efficient infrastructures. Similarly, Ngwenya & Simatele (2020) reported that green bond markets positively impact the African economies, and they suggest implementation of public-private partnerships and an improved institutional framework to strengthen operations and market efficiency. A related study by Soumaré et al. (2021) showed that capital markets significantly influence economic activities in African countries.

In Africa, the study mostly focused on factors influencing bond market capitalization. Mu et al. (2013) examined corporate bond and government securities markets in Africa, and the findings show that interest rates and better institutions are directly related to the market capitalization of government securities, while exchange rate volatility, smaller fiscal deficits, current and capital account openness, and the spread of a higher interest rate are all inversely related to the government securities market capitalization. Ahwireng-Obeng & Ahwireng-Obeng (2019) investigated the macroeconomic determinants of sovereign bond market development in 26 African economies, and the results reveal that external debt, domestic debt, exports, inflation, GDP at PPP, and fiscal balance are the major microeconomic drivers of the sovereign bonds market development in emerging African economies. Similarly, Kodongo et al. (2023) examined the connection between bond market development and infrastructural gap reduction. The study attempted to establish how the bond market can be a useful tool in the reduction of Africa's infrastructure financing deficit, and the study found a significant negative and non-linear relationship between bond market development and infrastructural gap reduction. Additionally, the threshold analysis of the study establishes that for the countries in Sub-Saharan Africa (SSA) to significantly reduce their infrastructural financing gap, there must be substantial growth in the government bond and corporate bond markets.

From the Nigerian perspective, Omodero (2020) used secondary data from 1998-2018 to ascertain Nigeria's capital market determinants. The gross domestic product (GDP) was discovered to be a significant positive determinant of the capital market, whereas interest rate exerts an important but negative impact on the capital market. In addition, the study uncovered that the inflation rate and the exchange rate have negative influences. Study by Oke et al. (2021) found that the corporate bond and the value of the traded bonds significantly impacted the Nigerian economy. The government bond, on the other hand, depicts an insignificant positive impact, while the bond yield exhibits a negative effect on growth. Likewise, Baita (2024) reported that macroeconomic indicators such as inflation, market size, and interest rates are crucial in determining the performance of the bond market in Nigeria. In contrast, Adeyemi et al. (2021) in their study, they emphasized stock market liquidity over macroeconomic determinants in capital market development in Nigeria. Study by Ogbonna & Onyia (2021); and Nkwede (2020) stressed that macroeconomic variables, including exchange rates, inflation, and interest rates, negatively influence bond market performance in Nigeria

Despite these contributions, the literature presents mixed results on how macroeconomic factors affect bond market performance in Nigeria. This inconsistency complicates policy formulation and investment decisions. Additionally, critical variables like banking size and domestic debt are often overlooked, reducing the robustness of prior analyses. This study seeks to address these gaps by reexamining macroeconomic indicators and bond market performance in Nigeria,

incorporating neglected variables to provide a more comprehensive perspective.

The discussions from the literature we find mixed results regarding the macroeconomic indicator's role on the development of the bond market in Nigeria. These inconsistent results suggest that there is a significant gap in understanding how macroeconomic factors affect the bond market in Nigeria. These mixed results create problems in designing policies, as policymakers may find it difficult to design effective policies without a clear understanding of how macroeconomic drivers affect bond market development. This will also affect potential investors who are trying to make the best decision based on reliable economic data. Therefore, addressing these mixed results is important for clarifying the situation by finding the underlying causes of these discrepancies. Secondly, some important variables determining the bond market performance such as banking size and domestic debt are mostly ignored in the literature. Given the importance of banking size and domestic debt in understanding the risks, liquidity, and general stability of the bond market, omitting these variables from the previous studies affects the robustness and reliability of these studies. Therefore, this study seeks to address these gaps by reexamining the relationship between macroeconomic indicators and bond market performance in Nigeria. The rest of this paper is outlined as follows. Section 2 provides an extensive overview of the data, theoretical background, and methodology. Section 3 presents the findings derived from our empirical analysis. Section 4 set out conclusions and policy recommendations.

## 2. RESEARCH METHODS

### *2.1. Data Collection*

The study gathered data from the Central Bank of Nigeria (CBN) and the World Bank between 1981 and 2022 as presented in Table 1. The datasets for bonds, fiscal deficits, domestic debts, interest rate, banking size, and stock market were collected from CBN's Statistical Bulletin. However, we collected inflation and per capita GDP growth datasets from the World Development Indicators (WDI) database. In addition, the bond is the sum of Federal Government bonds, treasury bonds, debt stock, green bonds, and savings bonds. The Bond market is expressed as a total bond-to-GDP ratio. Fiscal deficit, domestic debt, real per capita growth, inflation, and interest rate constitute the macroeconomic determinants of the bond market. Fiscal deficit and domestic debt are measured as a percent of GDP, while monetary policy rate is the measure of interest rate. The financial factors include banking size and the stock market. Specifically, credit to the private sector (by banks) serves as the proxy of banking size. Credit to private is important in explaining the extent to which banks are involved in distributing credit to businesses and households. Furthermore, studies such as Sanga & Aziakpono (2023) used credit to the private sector as the proxy of banking size. Finally, market capitalization is an indicator of stock market development.

**Table 1.** Description of Variables and Sources

| Variables | Measurement | Source |
|---|---|---|
| Bond Market Development (BM) | Total bonds as % of GDP | CBN Statistics |
| Fiscal Deficit (FD) | Fiscal deficit as % of GDP | CBN Statistisl |
| Domestic Debt (DD) | Domestic debt as % of GDP | CBN Statistics |
| Gross Domestic Product (PCG) | Real GDP at a constant price | WDI World Bank |
| Inflation (INF) | Consumer price index | WDI World Bank |
| Monetary Policy Rate (MPR) | Central bank's policy rate | CBN Statistics |
| Credit to Private Sector (CPS) | Banks' credit to the private sector (% of GDP) | CBN Statistics |
| Stock market (STOCK) | Stock market capitalization (% of GDP) | CBN Statistics |

### *2.2. Model Specification*

The study employed the Autoregressive Distributed Lag model (ARDL). The ARDL model allows us to differentiate between short and long-run relationships between macro-financial drivers and the development of the Nigerian bond market. Furthermore, the model has an additional advantage over forms of OLS because it allows for a dynamic specification that captures the influence of past

values of the dependent and independent variables in explaining the current situation of the bond market. This has proven the superiority of ARDL as it provides a more comprehensive understanding of the relationship over time. The general model is specified in Equation 1 as follows.

$$BM_t = \alpha_0 + \beta_1 FD_t + \beta_2 DD_t + \beta_3 PCG_t + \beta_4 INF_t + \beta_5 MPR_t + \beta_6 CPS_t + \beta_7 STOCK_t + \varepsilon_t \quad (1)$$

where $BM$ stands for the bond market bond development which is the sum of Federal Government bonds, treasury bonds, debt stock, green bonds, and savings bonds; $FD$ stands for the fiscal deficit which is the difference between the government's projected revenue and expenditure, and its measure as a percentage of GDP; $DD$ stands for domestic debt is the amount of money borrowed by government from domestic lenders through instruments like treasury bills and bonds; $PCG$ is the GDP per capita growth rate is the annual percentage increase in Nigeria's GDP per capita, and it is usually measured by dividing GDP growth rate by population growth rate; $INF$ stands for Inflation represents an annual change of consumer price index; $MPR$ is the monetary policy rate which explains the rate set up by the central bank to influence the cost of borrowing and lending in Nigeria; $CPS$ is the credit to private sector represents banking size, it explains the extent to which banks are involved in distributing credit to businesses and households; and $STOCK$ represents the stock market development which explains growth of the stock market in liquidity and efficiency. The parameters $\beta_1$ to $\beta_7$ represent the coefficients of the explanatory variables, $\alpha$ is the intercept, while $\varepsilon_t$ represents the error term. Equation 2 presents the econometric function for the short-run relationship.

$$\Delta BM_t = \alpha_0 + \sum_{i=1}^{p} \delta_i \Delta BM_{t-1} + \sum_{j-i}^{3} \sum_{i=0}^{q,k,l} \theta_{ji} \Delta X_{ji,t-1} + \sum_{j=1}^{2} \sum_{i=0}^{m,n} \gamma_{ji} \Delta Z_{ji,t-1} + \varphi_1 \Delta BM_{t-1} + \sum_{j=1}^{3} \varphi_2 \Delta X_{ji,t-1} + \sum_{j=1}^{2} \varphi_3 \Delta Z_{ji,t-1} + \omega ECT_{t-1} \quad (2)$$

where $X$ represents a vector of independent variables; the $Z$ represents the set of control variables. The dependent variable's lag begins to lag one up to its optimal lag length (p). The independent variables start from zero lag up to their optimal which is based on Akaike Criterion. The $ECT_{t-1}$ represents the one-period lag value of the residual, which accounts for the speed of adjustment towards the long-run equilibrium. A priori, the $ECT$ is negative and statistically significant.

## 3. RESULTS AND DISCUSSION

### *3.1. Results*

Usually, the statistical analysis begins with the description of the data. Table 2 shows the statistical summary of the factors used in the study with a total of 42 observations for each variable. The results further show that the average bond market (BM) over the period was 5.08 % with a maximum of 11.27 % and a minimum of 1.51%. The result suggests that on average Fiscal Deficit (FD) was about -2.56 % over the period with a maximum value of 0.8 % and a minimum value of -8.6 %. The mean of Domestic Debt (DD) is about 12% with a maximum of 23% and a minimum of 6%. On average credit to the private sector (CPS) was about 11.66 % over the period with a maximum value of 22.75% and a minimum value of 1.51%. Moreover, the results show that the inflation rate (INF) rate on average was about 18.95% over the period with a maximum value of 72.84% and a minimum of 5.39%. Additionally, the average per capita income growth (PCG) was about 0.4% with a maximum value of 12.28% and a minimum value of -15.70%. Finally, the result reveals that on average Monetary policy rate (MPR) over the period was about 13.08% with a maximum of 29.35% and a minimum of 0.67% whereas Stock market development (STOCK) was 8.06% on average with a maximum of 29.35% and minimum of 0.67%.

The null hypothesis, which states that the variables are not stationary was tested against the alternative. Table 2, the results revealed that FD, INF, and MPR were stationary in level; this is because their respective p-values were less than 5% level of significance. However, BM, CPS, STOCK, and PCG were not stationary at level.

**Table 2.** Summary statistics of the variables

| Variable | Mean | Std. Dev. | Minimum | Maximum |
|---|---|---|---|---|
| BM | 5.08 | 2.33 | 1.51 | 11.27 |
| FD | -2.56 | 1.86 | -8.60 | 0.80 |
| DD | 11.76 | 4.17 | 5.77 | 23.04 |
| PCG | 0.39 | 5.17 | -15.7 | 12.28 |
| INF | 18.95 | 16.45 | 5.39 | 72.84 |
| MPR | 13.08 | 3.95 | 6.00 | 26,00 |
| CPS | 11.66 | 5.59 | 5.81 | 22.75 |
| STOCK | 8.06 | 5.88 | 0.67 | 29.35 |

Their individual ADF test statistic p-values were greater than 5%. Hence, the null hypothesis that the variables were not stationary was accepted at a 5% level of significance. However, BM, FD, DD, PCG, INF, MPR, CPS, and STOCK were stationary in the first difference. This is because their ADF test statistic p-value was less than the level of significance at 5%, which means that the null hypothesis of the variables is not stationary and was not accepted.

**Table 3.** Augmented Dickey-Fuller (ADF) Unit Root Test Results

| Variables | Level | 1st Difference | Decision | Integration Order |
|---|---|---|---|---|
| BM | -3.373 | -6.575*** | Stationary | *I*(1) |
| FD | -3.043 | -7.298*** | Stationary | *I*(1) |
| DD | -2.912 | -5.046*** | Stationary | *I*(1) |
| PCG | -2.996 | -10.69*** | Stationary | *I*(1) |
| INF | -4.130 | -6.537*** | Stationary | *I*(1) |
| MPR | -3.366 | -8.526*** | Stationary | *I*(1) |
| CPS | -3.076 | -5.860*** | Stationary | *I*(1) |
| STOCK | -3.386 | -6.747*** | Stationary | *I*(1) |

**Note:** *** significant level at 5%

After we examined the order of integration of the variables using the unit root test, the ARDL bound test was adopted to test if there is a long-run relationship among the variables in the equation.

**Table 4:** ARDL Bound Test for Cointegration

| Test Statistics | Value | Significant | *I*(0) | *I*(1) |
|---|---|---|---|---|
| F-statistics | 1.869 | | Asymptotic: n=1000 | |
| | | 10% | 1.92 | 2.89 |
| | | 5% | 2.17 | 3.21 |
| | | 1% | 2.73 | 3.90 |

Table 4 depicts the result of the bound test for long-run relationships. The value of F statistics (1.869) is lower than the upper value at 1%, 5%, and 10%, which correspond to 3.90, 3.21, and 2.89 values respectively. In addition, it is below the lower bounds of 1%, 5% and 10% respectively. Since the F- statistic of the bound test is lower than the upper and lower critical values, this suggests there is no cointegration. The lack of cointegration indicates that the macroeconomic drivers and the bond market do not move together in the long run. This means that estimating the long-run coefficients is irrelevant because the long-run equilibrium relationship does not exist. It is important to note that when the bound test is insignificant, estimating the long-run coefficients can lead to misleading results. Furthermore, our bound test result has nullified the significant error correction term (ECT) we recorded in Table 5. The ECT measures the speed of adjustment towards long-run equilibrium which has been refuted by the insignificant bound test. According to Gujarati et al. (2003) estimating the short-run dynamics is more appropriate because provides valuable insights into the short- run dynamics. Additionally, understanding the immediate effect of shocks helps investors and policymakers pay more attention to trends that are peculiar to short-run equilibrium relationships and emphasize more on dynamic policies that swiftly respond to short-run changes and fluctuations.

Tabel 5 reports the findings of our ARDL bound test which states that no cointegration is established, we proceed to the short-run estimation.

**Table 5.** Estimation Output from ARDL Error Correction Form

| **Dependent variable = ΔBM** (Lag selection of 2,3,3,3,3,2,3,3) | | | |
|---|---|---|---|
| **Variables** | **Coefficient** | **t-test** | **Prob.** |
| Constant | -3.262 | -1.991 | 0.062 |
| ΔBM | 0.828** | 4.656 | 0.000 |
| ΔFD | 0.351** | 2.692 | 0.015 |
| ΔDD | 0.483** | 3.934 | 0.001 |
| ΔPCG | -0.153** | -3.591 | 0.002 |
| ΔINF | -0.092** | -4.776 | 0.000 |
| ΔMPR | -0.010 | -0.296 | 0.770 |
| ΔCPS | -0.124 | -0.945 | 0.357 |
| ΔSTOCK | 0.106** | 2.815 | 0.012 |
| $ECT_{t-1}$ | -0.172** | -4.929 | 0.000 |
| *Diagnostic test* | *p-value.* | | |
| Serial LM | 0.086 ($p$>0.05) | | |
| ARCH | 0.259 ($p$>0.05) | | |
| Ramsey | 0.127 ($p$>0.05) | | |
| Normal | 0.632 ($p$>0.05) | | |

**Note:** ** significant level at 5%

The ARDL estimation output in Table 5 shows that the coefficient of the one-period lag value of BM is 0.828 which is also positive and significant at a 1% level of significance. This suggests that on average one unit increase in the bond market in the previous year increases the current period bond market by 0.828 units. On the other hand, the elasticity of the fiscal deficit (FD) is -0.35 which is found to be negative and significant at a 5% level of significance. This result indicates that a 1 percent increase in FDl leads to a 0.35 percent decline in the Bond market in Nigeria. In addition to that, the Wald test presented in Table 5 has shown that the combined influence of fiscal deficit in the previous two years is significant on the Bond market.

Similarly, domestic debt (DD) is found to be significantly and positively affecting the bond market (BM). The coefficient shows that a 1 percent increase in DD increases the bond market by 0.483%. The Wald test has also confirmed this assertion where we see the combined impact of the two years lag value of the DD is significant on BM. On the other hand, our study found that a 1% increase in the growth rate of real per capita GDP (PCG) leads to a 0.153% decline in the bond market (BM). This indicates that the growth rate of real per capita GDP does not support the development of the bond market. A similar result was reported for INF, which has a negative and significant result where it has been found that a 1% increase in the inflation rate results in a 0.092% decline in transactions in the bond market.

**Table 6.** The Result of Wald test

| **Dependent variable = ΔBM** | | |
|---|---|---|
| **Variables** | **F-statistics** | **Prob.** |
| FD | 21.675** | 0.000 |
| DD | 5.495** | 0.007 |
| PCG | 6.990** | 0.003 |
| INF | 11.429** | 0.000 |
| MPR | 1.091 | 0.357 |
| CPS | 1.749 | 0.193 |
| STOCK | 4.256** | 0.019 |

**Note:** ** significant level at 5%

The monetary policy rate (MPR) and the interest rate set by the Central Bank to regulate the flow of money in circulation, was found to be negative but statistically insignificant in determining

the bond market. The credit to the private sector (CPS) is another important variable we considered in this study. Its coefficient explains the impact of banking size on the bond market. The findings from the ARDL show that CPS is negative and insignificant in determining BM. Finally, the STOCK, which measures the influence of stock market development on the bond market is positive and statistically significant. This implies that a 1% increase in STOCK will lead to a 0.106% increase in bond market transactions. The ECT measures the speed of adjustment towards long-run equilibrium and shows that the system will correct its previous disequilibrium at a speed of 0,172%. However, it is important to confirm whether there is truly a long-run relationship by using the bound test technique.

However, the Wald test results show that the combined impact of the FD, DD, PCG, INF and STOCK lag periods is significant, while MPR and CPS are insignificant (Table 6). After we presented the estimation result, we proceeded with the diagnostic tests. The findings which are presented in Table 5 indicate that the model is fit and free from serial correlation, heteroscedasticity, and omitted variable bias. Besides, the residuals are normally distributed as Jarque Bera statistics accept the null hypothesis of normal distribution.

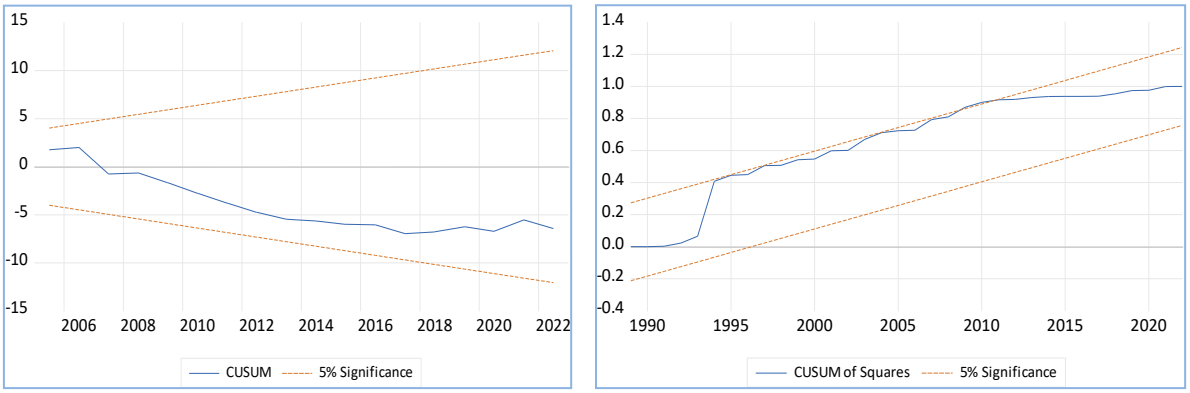


**Figure 2.** The CUSUM and CUSUM of Squares test Explaining the Stability and Changes in the Model

Lastly, we checked the model's stability using the Cusum recursive and CUSM of squares estimation technique. The results presented in Figures 2 show that the plots of the CUSUM and CUSUMQ statistics are within the critical boundaries at a 5% significance level, confirming the model's stability.

### *3.2. Discussion*

The negative impact of fiscal deficit on the bond market as found in our study, strongly matches with the crowding-out hypothesis, where the growth in government borrowing makes it difficult for private sector investors to access funds for their investments. This particular theory is relevant to the Nigerian context, where government bonds dominate the financial markets which reduces the activities of the private bond market. The study of Lee & Goh (2019) supports this view, asserting that an increased fiscal deficit weakened the bond market development in Nigeria. Their study maintained that persistent fiscal deficits and increased issuance of government bonds result in crowding-out private bond market which is detrimental to the development of the overall bond market. This is explained by the fact that the country has experienced an unprecedented budget deficit over the years and therefore additional deficits exert too much pressure on the market. Other studies that are not in tandem with our result believe that fiscal deficits enhance the ability of the government to issue bonds to the public to raise the required funds to finance its budget. Some of these studies include the work of Uppal & Baskaran (2023) who opined that a sound fiscal policy encourages bond market development, while the bond market enhances the efficient allocation of funds across the economy.

Similarly, the unusual negative relationship between PCG and BM is associated with structural problems happening within the Nigerian economy. Examples of such structural issues include weak financial institutions and lower investor confidence. While Smaoui et al. (2020) reported a positive

relationship in more advanced economies, the Nigerian context may differ because of many factors like limited market liquidity, inadequate legal framework, and political instability, which may negatively influence the benefits the economic growth could have brought to the bond market development. In another similar situation, inflation negatively reduces transactions in the bond market. This happens because the investors in the bond market earn relatively low returns on investment due to eroding purchasing power caused by inflation. Therefore, people are no longer interested in investing in bonds, which leads to a decline in bond market activities. This further suggests that other macroeconomic variables are more dominant in determining the bond market behavior. These findings align with the outcome of Kodongo et al. (2023), who submitted that inflation usually interacts with multiple economic indicators in developing economies, making it less and less predictable.

On the other hand, the positive relationship between BM and DD found in our study is the result of growing confidence in domestic financial products. Domestic financial instruments are safer, especially during high equity market volatility. This result aligns with the work of Shi (2024) who found that domestic demand for bonds has been on the increase due to a sharp decline in equity prices. A similar positive relationship between the stock and bond market performance where we see the coefficient as 0.089 implying a 1% increase in STOCK leads to a 0.089 percent increase in bond market transactions. The stock and bond markets are crucial for the growth of the financial market, therefore, the two complement the development of one another. An efficient stock market provides investors with market liquidity and overall market efficiency. This result was corroborated in the study of Bossman et al. (2022) who found a strong positive relationship between the stock market and the bond market in sub-Saharan Africa.

The monetary policy rate (MPR), the interest rate set by the Central Bank to regulate the flow of money in circulation was found to be negative but statistically insignificant in determining the bond market. The negative relationship recorded aligns with the apriori expectation set up by the bond pricing theory. The theory states that a negative relationship exists between interest rates and the prices of bonds, which means an increased rate of interest discourages more transactions in the bond market. Therefore, to have a stable and efficient bond market the government must keep interest rates constant at least in the short run. However, the insignificant effect of the MPR on BM is attributed to the influence of other factors such as exchange rate fluctuations and lack of political stability that overrides the expected impact of interest rates. Furthermore, the findings of our research work are consistent with the work of Yusuf & Prasetyo (2019); and Fatmawati (2020). The credit to the private sector (CPS) is another important variable we considered in this study. Its coefficient explains the impact of banking size on the bond market. The findings from the ARDL show that CPS is negative and insignificant in determining BM. Theoretically, the banking sector should complement the development of the bond market by serving as a market maker and providing liquidity. However, the negative and insignificant CPS in this study suggests that this may not be the case in the Nigerian context. An ineffective regulatory framework to entice the banks to participate efficiently in the bond market is one of the reasons why the CPS is insignificant in the Nigerian context. The work of Sandleris (2014) contradicts the findings of our study where he found that CPS strongly influences the bond market.

## 4. CONCLUSIONS

The macroeconomic and financial factors play critical roles in developing bond markets in developing countries. Bond markets provide an essential medium for long-run funding; allowing governments to raise funds for infrastructure projects and companies to fund expansion. However, many factors in emerging economies such as Nigeria still impede bond market development. To this end, this study examined the macroeconomic and financial driving factors for a bond market in Nigeria. Data on fiscal deficit, domestic debt, total external debts, the GDP per capita growth rate, inflation rate, interest rate, banking size, and stock market development were analyzed using the ARDL model. The ARDL is employed because it analyzes the short-run dynamics between key macro-financial drivers and the Nigerian bond market more efficiently. In addition, the ARDL bound test was also employed to ascertain the long-run relationship. The results of the short-run estimation

show that the increased fiscal deficit does not support bond market development in Nigeria. Similar results were found in per capita GDP, inflation, interest rate, and banking size; they all negatively influence bond market development. However, domestic debt and stock market development positively drive the development of the bond market.

Based on the findings, we can present several policy recommendations for consideration. The policymakers must redirect their spending to projects that potentially stimulate economic activities this may help the government generate more revenue. The government must also cut unnecessary spending on recurrent expenditure, which accounts for a significant portion by employing efficient fiscal discipline. Since the domestic debt supports the bond market development, the government must come up with policies aimed at promoting the domestic debt market such as financial inclusion where the domestic debt market is accessible to all the strata of the society. The government must also ensure financial stability and investor protection. The Central Bank must adopt policies aimed at enhancing liquidity issues to weaken the negative implication of interest rate fluctuation

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