Bond Market Development and Economic Growth in Nigeria (1982-2014). A Gmm Approach

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Abstract

There has been an upsurge in bond market trading in Nigeria since the advent of civilian rule. However, there are concerns over whether or not bond market trading have any significant effect on the Nigerian economy. This study sought to: (i(i) to analyze the impact of Bond market development on the economic growth of Nigeria (ii) ascertain the direction of causality between bond market development and economic growth in Nigeria. Annual time series data were sourced from Central Bank of Nigeria Statistical Bulletin various issue and World Development Indicators (WDI) (2014) edition of the World Bank for the period 1982-2014. We employed both Generalized Method of Moment (GMM-IV) Instrumental variables estimator and Granger Causality Test to examine relationship between bond market development and economic growth in Nigeria. Result from the study revealed that bond market bond market have positive but statistically insignificant effect on economic growth in Nigeria (β= 0.0148; t = 0.4106). It was also discovered that there is no causal relationship between bond market and economic growth in Nigeria. It is therefore recommended, amongst others, that Nigerian bond market be deepened by instituting incentives that can attract corporate patronage and intuitional investors.

Keywords: Bond Market, Economic Growth, GMM, Granger Causality.

1.   INTRODUCTION

Bond markets as transferable debt securities have increased substantially in the last decades in Nigeria. Available statistics indicates that Bond market development reached $1.8 trillion in 2012, from $1.2 trillion in 2011. It is expected that it will increase to about $3.0 trillion in 2016 (CBN 2013). Bond market development in Nigeria has surpassed other debt instruments like bank credit and equities market both in absolute terms and as a percentage of GDP (Debt Management Office, 2013).

Financial development have been receiving research attention from both people in academics and policy makers since the seminal work of Gurley and Shaw, (1953) and till date the debate is still inconclusive. This unending debate is due to several empirical evidences suggesting that financial market development (including bond market) is an important ingredient to economic growth. Said, (2013), observed that bond market contributes significantly to economic growth but Fink, Haiss and Hristoforova (2003) posits that real economic activity influences the development of bond market. Although, several empirical studies prove finance to be an important ingredient of economic growth, the direction of causality is still inconclusive in financial economics literature.

There are several studies from developed countries that document the impact of bond market development on economic growth but the direction of causality is still an open question in the academia. In search of the direction of causality between bond market development and economic growth, Said (2013); Kapingura and Makhetha (2014) examined the causal relationship between bond market development and economic growth and produced mixed results. There are five possible hypotheses with respect to the relationship between the bond market and the real sectors of the economy in developed economies. They are; supply-leading, demand-leading, interdependence; no causal relationship and finally, and negative causality from finance to growth. The supply leading hypothesis maintains that accumulation of financial assets stimulates economic growth. The theoretical basis of the supply-leading finance literature begins with the work of McKinnon (1972) and Shaw (1973).

Available data from Nigeria's Debt Management Office (2014) indicates that bond market capitalization reached N7.63 trillion made up of Federal Government of Nigeria bonds and treasury bills N7.03trillion, while state bond is N595.5billion. The size of the Nigerian domestic bond market is still small when compared to South Africa with $184bn. It is therefore imperative that a deeper and more liquid bond market will no doubt help Nigerian government finance huge infrastructural gap estimated at $20 billion per year. Bond market will also enable corporate firms to raise long term capital that will in turn generate employment and promote output growth.

The objectives of this study are to; (i) to analyze the impact of Bond market development on the economic growth of Nigeria. (ii) to ascertain the causal relationship between bond market development and economic growth in Nigeria.

The rest of the paper is organised as follows: Section One introduces the paper. Section Two discusses the Literature Review; Methodology is in Section Three. While Section Four presents the Results Analysis and

Section Five Concludes the paper.

2. LITERATURE REVIEW

Bond market is one of the major sources of finance to government and corporate firms in both developed and developing countries. To this effect, people in academics and policy makers have focused extensively on the developmental impact of bond market on the economic growth process of countries. In an attempt to examine whether bond market promote or retard economic growth, Harvey (1989) attempted to forecast economic growth from the bond and stock markets. Having realized that both stock and bond market data could contain information relevant for predicting GNP growth. The author constructed a version forecasting model of consumption based asset pricing model in terms yields to maturity as follows.

Growth $_{t+1:t+5}$ = 9 + b (yield spread)$_t$ + μ_t + 5

Where

Growth = Growth in real (annual) GNP from quarter t + 1 to t + 5

Yield spread = Spread between long term and short term annualized yields to maturity observed at time t

U = an unanticipated result (Residual) and

a and b – fitted coefficients.

The forecasting model is evaluated using two measures of the term structure. The short- term rate of three months and long- term rates of 10 years yields upon the estimation of the model, it was found that bond markets contains more information about economic growth than the stock market. The result further confirmed that the stock market predicted nine downturns in four business cycles.

In an attempt to explore the relationship between corporate bond market and economic growth Hakansson, (1999) investigated the principal differences between an economy with a well-developed corporate bond market that is free from government interference and an economy in which bank financing plays a central role like East Asia. The author argued that in an economy where the corporate bond is fully developed, market forces have a much more role to play in asset pricing. This is in contrast to an economy without developed bond market. The author emphasized that the economic effect of lack of robust corporate bond market results in misdirected government credit allocation preferences and imperfections in the financial regulatory system consequently, the associated inferior risk assessment by the over-sized banking could lead to productive over capacity and non performing loans and finally economic crisis.

Adelegan and Radzewicz–Bak (2009) argued that the financial markets in most Sub Saharan African (SSA) countries are shallow, and have inadequate access to finance and therefore mobilization of domestic resources as an alternative source of financing is becoming increasingly important in SSA. In an attempt to identify the major determinants of bond market development in 23 Sub-Saharan African (SSA) countries between 1999 and 2008, the authors considered the stage of development and the size of the bond market, as well as financial markets deepening by estimating multivariate regression. The result obtained from the regression analysis indicated that (i) saving constraint is a key determinant of domestic bond market (ii) expansion of domestic debt has a crowding out effect on private debt. The empirical results from the study also show that a lot of variables interact together to drive the level of development of the domestic bond market in SSA.

Abass and Christensen (2010) examined the role of domestic debt markets on economic growth of low income countries and emerging markets. The authors postulated that given shallow financial markets, financial repression propensities and poor debt management capacity prevalent in many low income countries and even some Emerging market, public debt expansion could have significant negative implications for private investment, fiscal sustainability and ultimately economic growth and poverty reduction. The authors adopted the model of Pattillo et al., (2002) in their study of non linear growth effects of external debts on a panel of 93 developing countries over the 1969-98 period, using 5 year averaged data and a conditional convergence framework. They also employed fixed effects, system GMM (Generalized method of moments) and pooled OLS regressions. The study however found a two way statistical causality between domestic debt and other variables. Besides, institutions are not casual, income and financial dept are weakly causal, while private savings are strongly causal than domestic debt. The authors concluded that the reverse-causality between domestic debt and other variables is an indication that domestic debt is an important explanatory variable for private savings and institutions and to a lesser extent, for financial development and income.

Bhattacharyay (2011) attempted to identify the major determinants of bond market development in Asian economies. The author argued that one of the reasons for Asian financial crisis is the excessive dependence on commercial banks credit in the absence of robust bond market. Based on the above, the author recommended the strengthening, integrating, and deepening of local bond markets. In doing this the author emphasized the importance of identifying the factors or determinants of bond market development. In this study, the author tested six hypothesis using simple, multivariate ordinary least square (OLS), Fixed effect (FE), Random effect (RE) and Generalized Least squares methods (GLS) based on pooled time series and Cross

sectional data for ten selected Asian economies for the period 1998-2008 at an annual frequency. The empirical results of this study indicated that the size of the economy is significantly positively correlated with corporate bond issuance. The author further posits that bond markets of Asian economies should be linked and integrated, to create a minimum efficient scale to attract multinational corporations, financial institutions, and other large bond issues.

Matel, (2012) analyzed the relationship between the government bond and real GDP growth for 16 Euro Zone economies. Empirical evidence from the study provides four possibilities (i) supply- leading channel for five Euro zone economics (ii) the demand- leading channel for Greece and Slorema; and (iii) the interdependence channel only for Greece.

Koka, (2012) explored the relationship between issuance of treasury/government bond and economic growth in Kenya using data that spans the year 2003-2011 to establish the causal linkage between gross domestic products, market capitalization of bonds, value of bonds traded and total new issues of bonds. Empirical evidence from the study suggest that issuance of government bonds has a positive effect on the level of economic growth in Kenya. The author concluded that the supply leading hypothesis of economic growth prevailed in Kenya during the period covered by the study.

In a very recent study, Fink, Hasiss and Hristoforova (2013) investigated the relationship between the development of the aggregate bond markets and real GDP in 13 highly developed economies comprising United States of America, United Kingdom, Switzerland, Germany, Austria, the Netherlands and span over the 1950 to 2000 period. In this study, the authors initially treated unit root and co-integration of the variables. After this, a VAR models of first differences with a maximum lag length order of four years were applied to the seven countries. Empirical evidence for long run equilibrium convergence and interdependence in Japan, Italy, Finland, and Portugal showed that real GDP and the bond market size follow a common stochastic trend in the long run while evidence from the short run autoregressive models supports the supply leading hypothesis.

Said (2013) provided further evidence on the relationship between debt market and economic growth. The author lamented the dearth of empirical study on effect of bond market on economic growth, whereas, studies on the relationship between stock market and growth has attracted much more research attention. The author considered three categories of debts in the analysis using data from china, Hong Kong Japan, South Korea, and Thailand for the years 2002-2009 in order to establish the actual relationship among the variables that also includes vector of control variables, panel regression analysis was estimated. Empirical evidence from the study indicates that public and private debt contributed significantly positive to the economic growth to the region in general. The author implied that robust issuance of public and private debts in the Asian region following the 1997 financial crisis enabled the region to recover from the crisis and subsequent contribution to economic growth.

Kapingura and Makhetha-Kosi (2014) examined the casual relationship between bond market development and economic growth in Africa using South Africa as a case study over a period from 1995-2012. In this study the authors adopted Engle and Granger Single-equation based two- step approach to test if the two variables are co-integrated after carrying out statistical and time series of the data set using the Augmented Dickey-Fuller (ADF) and Phillips –Perron (PP). Empirical results from the study establish a unidirectional causality between bond market and economic growth running from bond market to economic growth.

3.   METHODOLOGY
3.1   Sources of Data
Data was sourced from Central Bank of Nigerian Statistical Bulletin and World Development Indicators (WDI). The scope of this study covers the period of 1982 to 2013.

3.2   Method of Data Analysis
Objective one: *to examine the effect of Bond market development on economic growth in Nigeria.*
To appraise the effect of Bond market development on economic growth in Nigeria, the Generalized Method of Moment Instrumental Variable (GMM-IV) is employed.
Objective Two: *to ascertain the causal relationship between bond market development and economic growth in Nigeria*
With respect to the issue of causality, the Granger Causality Test is employed to ascertain whether bond market development cause economic growth or economic growth cause bond market development in Nigeria.

3.3   Analytical Framework and Model Specification
3.3.1   Generalized Method of Moment (GMM)
This study examined the effect of bond market on economic growth in Nigeria. This work employs, Generalized Method of Moment (GMM) instrumental variables proposed by Hansen (1982). The GMM estimator is more robust and dynamic, as it allows the regressor variables to depend on its past values. The attractiveness of GMM

over other estimators like Ordinary Least Squares (OLS) and two-stage least squares (2TSLS) is the possibility of obtaining consistent estimates in the presence of heteroscedasticity, serial auto correlation and non linearity (White, 1984; Newey & West, 1987). Following from the general linear regression model can be specified as:

$$\gamma_i = \chi^1\beta + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.1$$

A regression model with the first lagged dependent variable as a regressor can be specified from equation 3.1 as:

$$\gamma_i = \gamma_{i-1}\beta_1 + \chi_1\beta_{2} + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.2$$

The model in equation (3.2) is a dynamic model chosen for pasimony and one period lagged value of γ_{i-1} provides the current information about γ_i

3.3.2   The Granger Causality Test

"Although regression analysis deals with the dependence of one variable on other variables, it does not necessarily imply causation.

In other words, the existence of a relationship between variables does not prove causality or the direction of influence. But in regression involving time series data, the situation maybe somewhat different because, as one author puts it.

> ...time does not run backward. That is, if event A happens before event B, then it is possible that A is causing B. However, it is not possible that B is causing A. in other words, events in the past can cause events to happen today. Future events cannot.

This is roughly the idea behind the so-called Granger Causality test the following pair of regressions.

$$GDP_t = \sum_{i=1}^{n} \acute{\alpha}_i\, M_{t-i} + \sum_{j=1}^{n} \beta_j\, GDP_{t-j} + \mu_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.3$$

$$Mt = \sum_{i=1}^{n} \lambda M_{t-1} + \sum_{j=1}^{n} \delta_i\, GDP_{t-j} + \mu_{2t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.4$$

Where it is assumed that the disturbances μ_{it} and μ_{2t} are uncorrelated". Gujarati and Damodar (2009:653)

3.4   Model Specification

Deriving from the equation 3.2, the implicit model to be estimated is specified as:

$LOGGNI_t = \beta o + \beta_1 LOGGNI_{t-1} + \beta_2 LOGEQT_t + \beta_3 LOGBOND_t + \beta_4 LOGCPS_t + \mu_t\dots\dots\dots 3.5$

Where
LOGNI is the logarithm of gross national income (as a proxy for economic growth)
$LOGGNI_{t-1}$ is the one period lag of logarithm of gross national income
LOGEQT is the logarithm of equality
LOGBOND is the logarithm of Bond
LOGCPS is the logarithm of credit to private sectors
β_0 is the intercept
$\beta_1, \beta_2, \beta_3,$ and β_4 are parameters to be estimated
t is the time period.

3.5   a priori expectations

It has been established in extant literature that financial development promotes economic growth (McKinnon 1973; King & Levine, 1993)
$\beta_1, \beta_2, \beta_3,$ and $\beta_4 > 0$.

4.   RESULTS ANALYSIS

Table 4.1 Unit Root Test

Variables	ADF		PP		1(d)
	Critical Values	ADF-Test Stat.	Critical Values	PP Test Stat.	Order of Integration
LOGGNI	-3.6131	-3.6247	-3.5806	-4.9142	1(1)
LOGEQT	-3.5683	-5.0240	-3.5683	-5.3689	1(1)
LOGBOND	-3.0403	-3.8573	-3.6032	-5.9908	1(1)
LOGCPS	-3.5742	-5.4699	-3.5683	-8.9908	1(1)
LOGGNI(-1)	-3.6220	-3.6420	-3.2292	-4.6499	1(1)

Source: Author's Computation from E-view, 2016.

The unit root test revealed that the variables: LOGGNI, LOGEQT, LOGBOND, LOGCPS and LOGGNI(-1) are all stationary at first difference. The variables are integrated of order one i.e 1(1). This indicates that the null hypothesis of non –stationarity for all the variables is rejected. Having confirmed the unit root properties of the variables, it becomes necessary to establish whether long-run relationship existed among the variables in equation (3.5).

4.1.2   Cointegration Tests

The Johansen Cointegration value tests showed that the trace and maximal eigen-value statistics indicates the existence of one cointegration relationships among the variables at the 5% level of significance (Table 4.2) & 4.3 we can safely conclude that there exists a unique long –run relationship between loggni, logeqt, logbond, logcps and loggni (-1), with the confirmation of the existence of long-run relationship among the variables, it is necessary to examine the long-run effect of bond market development on economic growth process of Nigeria in equation (3.5)

Table 4.2: Johansen Maximum Likelihood cointegration Test Result

Unrestricted cointegration Rank Test (Trace)

Hypothesized No of CE(s)	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob. **
None*	0.7363	56.5081	47.8561	0.0063
At Most 1	0.5434	27.1816	29.7970	0.0972
At Most 2	0.3109	9.9322	15.4947	0.2860
At most 3	0.0760	1.7389	3.8414	0.1873

Trace Test indicates 1 cointegrating equation at the 0.05 level.

* Denotes rejection of the hypothesis at the 0.05 level

* MacKinnon-Hang – Michelis (1999) P-values

Unrestricted cointegration Rank Test (Maximum)

Hypothesized No of CE(s)	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob. **
None*	0.7363	29.3265	27.5843	0.0296
At Most 1	0.5434	17.2493	21.1316	0.1606
At Most 2	0.3109	8.1932	14.2646	0.3594
At most 3	0.0760	1.7389	3.8414	0.1873

Max-eigenvalue test indicates 1 cointegrating equation at 0.05 level.

* Denotes rejection of the hypothesis at the 0.05 level

* MacKinnon –Hang Michelis (1991) P-value.

4.1.3   GMM Result

The result in table 4.3 shows that all the variables in the model are appropriately signed. Results also showed that while two variables (LOGGNI and LOGEQT) are statistically significant at 1% level; two others (LOGBOND and LOGCPS) are not statistically significant at 5% level; two others (LOGBOND and LOGCPS) are not statistically significant at 5% level.

Table 4.3 GMM Result of Effect of Bond Market on Growth Dependent Variable: LOGGNI

Variables	Coefficient	Std error	t-stat.	Prob.
C	0.3624	0.5271	0.6875	0.4989
LOGGNI(-1)	0.8655 ***	0.0816	10.6025	0.0000
LOGGEQT	0.0447 ***	0.0158	2.8310	0.0097
LOGBOND	0.0148	0.0362	0.4106	0.6853
LOGCPS	0.1004	0.3091	0.3247	0.7484
Diagnostic statistics				
R^2	0.97			
Adj R^2	0.96			
D-W stat.	1.70			
J.Stat.	0.00			

Source: Author Computation from E-view, 2016

*,**,*** denotes significance at 10%, 5% and 1% respectively

This result is consistent with the prediction of economic theory, and it suggests that previous years gross national income predicts current year gross national income and statistically significant at 5% level. These findings have lend credence to convergence hypothesis that developing countries have the tendency to grow faster than developed countries when the institutions are right.

The equity variable entered the GMM model with positive sign, and this is consistent with our a priori expectation. This indicates that the activities in the equity market has de facto serve as catalyst in promoting economic growth in Nigeria. This result is not however surprising considering the volume of transactions traded daily on the floor of the Nigerian stock exchange. In specific terms, holding other variables constant, a unit increase in the equity market culminates to 0.04 percentage point increase economic growth in Nigeria.

The coefficient of our foal variable in equation 3.5 (LOGBOND) is positive from the regression results in table 4.3. This conforms to our a priori expectation. However, the variable turns out to be statistically

insignificant. The shallow nature of Nigeria bond market could be responsible for the insignificance of bond market development on economic growth process of Nigeria. In addition, a percentage point increase in bond market raises economic growth by 0.01%. The banking sector variable also indicates a positive relationship with economic growth but statistically insignificant at 5%. This conforms to our a priori expectation of a positive relationship between credit to private sector and economic growth.

4.1.4   Granger Causality Result

Table 4.4 presents the result of the granger causality test of equation 3.5. Result showed a unidirectional causality between logarithm of equity and economic growth at 1% level of significance.

Table 4.4: Pair wise Granger Causality Tests

Null Hypothesis	Obs	F-Stat.	Prob.	Decision
LOGEQT does not Granger Cause LOGGNI	27	0.3754	0.0035	Rejected
LOGGNO does not Granger cause LOGEQT		1.1633	0.3309	Accept
LOGBOND does not Granger Cause LOGGNI	22	2.0707	0.1567	Accept
LOGGNI does not Granger cause LOGBOND		1.9729	0.1696	Accept
LOGCPS does not Granger cause LOGGNI	27	1.8310	0.1838	Accept
LOGEQT does not Granger cause LOGBOND		5.0193	0.0160	Reject
LOGBOND does not Granger cause LOGEQT	25	3.3907	0.0539	Reject
LOGEQT does not Granger cause LOGBOND		0.5956	0.5607	Accept
LOGCPS does not Granger cause LOGEQT	25	3.3907	0.0539	Reject
LOGEQT does not Granger cause LOGBOND		0.5956	0.5607	Accept
LOGCPS does not Granger cause LOGEQT	30	0.8441	0.4418	Accept
LOGEQT does not Granger cause LOGCPS		2.7585	0.0827	Accept
LOGCPS does not Granger cause LOGBOND	25	9.9035	0.0010	Reject
LOGBOND does not Granger cause LOGCPS		1.6346	0.2200	Accept

Source: Author's Computation from E-view 7, 2016

Similarly, a unidirectional causal relationship was observed between credit to private sector and economic growth at 5% level. The casualty runs from economic to credit to private sector.

Additionally, a unidirectional causal relationship was found between credit to private sector and bond market, running from credit to private sector to bond market at 1% level.

Conversely, result showed absence of causality between bond market and economic growth; and credit to private sector and equity market.

Discussion of the results

The GMM result revealed that 97% of the systematic variation in the dependent variable could be explained by the independent variables (LOGGNI(-1), LOGEQT, LOGBOND, LOGCPS).

The high coefficient of determination (R^2) and adjusted coefficient of determination suggest the model is well behaved. The diagnostic test statistics J-statistics is perfectly zero, further suggesting the model is well fit. This is to be expected because the coefficients were carefully selected and also due to the use of the best and minimal instrumental variables. On the basis a priori expectation, all the variables conform to theory and hence our expectation. Result showed that one period lagged variable of economic growth and equity market were rightly signed and statistically significant, by implication a percentage point increase in previous year economic would result into 0.86 percentage point increase in current year economic growth. This result seems to lend credence to convergence hypothesis that countries with low per capital income has the potential to grow at a faster rate in relation to countries with high per capital income. This result is not surprising considering the national income that accrued to the nations economy during the period, even though a larger percentage of the income accrued from crude oil sales.

In a similar vein, equity market produced a positive and significant effect on economic growth. This is also to be expected, considering the volume of daily equity transaction on the floor of the Nigerian stock Exchange (NSE). Similar to findings from extant literature reviewed, (See Ogboi & Oladipo, 2012) but in contrast to the findings of Ariyo and Adelegun (2005). The implication that emerges from this finding is that equity market has in a way served as de facto catalyst in promoting economic growth in Nigeria. It is also a confirmation that Nigerian equity market has responded to various reforms initiated to deepen the market for

optimal allocation of funds to project that yield high returns.

Interestingly, the coefficient of our focal variable (LOGBOND) did not produce significant effect on economic growth. This implies that the Nigerian bond market is yet to produce the much needed impact on the economic growth process of Nigeria. This is true of Nigerian bond market, as the market is at the infancy stage and dominated by government bonds that are usually channeled into recurrent expenditure rather than channeling it into closing the infrastructural gap plaguing the Nigerian economy. Recent developments in the bond market indicate that corporate organizations are now beginning to subscribe to bond market for finance.

Another interesting finding from the study is the positive but insignificant effect found between private sector credit and economic growth. This finding could be attributed to high cost of doing business in Nigeria ranging from high interest rate charged by banks and apparent infrastructural deficit that hamper smooth business operation. The Granger causality test showed that equity market granger cause economic growth economic growth granger cause bank credit to the private sector, bond market granger cause equity market and bank credit granger cause bond market.

The implication that emerges from this study is that equity market should be further deepened through bond market so as to further promote economic growth in Nigeria.

5.   CONCLUSION

This study has utilized the data from Central Bank of Nigeria Statistical Bulletin and World Development Indicators (WDI) for the period from 1982 to 2014 to address important issues relating to bond market development and economic growth in Nigeria. A major contribution of this study to the finance literature is the disaggregation of financial market into bond market, equity market and banking sector development in the empirical analyses. To the best of our knowledge, this is the first study to disaggregate the financial market in Nigeria. Besides, the employment of GMM-IV estimator which is robust and dynamic is also novel in financial market literature. Analysis of the effect of financial market and in particular bond market and economic growth revealed quite interesting result with profound policy implications. Results showed that all three financial market indicators are positively related to economic growth. This finding is consistent to economic theory that finance is imperative to economic growth. It should be noted however, that, only equity market produced statistically significant result, while bond market and banking sector variable are yet to yield the desired significant effect. This is not surprising considering the fact that Nigerian bond market has not attracted the attention of institutional investors. Instead, government bond dominate the Nigerian bond market. The apathy of institutional investors could be unconnected to low return on investment, it is therefore recommended that Nigerian bond market be deepened by instituting incentives that can attract institutional investors.

Contribution of authors:
Ogboi, C   - responsible for introduction, literature review and data analysis.
Njogo, B.O (PhD) – responsible for research methodology, interpretation of results and conclusion.
Nwankwo, E (PhD) – Contributed to literature review and research methodology

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