TAFFD's Journal
ISSN 2643-4938 (online) · ISSN 2769-0490 (print)

OPEN ACCESS

Revisiting Growth Effects of Government Bonds in Nigerian Capital Market

Temitayo O. Olaniyan & Samuel O. Ekundayo

Published in TAFFD's Journal, Vol. 1, Issue 1, pp. 34–48, 2019
Article page https://journal.taffds.org/articles/revisiting-growth-effects-of-government-bonds-in-nigerian-capital-market-6-34

CC BY 4.0 **Licence**

© 2019 The Author(s). Published by Transdisciplinary Agora for Future Discussions Inc. This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Licence terms: https://creativecommons.org/licenses/by/4.0/

This page was added by the journal. The article begins on the next page.

Transdisciplinary Agora for Future Discussions Journal

Volume one Issue one, March 2019

Revisiting Growth Effects of Government Bonds in Nigerian Capital Market

Olaniyan, Temitayo O.
Ekundayo, Samuel O.
Department of Finance, University of Ilorin,
Kwara State, Nigeria.
Email: temitayoolaniyan.o@gmail.com

Abstract

This study revisited the effects of government bonds for the growth of the Nigerian capital market. Utilising time-series data obtained from the Nigeria Stock Exchange (NSE) annual reports for the period 2010 to 2017, this study through the Generalised Method of Moments (GMM) regression estimator found that the value and the number of listed government bonds' positively and significantly affect capital market growth in Nigeria. The low capitalisation of government bonds was found to negatively affect the growth of the market. The null hypothesis of the Hansen J statistics was accepted; implying that the IVs used in the GMM model is valid. We concluded that government bonds have positive and significant effects on the growth of the Nigerian capital market. Thus, government bonds have made the NSE All-Share Index grow over the period under investigation. The study thus, recommends among other things, that there should be more issuance of government bonds to the public and further to enhance the efficiency of the capital markets, both primary and secondary. The funds raised from the capital market through government issuance should also be channelled towards Nigeria's productive sectors to promote an all-inclusive growth in the Nigerian economy.

Keywords: Government Bonds; Bond Market; All-Share Index; Generalised Method of Moments; Nigeria.

Introduction

Globally, nations have achieved economic growth through their financial markets much easily by channelling funds from surplus economic units to the deficit units who are ready to use such funds for productive purposes. Khalid and Rajaguru (2018) corroborate that overall development of the financial sector has been achieved with the bond market being a key player, especially in emerging economies where the prospects of investment and savings are limited. The asseveration is that since banks and stock markets contribute significantly to economic growth, they can be substantially supported by the bond market, thus making the market a propellant of economic growth. Therefore, the bond market is

an essential feature of any well-developed financial market. The bond market remains an integral part of the capital market. Bond markets in Africa have experienced steady growth especially in recent years but remain relatively undeveloped (Mu, Phelps & Stotsky, 2013). The South African and Egyptian bond markets, however, are exemptions to the above statement (Adelegan & Radzewicz-Bak, 2009; Andrianaivo & Yartey, 2010; Grandes & Peter, 2013).

In both developed and developing nations, government bonds are the primary financial asset of the fixed-income security market (Nwiado & Deekor, 2013; World Bank & IMF, 2001). Governments' investment in the bond markets should form a haven for investors through their huge investments, thus, creating a room for zero or no risk investment (Cassimon, Essers & Verbeke, 2016). However, the markets for government bonds in many African countries are still developing, as most of them have market capitalisation which is relatively low compared to the advanced markets (Kapingura & Makhetha-Kosi, 2014; Mu *et al.,* 2013). This is the reason for the resilience of the domestic financial sector. Nations having a deep and vibrant capital market enjoys greater financial stability, financial development and economic growth (Peiris, 2010). A dynamic capital market which enjoys the benefits as mentioned earlier cannot be achieved without the development of the bond market.

It is needless to say that the Nigerian bond market lacks incentive for issuers hence low market participation, reduction in market liquidity (especially in terms of dollars), rigid market regulation, undiversified portfolios, insufficient funds by dealers to finance their investments, as well as the absence of a hedge instruments and markets all, affect the market. Also, the government has devoted little attention to creating an environment conducive for financial development to take place. The existence of multiple regulatory authorities for the market, lack of coordination, the presence of a hypertrophied banking system, and its dominating influence have slowed down the pace of growth of the bond market. Regulatory authorities such as the Securities and Exchange Commission, Central Bank of Nigeria, the NSE and Nigeria's Debt Management Office have not also been able to pull wires for the growth of the capital market to a reasonable extent. The fact remains that the weak state of the local bond market in Nigeria may hinder an investor's willingness to participate in the market.

Research efforts on the factors that determine bond market development is growing (Bhattacharyay, 2013; Smaoui, Grandes & Akindele, 2017; Teplova & Sokolova, 2017); however, studies examining how government bonds affect capital market growth in Nigeria is scarce (Eriki & Okafor, 2006; Kibet, 2015; Nwiado & Deekor, 2013). These scholars whose studies came close to tackling this topic did not take a holistic consideration of the effect of market capitalisation, the value of issued government instruments, and the number of listed Treasury bonds.

This study therefore, employs the variables mentioned above to investigate how government bonds affect the growth of the Nigerian capital market. The question to address then is: what is the individual effect of market capitalisation, the value of issued government instruments, and the number of listed Treasury bonds on the growth of the Nigerian capital market?

This study may have important implications for policymakers to foster innovation and growth of financial markets (especially the bond market) in an emerging economy like Nigeria. It provides insights to policymakers, stakeholders, and government regulators on the areas where more resources and energies should be directed to develop the Nigeria capital market through the issuance of government securities. It will also assists several players in projecting the performance of government instruments in the market.

An overview of the current situation of the government bond market in Nigeria

This section presents the current status of the Nigerian government securities market vis-a-vis its development compared to other advanced markets. It subsequently analysed the recent evolution of the bond market. The government bond market has a primary market for bonds. It dealers are government selected financial intermediaries whose aim is to promote investment in government bonds and participation in the government securities market (World Bank & IMF, 2001). The market capitalisation of the government bond market in Nigeria is low, thus a need to invest substantially in the financial markets in the Nigerian economy; unlike its other emerging market counterparts especially the Asian and Latin emerging markets, the local bond market in Nigeria is far below in terms of market performance. The aforementioned is as a result of the low market liquidity, lack of diversification, shallowness, the inexistence of institutional investors, lack of proper infrastructure, low capitalisation,

few listed companies, and instruments in the Nigerian bond market relative to those of other emerging bond markets in Asia or Latin America. This view was also corroborated by Cassimon, Essers, and Verbeke (2015) who noted the difficulty of local currency bond markets (LCBMs) to grow its investment size and necessary financial market infrastructure. Besides, there is an inadequate regulatory framework for the operations of the market.

The Nigeria bond market is relatively shallow, inefficient and illiquid, thus, preventing companies from raising funds needed to expand investment in physical and human capital among other goals (Smaoui, Grandes & Akindele, 2017). They added that African bond markets except for South Africa hardly reach their 15-18% of their GDP investment in government securities. This accounts for about 80-90% of the market capitalisation rate in all markets. The underdeveloped nature of the Nigerian financial system relative to those of the developed countries coupled with the high level of inflation in the system is plausible reasons for the low volume of outstanding government bonds in the country. Thus, Claessens, Klingebiel, and Schmukler (2007) demonstrated that in “big” economies like the United States having its financial system well-managed and inflation level well-curtailed, there abounds huge volume of outstanding government bonds to explore. The presence of a weak institutional framework and macroeconomic mismanagement inhibit the development of the government bond market in Nigeria.

The presence of a well-developed local currency bond market is capable of enhancing the resilience of the domestic financial sector to external shocks while also improving fund mobilisation and intermediation of domestic savings into productive uses in an economy (Bhattacharyay, 2011; Bhattacharyay, 2013). Needless to say, that when domestic bond markets are well-developed, they help to support domestic savings mobilisation and intermediation and boost financial development. Thus, it tends to improve monetary policy transmission (Abbas & Christensen, 2010; IMF *et al*., 2013; Kumhof & Tanner, 2005; World Bank & IMF, 2001).

Domestic Government Securities Market Development Strategies

The development of the government securities market cannot be achieved without making a record achievement in the financial and market system of a nations’ economy. For many governments, the problems that inhibit the development of the government securities market run deep in their economy

because of the many challenges in the financial system. For example, competition becomes scarce while transaction costs move upward when governments rely on a few domestic banks for funding (World Bank & IMF, 2001).

The development of a domestic debt market involves in part, proper domestic public debt management including the issuance of the central government securities as well as the involvement of the private sector in issuance and trading of corporate instruments. Public debt consists of all outstanding financial liabilities of the state from the previous borrowing including guaranteed debts to state agencies and municipalities (Bhattacharyay, 2011). Governments that have succeeded in market development have not only strategically managed their public debt which majorly comprises of government securities but also promoted reforms for better market institutional and structural frameworks.

Countries are to implement initiatives to develop their domestic bond markets, with these corporate issuers take a cue by floating bonds in the capital markets and reducing reliance on bank financing (Thotho, 2014). There is a growing need for corporate institutions to finance their infrastructure development from fixed rate debt with long term horizon which is available from the capital markets (The World Bank, 1995). A well-developed domestic bond markets exist in countries that have been able to reduce the stock of short term securities in the debt portfolio, and can also stimulate a broader investor base to increase competition coupled with the optimisation of the price for government paper, and an improvement in the regulatory and operating environment for efficient functioning of the market. The ability of the government debt management to consider the preferences of investors and to promote the development of appropriate instruments, trading infrastructure and distribution channels for government securities is an excellent strategy to developing the domestic bond markets (World Bank & IMF, 2001).

The IMF and World Bank initiated a program to assist, *among other thi*ngs, SSA countries in growing the bond market to ensure the goal of maintaining debt sustainability by developing feasible medium-term debt management strategies. Thus, the question to ascertain is the feasibility of achieving the desired goal of bond market development through the IMF and World Bank joint program initiative

(Adelegan & Radzewicz-Bak, 2009). Furthermore, developing LCMBs can be achieved in low-income nations by expanding and enhancing longer-maturity marketable components of such nations' domestic debt.

Empirical Review

Using social, economic and institutional factors, Khalid and Rajaguru (2018) investigated the determinants of the size of the domestic bond market for a sample of 47 countries over the period 1998-2013. Applying the Generalised Method of Moments (GMM) and Two-Stage Least Squares (2SLS) estimators, the results indicated that the size of the economy, banking system breadth and depth, monetary policy stance, degree of market openness, level of corruption, degree of civil liberty, and market accessibility to investors all play a significant role in determining the size of the domestic bond market. Kibet (2015) examined the effect of government bonds on capital market growth in Kenya over the period 2004-2014. Using regression analysis, the study found that the issuance of government bonds and the level of capital market growth are positively correlated. Also, it concluded that the supply-leading hypothesis (SLH) of capital market growth prevailed in Kenya for the period under review.

Msangi (2015) scrutinised the determining factors of capital market development in Tanzania, with a particular focus on the Dar Es Salaam Stock Exchange over the period 1998-2012. The regression results revealed that the critical determinants of the capital market include investment, foreign direct investment, and banking sector development. Besides, the study could not find a relationship between stock market liquidity and capital market development. Adetiloye, Babajide, and Ugwu (2015) researched the constraints to the growth of capital markets in African economies, using Nigeria as a focal point. Employing the multiple regression techniques, the results revealed that poor organisation of the market, high transaction cost, lack of various securities, and instability in governmental policies served as constraints to the growth of capital markets.

Focusing on South Africa, Kapingura and Makhetha (2014) examined the causal relationships which exist between bond market development and economic growth in Africa over the period 1995-2012. Adopting the Engle-Granger co-integration and the pairwise Granger causality tests, the results showed a relationship between bond market capitalisation and economic activity. Furthermore, it revealed that

African governments should emphasise policies which would ensure the development of the bond market as a way to mobilise domestic resources for bond market investment which would, in the long run, promote economic growth. Nwiado and Deekor (2013) examined in the ways foreign participation and the growth of the domestic bond market in same market function to impact the growth and development of the Nigeria capital market. Through the Vector Autoregressive (VAR) model, the study found that the participation of expatriates in the domestic bond market adds nothing or rather minimally to liquidity in the Nigeria local bond market, while the national yield curve is also not affected, thus, violating what existing theories have established.

Andriannaivo and Yaryet (2010) studied the growth of the African financial market. Using a Dynamic Panel estimator, the study's finding indicates that the protection of creditor rights, level of income, political risk, and financial repression are main determinants of banking sector development in Africa while main determinants of stock market development include domestic savings, banking sector development, political risk, and stock market liquidity. Furthermore, it showed that the liberalisation of the capital account promotes the development of the financial market only in nations with well-developed institutions or the high-income countries, or both. Applying Ordinary Least Square regression (OLS) estimation technique, Eriki and Okafor (2008) examined the impact of government bonds on growth and development of the Nigerian capital market between 1970 and 2003. The results revealed that the current prospect's level and benefits of the Nigerian capital market can be improved upon to attain yet greater height.

Considering a panel dataset of emerging and developed nations, Claessens *et al.* (2007) investigated the determinants of domestic government bond markets' and their currency composition. It showed the size of the economy as one factor which can enhance the development of a bond market. El-Wassal (2005) investigated stock markets' growth relationship with financial liberalisation policies, economic growth, country risk factors, and foreign portfolio investment in 40 emerging markets over the 1980-2000 periods. Employing TSLS and the Fixed Effect (FE) techniques, its findings suggested that foreign portfolio investments, financial liberalisation policies, and economic growth were prominent factors influencing stock market growth.

Methodology: Model Specification

This study builds an empirical model to inspect the effect of government bonds on Nigerian capital market growth. Hence, the functional relationship is given as follows:

$$ALSI = f\ (MCGS,\ VLGS,\ NLGS) \qquad (1)$$

Equation 1 could be expressed mathematically as:

$$ALSI_t = \beta_0 + \beta_1 MCGS_t + \beta_2 VLGS_t + \beta_3 NLGS_t + \mu_t \qquad (2)$$

Importantly, equation two is transformed into an exponential model by applying logarithm in the model. The natural logarithms of all the variables are used in the econometric analysis against using absolute values to avoid spurious results.

The exponential model is specified as thus:

$$ALSI_t = \beta_0 + \beta_1 lnMCGS_t + \beta_2 lnVLGS_t + \beta_3 lnNLGS_t + \mu_t \qquad (3)$$

ALSI represents the All-Share Index, which is a measure of the growth and performance of the capital market. MCGS is the market capitalisation of government bonds (aggregate value of tradable government bonds, it measures the size of government bond market); VLGS is the traded value (sum of respective matching prices multiplied by the total of the bonds traded; NLGS is the total listed bonds on the Nigerian capital market. All the data were log-transformed because they are positive figures; this was done to bring the data to the same base, hence making results interpretation easy. This study hypothesised that market capitalisation of bonds, the value of traded bonds, and the total number listed bonds significantly affect the growth of the capital market.

Where; β_0 is the intercept and β_1 to β_3 are the coefficients, *ln* is natural logarithm while μ is the error term.

Data Collection

Time-series data was adopted for this study. The secondary data on the market capitalisation, value and numbers of listed government bonds together with All-Share Index (which measures capital market growth) was obtained from reports of NSE market outlook published over the period from 2010. However, this study made some back-of-the-envelope calculations to arrive at the required figures such

as the value of bonds traded. The data for all the variables in the study were collected over the period 2010-2017, eight years period.

Method of Data Analysis

The Generalised Method of Moments (GMM) regression technique was used for the data analysis. This technique uses instrumental variables to assuage the challenges of simultaneity bias and potential endogeneity. This study employed the GMM estimation technique to explain the relationship which exists between the independent variables and dependent variable. The instruments/instrument variables (IVs) allow better estimation of parameters because some explanatory variables are conceptually endogenous such as the NSE All-Share Index, among others. The validity of the IVs is tested through the use of Hansen J-statistic. The null hypothesis for the Hansen J-statistic is that over-identification restrictions are valid. The acceptance of the null hypothesis implies that the IVs are valid. IVs are variables that are correlated with the explanatory variables but not correlated with the error term. Conversely, it is imperative to note that the number of IVs to use must not be less than the number of regressors (explanatory variables) in the model.

Estimation Results: Presentation of GMM results

Table 1 presents the model results' estimated with the Generalised Method of Moments (GMM) estimator. This result indicates the linear relationship that exists between the dependent variable and each of the independent variable.

Table 1. Results of the generalised method of moments (GMM)

Dependent variable: All-Share Index (ALSI)

Explanatory variable	Coefficient	t-statistic	*p*-value
lnMCGD	-0.583596	-2.641403	0.0776***
lnVLGD	0.491379	2.472403	0.0899***
lnNLGD	1.834152	1.634184	0.0407**
Intercept	7.023000	5.045814	0.0150**

R^2 = 0.62039 J-statistic (*p*-value) = 0.05549 (0.8137) Instrument rank = 5 D*W stat.= 1.830

Note: *** and **** signifies the rejection of null hypothesis of statistical significance of series at 5% and 10% significance level respectively.*

The GMM estimator result in Table 1 reveals contrary to *a priori* expectation that the coefficient of the market capitalisation of government bonds is negatively signed. The negative coefficient value of 0.583596 implies that a ₦1 trillion increase in the market capitalisation of government bonds will *circa* decrease the NSE All-Share Index by ₦0.58 trillion. This study does not reject the hypothesis that the market capitalisation of government bonds significantly affects the growth of the Nigerian capital market.

The coefficient of the value of listed government bonds is positively signed; the value of the coefficient is obtained as 0.491379. This conforms to *a priori* expectation of a positive relationship between the value of listed government bonds and NSE All-share index, which is a measure of the performance of the capital market. In terms of magnitude, this suggests that a ₦1 trillion increase in listed government bonds value will spur the NSE All-Share Index by *circa* ₦0.49 trillion. This study upholds the hypothesis that the value of listed government bonds significantly affects the growth of the Nigerian capital market.

The number of listed government bonds has a positive coefficient of 1.834152, which also conforms to *a priori* expectation. This result indicates that a ₦1 trillion increase in the number of listed government will increase the NSE All-share index circa by ₦1.83 trillion. The hypothesis that the number of listed government bonds significantly affects the growth of the Nigerian capital market cannot be rejected.

Based on the *p*-value that accompanies each of the regressors in the model for this study, all three regressors are statistically significant but at varying levels. The market capitalisation of government bonds (MCGD) is statistically significant at 10 per cent with 0.0776 as its *p*-value, thus lesser than the 10 per cent threshold level. The value of listed government bonds is also statistically significant at 10 per cent, as revealed by the *p*-value of 0.0899. Therefore, this regressor is vital in determining the behaviour of NSE All-share index. The number of listed government bonds is however statistically significant at 5 per cent, as shown by the *p*-value of 0.0407, which is lesser than 5 per cent significance level.

The coefficient of multiple determination denoted as R^2 with a value of 0.6203 ≈ 0.62 shows that 62 per cent of the total variation in NSE All-share index. All the independent variables of MCGD, VLGD, and NLGD can explain the behaviour of NSE All-share index up to 62 per cent, while the remaining 38 per cent is accounted for by the stochastic term which is present in the model, and these are factors not specified in the model. In other words, the remaining 38% is attributed to the presence of white noise or disturbance in the model. This was confirmed by the coefficient of the Adjusted R^2, which gave a value of 0.2408 implying that after all necessary adjustments the explanatory variables account for the 24.08% variation in the explained variable (NSE All-share index), while the remaining 75.92% can be attributed to the unexplained variable or the error term.

The Hansen J-statistic is 0.055489 with a corresponding *p*-value of greater than 0.1. Thus, this study fails to reject the null hypothesis of valid over-identifying restrictions for the instruments at 10 per cent level of significance, thus giving the study the confidence that the five instrumental variables used are valid, not over-identified and lead to consistent estimates. We document the absence of first-order serial correlation of residuals in the model as reported by the Durbin Watson (DW) statistics which is close to 2.

Discussion of Findings

This study intends to determine the effect of government bonds on capital market growth in Nigeria over the period 2010-2017. The GMM estimator as shown in the analytical results revealed that all the explanatory variables but one (market capitalisation of government bonds, MCGD) are accustomed to *apriori* expectation as their respective coefficients show a positive relationship with the NSE All-Share Index in the case of the value of listed government bonds (VLGD), and number of listed government bonds (NLGD). While the parameter of MCGD shows a negative or inverse relationship with the NSE All-Share Index.

The findings showed that the market capitalisation of government bonds (MCGD) is statistically significant in the regression equation, with a *p*-value not greater than 0.0776. The coefficient of MCGD does have a negative effect on the NSE All-share index. This result which does not match with the findings of Kibet (2015) where a positive association exist between market capitalisation of government

bonds and capital market growth, however, confirms with Eriki and Okafor (2008) and Nwiado and Deekor (2013) studies. The value of listed government bonds (VLGD) showed a positive and significant effect for the NSE All-Share Index. This result also varies from that of Kibet (2015), but consistent with the work of Nwiado and Deekor (2013). The number of listed government bonds (NLGD) had a positive and also significant effect on the NSE All-Share Index. This result is consistent with the studies of Eriki and Okafor (2008) and Kibet (2015).

The coefficient of multiple determination otherwise known as R^2 which was put to 62.02 per cent shows that the government bonds affect the growth of the Nigerian capital market, measured with the NSE All-Share Index. This can be justified with the total variation of the NSE All-Share Index which we can say is attributed to or accountable for by all the explanatory variables (MCGD, VLGD, and NLGD) while the remaining 37.98 per cent can be attributed to the error of the observations, i.e. the stochastic variable. This is further proven by the coefficient of the Adjusted R^2, which gave a value of 0.2408. This implies that after necessary adjustments the explanatory variables account for the 24.1 per cent variation in the explained variable (NSE All-Share Index), while the remaining 75.9 per cent can be attributed to the unexplained variable or the error term.

The probability value (*p*-value) test revealed that all the independent variables were statistically significant in explaining the behaviour of the dependent variable (NSE All-Share Index). This was confirmed by their respective probability values lesser than 5 per cent (in the case of NLGD) and 10 per cent for MCGD and VLGD. There is the absence of the first-order autocorrelation in the model employed for this study, which also indicates that errors in the estimated values of NLGD, MCGD, and VLGD were serially uncorrelated with one another.

Conclusion and Recommendations

This study examined the effect of government bonds on capital market growth in Nigeria for the 2010-2017 periods. The main finding which appears from this study indicated that government bonds and NSE All-Share Index are positively related, and such a relationship is a significant and robust effect. One of the most critical findings in this study is that the number of listed government bonds is a significant determinant of capital market growth in Nigeria.

In the light of the significant findings in the study, we recommend that: First, policymakers in Nigeria should encourage the issuance of more government bonds to the public and further to enhance the efficiency of the capital markets, both primary and secondary. This will in no doubt lead to the mobilisation of more funds and have a positive effect on capital market growth. Second, this study reveals that bond market really motivates capital market growth in Nigeria, hence it is essential that all stakeholders in the private- and public sectors coupled with investors, should engage and promote activities that will enhance the bond market development. Thus, efficient markets through the availability of information to the public should be a priority.

Third, the capital market can be made viable to attract the investment of small and individual investors by improving its market illiquidity status; this improvement will, in the long-run, promote economic growth. Fourth, funds generated from investments in government securities should be channelled into productive use in viable economic sectors capable of good yield, thus, stimulating growth in all economic facets and also encourage investors who may be hesitant to invest without visible results.

Fifth, the government should issue bonds in lower denominations to encourage the uptake by individual and small investors in volumes suitable to them. This will rally volumes due to massive uptake which can contribute to capital market growth. Lastly, the private sector investments and participation in the capital market should be encouraged through public enlightenment and education which would promote public participation in capital market activities. Experts and professionals in stock market dealings can help the private investors achieve this goal of public enlightenment.

References

Abbas, S. M. A., & Christensen, J. E. (2010). The role of domestic debt markets in economic growth: An empirical investigation for low-income countries and emerging markets. *IMF Staff Papers, 57(*1), 209-255.

Adelegan, O. J, & Radzewicz-Bak, B. (2009). *What determines bond market development in sub-Saharan Africa*? International Monetary Fund, 9-213.

Adetiloye, K. A., Babajide, A. A., & Ugwu, N. F. (2015). Constraints to capital market growth in African economies: The case of Nigeria. *Journal of Finance and Investment Analysis, 4(3*), 1-16.

Andrianaivo, M., & Yartey, C. A. (2010). Understanding the growth of African financial markets. *African Development Review, 22(*3), 394-418.

Bhattacharyay, B. (2011). Bond market development in Asia: An empirical analysis of major determinants. ADBI Working Paper 300. Tokyo: Asian Development Bank Institute.

Bhattacharyay, B. N. (2013). Determinants of bond market development in Asia. *Journal of Asian Economics, 24*, 124–137.

Cassimon, D., Essers, D., & Verbeke, K. (2015). What to do after the clean slate? Post-relief public debt sustainability and management. Institute of Development Policy and Management (IOB), University of Antwerp. Working Paper N° 3 April 2015.

Cassimon, D., Essers, D., & Verbeke, K. (2016). The changing face of Rwanda's public debt. Institute of Development Policy and Management (IOB), University of Antwerp. Working Paper N° 14 November 2016.

Claessens, S., Klingebiel, D., & Schmukler, S. L. (2007). Government bonds in domestic and foreign currency: The role of institutional and macroeconomic factors. *Review of International Economics*, *15(*2), 370–413.

El-Wassal, K. A. (2005). Understanding the growth in emerging stock markets *Journal of Emerging Market Finance, 4(*3), 227-261.

Eriki, P. O., & Okafor, C. (2006). Government bonds and capital market development: The Nigeria experience. *Finance India, 22(*2), 14-26.

Essers, D., & Cassimon, D. (2013). And what about Africa's original sins? *IOB Working Paper*, No. 2013.1

Grandes, M., & Peter, M. (2013). The empirical determinants of local-currency-denominated corporate spreads in emerging economies: evidence from South Africa. *The African Business Review*.

IMF, World Bank, EBRD, and OECD. (2013). *Local currency bond markets:* A diagnostic framework. IMF, Washington, DC.

Kapingura, F., & Makhetha-Kosi, P. (2014). The causal relationship between the bond market development and economic growth in Africa: The case study of South Africa. *Mediterranean Journal of Social Sciences, 5(*3), 126-131.

Khalid, A. M., & Rajaguru, G. (2018). Investigating the determinants of domestic bonds: The role of socio-economic and institutional factors. *Applied Economics, 50(*1), 35-50.

Kibet, A. (2015). *The effect of government bonds on capital market growth in Kenya*. An unpublished M.Sc. Dissertation submitted to the School of Business, University of Nairobi, Kenya.

Kumhof, M., & Tanner, E. (2005). Government debt: A key role in financial intermediation. *IMF Working Paper*, No. 05/57.

Mu, Y., Phelps, P., & Stotsky, J. G. (2013). Bond markets in Africa. *Review of Development Finance, 3*, 121–135.

Nwiado, D., & Deekor, L. N. (2013). The domestic bond market and the development of the Nigerian capital market: An empirical analysis. *Journal of Economics and Sustainable Development, 4(*7), 21-29.

Peiris, S. J. (2010). Foreign participation in emerging markets local currency bond markets. *IMF Working Paper Series* N0. 10/88).

Smaoui, H., Grandes, M., & Akindele, A. (2017). The determinants of bond market development: Further evidence from emerging and developed countries. *Emerging Markets Review, 22,* 148-167.

Teplova, T. V., & Sokolova, T. V. (2018). Market development determinants for corporate bonds in national currencies: Emerging Markets Review. *Journal of East-West Business, 24(*1), 50-80.

Thotho, L. (2014). *Key determinants of government bond market development in MEFMI Region*. MEFMI Felloes Development Programme: Domestic debt and capital markets development. Central Bank of Kenya, Kenya.

World Bank and IMF (2001). Developing government bond markets: A handbook. World Bank/IMF, Washington, DC.

Yartey, C. A., & Andrianivo, M. (2010). Understanding the growth of African financial markets. *African Development Review, 22(*3), 394-418.

ORCID ID: *https://orcid.org/0000-0002-1806-7831*
Temitayo O. Olaniyan

ORCID ID: *https://orcid.org/0000-0002-5473-0477*
Samuel O. Ekundayo