



Fixed Income Securities and Financial Performance of Deposit Money Banks in Nigeria

OSAYI¹, Valentine Igbinedion and BAKO², Rimamchirika Saleh

¹Lecturer, Department of Banking and Finance, Faculty of Management Sciences, Federal University Wukari, PMB 1020 Taraba State, Nigeria.

E-mail: Valbobbies@yahoo.com / Osayi@fuwukari.edu.ng

²Department of Banking and Finance, Faculty of Management Sciences, Federal University Wukari, Taraba State; Nigeria.

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Abstract: This study investigated the effect of the use of fixed income securities on financial performance of Deposit Money Banks in Nigeria. Fixed income securities which were the independent variables were measured as government bond, corporate bond, treasury bill and commercial paper while financial performance which is the dependent variable was measured as total asset of deposit money banks in Nigeria. Employing the Ordinary Least Square (OLS) regression estimation technique as embedded in Eview 8.0 econometric software to analyse the time series data which are secondary in nature as obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin with the period ranging from 1991 to 2021, the study found the following: Government bond does have positive and significant effect on the financial performance of deposit money banks in Nigeria. There is positive but not significant relationship between corporate bond and the financial performance of deposit money banks in Nigeria. Treasury bill does positively and significantly affect the financial performance of deposit money banks in Nigeria. There is positive and significant effect of commercial paper on the performance of deposit money banks in Nigeria. Flowing from the foregoing findings, the study concluded that fixed income securities have significant effects on the financial performance of deposit money banks in Nigeria and therefore recommends that the Federal and the sub national governments of Nigeria should cultivate the habit of floating bonds in the domestic market in their borrowing decisions. This would not only encourage the development of the Nigerian Capital market

but would encourage deposit money banks and other entities to patronage the market for their portfolio investment decisions.

Keywords: Fixed Income Securities, Financial Performance, Deposit Money Banks, Government Bond, Corporate Bond

Introduction

Fixed income securities are crucial components of the total investment portfolio of assets of deposit money banks in Nigeria. Fixed income securities are of great importance in the investment portfolio available to deposit money banks in Nigeria as they contribute to the overall capacity of financial institutions to offer goods and services. Fixed income securities have gained significant global popularity as a means of generating funds for financing extensive developmental and capital endeavors. Governmental authorities, municipal authorities, and corporate entities are employing them extensively to fulfill their financial needs. Fixed income securities not only enable access to a wide pool of investment, but also contribute to the development of an efficient capital market.

Given the imperative role of a robust financial infrastructure in fostering economic progress, it is undeniable that securities play a crucial and valuable part in this regard. Fixed income securities have become increasingly popular among deposit money banks in Nigeria as a means of raising funds to meet funding requirements and foster the development of an efficient financial market in Nigeria.

The performance of securities in the capital market exhibits temporal variation. The profitability of investors in the market is contingent upon the specific technique they employ to outperform the market. Numerous research, like the work of Bospalko (2009), have elucidated the phenomenon wherein security prices exhibit fluctuations, hence posing challenges for investors seeking to outperform the market. Consequently, financial markets demonstrate varying levels of inefficiencies, whether in industrialized regions like the London Stock Exchange (SE) or in emerging nations such as the Nigeria Exchange (NEX). The aforementioned deficiencies are frequently instigated by deviations that have the potential to disrupt the predictable patterns of share prices and the magnitude of stock movements in the stock market. According to Borges (2009), the value of a security, such as a fixed income security, fluctuates systematically during a calendar year, resulting in uneven distribution of total assets over specific time periods.

In 1900, Louis Bachelier made a significant contribution to the field of finance by introducing the notion of random hypothesis in his thesis titled "Theory of

speculation." This concept was further developed by Eugene Fama in 1965, leading to the establishment of the theory of market efficiency.

Numerous academics have made significant contributions to the study of market efficiency in the past few decades. Fama (1970) posited that a financial market can be deemed well-organized when the prices of shares accurately and comprehensively incorporate all available data. Despite the considerable attention devoted to this theory by scholars, it is evident that in the present business environment, it is challenging to identify a financial market that fully embodies all the assumptions of the efficient market theory elucidated by Fama. These assumptions include the absence of transaction costs, unrestricted access to information, and complete consensus among market participants. The theory of behavioral finance examines the cognitive psychology of investors in relation to financial securities in the market, taking into account their historical, current, and anticipated performance (Borges, 2009).

Fixed income securities are often seen as less hazardous than equity securities on a global scale because of their dependence on a predetermined market rate, which is influenced by several market conditions such as economic performance. In their study, Mamede and Malaquias (2017) conducted an analysis on the impact of the Monday effect on fixed income securities within the Brazilian market. Their findings revealed that, on average, Mondays exhibited poorer returns compared to other days. Zaremba and Schabek (2017) conducted a study investigating the January effect in government bond markets across 25 nations. Their findings revealed that bond returns were not influenced by the January effect. Numerous scholarly endeavors have been undertaken at the local level to elucidate the occurrence of turn-of-the-month effects in financial markets across diverse assets. This phenomenon manifests as fluctuations in the returns on share prices, which deviate from the average returns observed within a specified calendar period.

According to Bauer (2004), there are multiple sources of fixed income securities and their mutual combinations. The idea of fixed income securities holds significant importance in the field of finance as it pertains to the many sources of securities that are accessible to deposit money banks seeking to raise funds for investment purposes in their operations.

The subject of fixed income securities has continued to generate significant scholarly interest, prompting numerous researchers to pursue studies in this area. Given its significant role in facilitating investors' ability to forecast the overall asset

value in the future, there remains a pressing necessity to evaluate the effects of fixed income securities within the financial system, particularly in Nigerian deposit money banks (DMBs). It is against this backdrop, that the study seeks to investigate the effect of fixed income securities on the financial performance of deposit money banks in Nigeria.

Conceptual Review

Financial/Portfolio Performance of Deposit Money Banks in Nigeria

A portfolio is a collection of securities, such as stocks, that are kept by lenders, such as banks, or other financial institutions. Portfolio management is the practice of effectively managing assets by adhering to specific rules and procedures. Portfolio investment refers to the amalgamation of many investments made by individuals, organizations, and financial institutions. Financial institutions carefully manage their assets and obligations to achieve an optimal balance between revenue or profit, liquidity, and safety. The portfolio investment of a bank encompasses a variety of assets, including loans, traded securities, liquidity reserves, and other goods that are financed by debt and equity (Osayi, Dibal, & Ezuem, 2019).

Financial performance pertains to the implementation of financial operations within an organization by its managerial staff. Within a broader framework, the concept of financial performance encompasses the degree to which financial objectives have been achieved or are currently being achieved within a designated period. Financial performance evaluation refers to the methodical appraisal of a company's strategies and activities with the aim of measuring their achievements in monetary terms. The assessment of a corporation's financial sustainability can be conducted by utilizing this particular methodology, which facilitates the examination of its comprehensive financial performance within a designated period. Moreover, it can be employed to establish comparisons among analogous entities functioning within the identical sector or to contrast diverse industries or sectors in their whole (Ravinder & Muskula, 2013; Yahaya & Lamidi, 2015). According to Carton (2004) and Richard, Deviney, Yip, and Johnson (2009), the term "financial performance" encompasses the evaluation of an organization's financial state and the consequential results that arise from managerial choices and their execution.

The financial performance can be categorized into five primary classifications. "The primary classification encompasses a multitude of profitability measures,

including return on equity, return on assets, return on capital, return on sales, and operating margin. The second category comprises growth metrics that are generated from sales, total assets, and total staff. The third category encompasses financial performance metrics related to leverage, liquidity, and cash flow". The aforementioned metrics include the debt to equity ratio, the operational cash flow to equity ratio, and the growth rate of operating cash flow. The fourth category comprises market-oriented measures, such as the cost of equity capital and the price-to-book ratio. The fifth category encompasses economic value measurements, namely residual income and residual income return on investment (Carton, 2004).

The efficiency of resource use and the potential to generate profit are contingent upon the financial performance of a corporation (Aymen, 2013). The importance of the financial performance of Deposit Money Banks (DMBs) cannot be overstated due to the significant role they play in the economy. This function encompasses the supply of financial intermediation, serving as a transmission channel for monetary policy, and contributing to the maintenance of economic stability (Abbadi& Abu-rub, 2012). The study conducted by Scott and Timothy (as described in Ronoh&Ntoiti, 2015) emphasized the significance of solid financial performance within the banking sector. It highlighted that banks possessing robust financial performance and adequate capital are capable of enduring unfavorable disruptions. This suggests that a robust banking sector will remain stable and continue to fulfill the necessary role of financial intermediation. According to Hafiz (2018), a robust and well-functioning banking industry has the potential to contribute to the expansion of financial services, generate additional job opportunities, and foster financial stability.

Fixed Income Securities

Fixed income securities are a category of financial instruments characterized by their nature as debt obligations. These securities offer investors a predictable stream of income in the form of regular interest payments, as well as the return of the initial amount invested upon maturity (Securities & Exchange Commission, 2007). In accordance with Bantekas (2003), "governmental bodies, corporations, and other entities utilize instruments as a means to get funding for their operational activities". A fixed-income security refers to an investment vehicle that offers a predetermined and consistent stream of interest payments at regular intervals, together with the repayment of the initial investment amount upon reaching maturity.

According to Innerty (1988), “fixed-income securities offer investors a consistent flow of predetermined interest payments at regular intervals, as well as the eventual repayment of the initial investment amount upon the security's maturity”. According to Bengtsson (2013), “bonds are widely recognized as the prevailing kind of fixed-income security. However, there are additional types of fixed-income securities, such as certificates of deposit (CDs), money market instruments, and preferred shares”.

Types of Fixed-Income Securities

While there exists a wide range of fixed-income instruments, the following selection represents a few of the most commonly favored options, apart from corporate bonds.

Government Bonds: A government bond refers to a type of fixed income security that is issued by governments with the purpose of raising funds for financing various projects and supporting operational activities” (Patara, Yoonbai& Chong, 2017). Government bonds exhibit a range of maturity periods and face values. The face value of a bond refers to the principal amount that an investor will receive upon the bond's maturity.

Government bonds, often known as treasury bonds, refer to government securities with medium to long-term maturity periods. In the Nigerian context, government bonds are issued by the Debt Management Office (DMO) on behalf of the Ministry of Finance. Government bonds are a component of the capital markets. The Capital market encompasses a range of organizations and processes that facilitate the trading of long-term financial assets, which have a maturity period exceeding one year. The primary instruments employed for capital mobilization in the Nigerian capital market encompass government bonds issued by both the Central and Local Governments. A bond represents a formal acknowledgment of debt from a borrower to a lender. Consequently, individuals who invest in bonds are effectively providing a loan to the entity issuing the bonds. The bond market serves as a platform where governments seeking to secure loans are connected with investors that possess the necessary capital to provide lending.

Theoretical Review

Modern Portfolio Theory

The Modern Portfolio Theory (MPT) originally proposed by Harry Markowitz (Ross, 1976), suggests that institutions possess the capacity to construct portfolios

that can generate the highest expected returns. The objective of the theory is to maximize earnings within a predetermined level of portfolio risk, or conversely, to decrease risk while simultaneously maximizing projected returns. The attainment of this target can be accomplished by doing a thorough assessment and choosing from a wide range of investment options that are presently available in the market (Fabozzi, Gupta, Markowitz, 2002).

Modern Portfolio Theory (MPT) is a framework that delineates techniques for risk-averse investors to optimize their portfolios by maximizing the anticipated return while taking into account a pre-established amount of market risk. The recognition and appreciation of diversification as a strategy for risk mitigation has been present in financial markets from their inception. The mathematical model for portfolio selection was initially formulated by Markowitz (1952, 1959). Harry Markowitz created the concept of contemporary portfolio theory in 1951, wherein he applied fundamental mathematical principles to tackle the task of generating optimal investment portfolios. The Markowitz portfolio selection methodology assesses the "return" of a portfolio by considering the anticipated value of the random portfolio return, while the "risk" is evaluated by examining the variance of the portfolio return.

The author further argued that a narrow emphasis on attaining elevated returns is an inadequate strategy, and suggested that rational investors should instead aim to find a harmonious equilibrium between their desire for high returns and their aversion to risk. This can be evaluated by considering the variability in returns or by establishing a minimum benchmark for satisfactory returns. The determination of the optimal portfolio can be achieved by the resolution of a convex quadratic programming problem. The mean-variance model has had a substantial impact on the economic modeling of financial markets and the valuation of assets. Modern Portfolio Theory (MPT) is a sophisticated investment technique or strategy that differs significantly from the traditional approach of stock selection, as emphasized by Shefrin (2001). The primary aim is to highlight the suitable level of risk tolerance and afterwards determine a portfolio that presents the maximum expected return while adhering to that specific risk threshold.

The Modern Portfolio Theory (MPT) is widely regarded as a beneficial tool for investors who aim to design portfolios that are well-diversified. The advent and subsequent growth of exchange traded funds (ETFs) have significantly bolstered the significance of Modern Portfolio Theory (MPT) by enabling investors to

conveniently acquire a wide array of fixed income assets. Investors in the stock market can utilize Modern Portfolio Theory (MPT) to reduce risk by allocating a portion of their investment portfolios to government bond exchange-traded funds (ETFs).

Empirical Review

Numerous related empirical studies have been undertaken to examine the financial performance of deposit money banks in Nigeria in relation to fixed income securities with mixed findings.

Olatunji and Adegbite (2014) examined the influence of investment in fixed assets on the profitability of a particular cohort of banks in Nigeria. The data from the annual reports of specific banks in Nigeria were utilized. They employed statistical approaches such as the Pearson product moment correlation and multiple regression models for data analysis. The results of the study demonstrated a significant correlation between the dependent variable, net profit, and many independent factors such as building, information communication and technology, machinery, household, land, and fixtures and fittings. The enhanced R² coefficient of determination, which stands at 96%, provides additional substantiation for this assertion. The research findings suggest that there is a statistically significant positive association between investment in fixed assets and the profitability of the banking sector in Nigeria. Therefore, it is advisable for banks to increase their allocation of resources towards investments in fixed assets in order to improve their total profitability.

In a study undertaken by Okwo, Ugwunta, and Nweze (2012), with the objective of assessing the degree of correlation between the investments in fixed assets and the reported profit of the Nigerian brewery industry. The study employed data obtained from the Nigerian Brewery sector spanning eleven-year duration to evaluate the impact of fixed asset investment on the profitability of the Nigerian Brewery sector. The research employed a regression statistical model for the purpose of analysis. The findings of the study indicate a positive link between investments in fixed assets and the operational earnings of chosen brewery firms in Nigeria. Nevertheless, it is crucial to acknowledge that the observed correlation did not attain statistical significance. The investigation eventually concluded that there exists an absence of a substantial positive link between fixed assets investment and profitability within the beer industry in Nigeria.

Abubakar, Nasir, and Haruna (2013) examined the potential “impact of Information and Communication Technology on the operational efficiency of select banks in Nigeria”. The data employed in this study were obtained from the annual reports of a specific group of banks during a period of eleven years, especially from 2001 to 2011. The analysis of the data entailed the application of Fixed and Random Effects Models. The study's findings suggest that there is a negative correlation between increased long-term investment in information and communication technology (ICT) and the performance and profitability of banks. Therefore, the study suggests that it is more beneficial to prioritize policies that promote the efficient utilization of ICT equipment, rather than solely focusing on rising investment levels.

In their study, Mishra & Cobeli (2003) sought to investigate the “influence of research and development (R&D) endeavors on the operational outcomes of businesses in the United States”. The study encompassed a time frame of thirteen years, specifically spanning from 1990 to 2002. A comparative analysis was undertaken to investigate the correlation between research and the impact of investment on corporate performance. This study employed a cross-sectional regression model to investigate the correlation between the effects of allocating one dollar towards research and development and allocating one dollar towards non-current assets in the chemical and pharmaceutical industry in the United States. The analysis utilized improved time series data. The research findings suggest a positive association between the extent of investment in research and development (R&D) and many performance metrics of a firm, such as net margin, operating margin, and return on assets, sales, and other pertinent variables. The study's findings suggest that Research and Development (R&D) endeavors exert a more significant impact on a firm's market value in comparison to the influence of fixed asset investment. The findings of the study indicate that research and development (R&D) activities have a dual impact on the market value of the firm, which is distinct from the impact of investments in fixed assets.

Abata (2014) undertook a study to investigate the “impact of asset quality on the performance of the six largest banks listed on the Nigeria Stock Exchange”. The study utilized secondary data obtained from the annual reports of commercial banks spanning a period of fifteen years (1999-2013). The data was subjected to analysis using the Pearson correlation and regression tool within the SPSS 17.0 software. The study's results revealed a notable statistical association between the quality of assets and the performance of banks.

Yener, Kun, Murat, and Talat (2017) conducted a study to examine the relationships between the developmental status of different sub-components of the capital market, such as mutual/pension funds, corporate bond market, stock market, and government bond market, and the economic growth in Turkey during the period from January 2006 to June 2016. The findings of the study demonstrate the presence of a persistent cointegrating relationship between the advancement of capital markets and the expansion of the economy. Moreover, it establishes a one-way causal connection, suggesting that the expansion of financial markets exerts a substantial influence on the growth of the economy. The research utilized the ARDL, Markov Switching Regression, and Kalman Filter models to analyze the correlation between capital market development and economic growth. The results indicated that there was an uneven effect, as the development of the government bond market showed a negative relationship, while the combined index of other sub-components demonstrated a positive relationship with economic growth.

In their study, Duke and Nkamare (2015) undertook an examination of the performance of the capital market in Nigeria and its influence on the economic growth of the country from 1986 to 2005. The data concerning stocks was employed to develop a model for investigating the relationship between market capitalization, stock trading volume in the capital market, and economic advancement as indicated by GDP. The research employed a multiple regression analysis using the ordinary least squares estimation technique to analyse the collective influence of capital market indices, specifically government bonds, industrial stocks, and equities, on economic growth over a span of twenty years. The multiple correlation coefficients were used to evaluate the extent of the relationship between economic development and capital market performance. These coefficients indicated a positive value, indicating a direct and perfect association between the variables. The results also indicate that none of the components (predictors) exhibited independent predictive capability for GDP. The time period of the assessed research, ranging from 1986 to 2005, is considered old and potentially insufficient for making inferences about current trends in the capital market. This is in contrast to the current study, which covers the years 2010 to 2020.

Taiwo, Alaka, and Aferoho (2016) undertook a comprehensive assessment to examine the impact of the capital market on the promotion of economic growth within Nigeria. To achieve this objective, a statistical analysis was performed to estimate an error correction model, which aimed to examine the correlation

between economic growth in Nigeria and a range of parameters. The present study employed Vector Error Correction methodologies to analyze a time series dataset spanning the period from 1981 to 2014. The dataset was subjected to the Phillip Perron Unit Root Test at both the level and first difference. The results suggest that, at a significance level of one percent, all variables demonstrated stationarity following a single differencing. The results obtained from the examination of the standardized cointegrated series reveal that various macroeconomic factors, such as the rate of market capitalization, the overall value of listed securities, the rate of labor force participation, the cumulative savings, and the level of capital formation, exert a significant influence on the economic growth of Nigeria. The preceding investigation, notwithstanding its robust approach, predominantly focused on the subject of economic development. In contrast, the primary objective of the present study is to examine the expansion of the capital market as a significant indication of broader economic growth.

Abdelmonem and Mohamed (2018) conducted a study to examine the collective impact of interest rates and Treasury bill rates on stock market returns within the Egyptian Stock Exchange. The study spanned a period from November 2004 to November 2017. The study used econometric models to investigate the relationship between the Treasury bill rate, interest rate, and returns of the Egyptian Stock Market. The study's results demonstrate a noteworthy negative relationship between the Treasury bill rate, interest rate, and returns of the Egyptian Stock Market.

Methodology

The study employs longitudinal and causal research design. This entails measuring the cause and effect relationship between the dependent and independent variables over a long period of time. The periods covered by the study are 1991 to 2021. The choice of this period is because it is the period which precedes major economic reforms-Structural Adjustment Programmes (SAP) of the Federal government of Nigeria and political transition from the Military to civilian administration in Nigeria. The data for this study were collected from the Central Bank of Nigeria (CBN) statistical bulletin for various years, the National Bureau of Statistics (NBS) Quarterly Reports as well as the Nigeria Exchange annual reports.

Model Specification: The model for this study was drawn from Gujarati (2004) and Sangmi& Nazir (2010). Specifically, the study aligned with the Assets

Quality Theory, which posits that the profitability of banks is contingent upon the size of their loan portfolio. The model is specified to fit into an equation that can show effect of fixed income securities on the financial performance of deposit money banks in Nigeria. The model used variables such as total asset which is the proxies for dependent variable. The independent variables are government bond; corporate bond; treasury bills and commercial paper. The model is:

$$TA = f(GVB, COB, TRB, CMP) \quad (1)$$

Where

TA = Total Assets

GVB = Government Bond

COB = Corporate Bond

CMP = Commercial Paper

The econometric form of the model is presented as:

$$TA_t = \beta_0 + \beta_1 GVB_t + \beta_2 COB_t + \beta_3 TRB_t + \beta_4 CMP_t + \mu_t \quad (2)$$

Where;

t = Time series property,

μ_t = Error term

β_0 = Intercept

β_1 to β_4 = Coefficients

The *a priori* expectation of the models are:

$\beta_0 > 0$, β_1 to $\beta_3 > 0$

Analytical Technique: The study used descriptive statistics, Augmented Dickey Fuller (ADF) unit root test for normality and stationarity of the series and the Least Square Method (LSM) of linear regression to analyze the data.

Descriptive Statistics

Table 1 below shows the individual descriptive statistic for Total Asset (TA) of deposit money banks in Nigeria, Government Bond (GVB), Corporate Bond (COB), Treasury Bill (TRB) and Commercial Paper (CMP) from 1991–2021.

The results of the mean as presented in table 1 above revealed that only TA and GVB have considerable high mean values in the distribution of the series. The other variables COB, TRB and CMP have mean values that are averagely distributed. Of all the variables CMP has the lowest mean value with a mean value of 80.73839. The median values as shown in the table reveal that the variables are distant from

Table 1

	<i>TA</i>	<i>GVB</i>	<i>COB</i>	<i>TRB</i>	<i>CMP</i>
Mean	15406.32	3449.216	227.3487	1300.284	80.73839
Median	7172.930	890.2800	9.830000	797.4800	13.39000
Maximum	62930.76	19026.10	1400.430	3786.140	509.0800
Minimum	117.5100	2.100000	1.400000	56.73000	0.490000
Std. Dev.	17569.11	5099.656	419.9585	1211.516	138.8174
Skewness	1.102308	1.739718	2.065324	0.687979	2.016556
Kurtosis	3.344358	5.282920	5.976974	1.971745	6.003846
Jarque-Bera	6.431100	22.36934	33.48597	3.811152	32.66507
Probability	0.040133	0.000014	0.000000	0.148737	0.000000
Sum	477595.9	106925.7	7047.810	40308.80	2502.890
Sum Sq. Dev.	9.26E+09	7.80E+08	5290953.	44033162	578108.3
Observations	31	31	31	31	31

Source: Author's Computation, 2023 with Eview8.0

the mean. This means that there is high degree of disparity among the data within the period. In the standard deviation value, except for TA, the other variables show trends that oscillate around the mean point. This is good for the distribution of the series used for estimation and for inference in the study. The result of the skewness shows that all the variables are positively skewed. The implication of this is that the series used in the study are left-tailed. The results of the Kurtosis are all more than 3 except TRB, implying that they are leptokurtic (fat tail) while TRB is platykurtic (flat tail). The values pass the test for Kurtosis. This means that the series are normally distributed. Using 5% level of statistical significance, the probability value for Jarque-Bera statistic for all the variables except TRB are less than 5% which means that the series fail the normally test except TRB (TA $0.68 < 0.05$; GVB $0.00 < 0.05$; COB $0.00 < 0.05$; TRB $0.14 > 0.05$; CMP $0.59 < 0.05$). Since the Jarque-Bera statistics revealed that the series are not normally distributed, there is need for stationarity test for data suitability in order that accurate inferences are made.

Unit Root Test

The unit root test was conducted using the Augmented Dickey-Fuller (ADF) test to find out whether the variables exhibit unit roots property. The table below shows this:

Table 2: Summary of Unit Root Test Results

<i>Variables Statistic</i>	<i>ADF Test 95% Critical ADF value</i>	<i>Order of</i>	<i>probabilities Integration</i>	<i>Remark</i>	
TA*	7.244935	-2.963972	1(0)	0.0000	Stationary
GVB*	5.044559	-2.963972	1(0)	0.0000	Stationary
COB*	-4.171252	-2.963972	1(0)	0.00385	Stationary
TRB*	4.497721	-2.963972	1(0)	0.04226	Stationary
CMP*	-4.659729	-2.963972	1(0)	0.01081	Stationary

Source: Author's computation, 2023 using Eview 8.0* indicates significant at 5% levels.

From table 2 above, it is seen that all of the variables are stationary at levels. This is confirmed from the ADF test statistic which is greater than the 95% critical ADF values for all the variables. This shows that the time series properties of the data were relatively stable as there is no biasedness of information, indicating that the result is reliable.

Table 3: Least Squares Regression Results

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
C	-874.6112	487.5924	-1.793734	0.0845
GVB	2.349359	0.100378	23.40515	0.0000
COB	1.125317	0.807263	1.393990	0.1751
TRB	5.147083	0.466795	11.02642	0.0000
CMP	15.22171	2.071232	7.349111	0.0000
R-squared	0.993386	Mean dependent var		15406.32
Adjusted R-squared	0.992368	S.D. dependent var		17569.11
S.E. of regression	1534.861	Akaike info criterion		17.65696
Sum squared resid	61250769	Schwarz criterion		17.88825
Log likelihood	-268.6828	Hannan-Quinn criter.		17.73235
F-statistic	976.2033	Durbin-Watson stat		1.832668
Prob(F-statistic)	0.000000			

Source: Author's Estimation from EView 8.0, 2023.

The regression result in table 3 shows that the independent variables are able to explain the systematic variation in the dependent variable to the tune of 99% while only 1% is variation that could not be explained by the independent variables. In other words, 99% of the systematic variation of the impact of fixed income securities on the performance of deposit money banks in Nigeria is explained by the independent variables. The Adjusted R-squared value of 99.23% shows that the model is well specified to provide explanation for intended objectives of the study.

On the significance of the individual variables, GVB is found to have significant and positive effect on TA (GVB Prob. $0.0000 < 0.05$), COB has no significant effect on TA (COB Prob. $0.1751 > 0.05$), TRB has significant and positive effect on TA (TRB Prob. $0.0000 < 0.05$), CMP has significant and positive effect on TA (CMP Prob. $0.0000 < 0.05$).

On the direction of the effect of the independent variables on the dependent variable, GVB has positive significant effect on TA. A unit increase in GVB will result in 234.94% increase in TA. COB has no significant effect on TA. A unit increase in COB has a positive impact of 112.53% on TA. A unit increase in TRB will result in 514.70% direct and consequential increase in TA. Also, a unit increase in CMP will result in 1,522.17% increase in TA. TRB and CMP have positive effect on TA. This can be mathematically expressed as:

$$TA = -874.6112 * C + 2.349359 * GVB + 1.125317 * COB + 5.147083 * TRB + 15.22171 * CMP$$

Empirical Validation of Hypothesis using t-statistic

H01: There is no significant effect of government bond on the financial performance of deposit money banks in Nigeria.

It can be observed from the regression analysis that the computed t-statistic of 23.405 significantly exceeded the critical t-tabulated value of 2. The decision rule for the t-statistic in hypothesis testing states that the null hypothesis should be rejected and the alternate hypothesis accepted if the calculated t-value exceeds the critical t-value or decide otherwise, if the calculated t-value is less than the critical t-value. Hence, the study rejects the null hypothesis and concludes that there is significant effect of fixed income securities on the financial performance of deposit money banks in Nigeria.

Discussion of Findings

It can be seen from the result of the study that government bond has a very positive and significant effect on the performance of deposit money banks in Nigeria as measured by total asset of deposit money banks in Nigeria. The result goes to confirm the theory that many deposit money banks in Nigeria derive a lot of revenues from their investment in government bond which goes to boost their total asset as revealed by the study. This result is similar to the findings of Olatunji and Adeite (2014), who examined the effect of investment in fixed asset on the

profitability of selected banks in Nigeria. Again, the result is consistent with the finding of Harrison, Salihu and Yahya (2021), who examined the effect of fixed income securities on the growth of capital market in Nigeria from 2010 to 2020.

In addition, as can be observed from the result of the estimation above, corporate bond has a positive but no significant relationship with the performance of deposit money banks in Nigeria. The not significant relationship is consistent with economic theory that corporate bodies depend heavily on government patronage to succeed and also that investment in gilt edge securities is risk free with stable returns.

Also, it was observed from the study that there is positive and significant impact of treasury bill on the performance of deposit money banks in Nigeria. The finding is however contrary to Sheyin (2015) who examined the impact of deposit money banks' investment on treasury bill holdings in Nigeria and found a negative effect.

Commercial papers have been a veritable source of investment outlets for many corporate organizations in Nigeria. Though it is a short term source of funds, it has helped many companies to overcome their liquidity constraints overtime. As the result of the estimation reveals, commercial paper has a very positive and significant impact on the performance of deposit money banks in Nigeria. This finding is consistent with Ndugbu and Duruechi (2016) who examined the relationship between money market instruments and bank performance with commercial papers having positive and significant effect on bank performance in Nigeria.

Conclusion and Recommendations

The study was set out to examine the impact of fixed income securities on the performance of deposit money banks in Nigeria. Based on the findings of the study, the study concludes that fixed income securities are veritable investment outlets for deposit money banks in Nigeria in their choice of portfolio investments. Fixed income securities play significant role in determining the portfolio performance of deposit money banks in Nigeria. The funds provided from their investment in fixed income securities provide stable liquidity for the banks which ultimately contribute to the value of their total assets. And the larger the total assets of deposit money banks in Nigeria, the more equipped they are to finance huge and critical infrastructure that would impact the entire domestic economy.

Based on the findings of the study, the following recommendations are therefore made;

- (i) The Federal and the sub national governments of Nigeria should cultivate the habit of floating bonds in the domestic market in their borrowing decisions. This would not only encourage the development of the Nigerian Capital market but would encourage deposit money banks and other entities to patronage the market for their portfolio investment decisions.
- (ii) The Securities and Exchange Commission (SEC) as the sole regulator of the capital market in Nigeria should formulate policies that would attract the floating of corporate bonds by corporate entities in the market in order to be able to raise funds for their operational functionalities.
- (iii) The Central Bank of Nigeria (CBN) should regularly monitor the macroeconomic environment in order to know the appropriate time to either buy or sell treasury bills to deposit money banks in Nigeria as treasury bills have become a major investment outlets in their portfolio of investments with stable earnings.
- (iv) Corporate organizations should be encouraged and educated on the significance of commercial papers as veritable source of fund to them so as to maximize the opportunities they present.

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