



THE RELATIONSHIP BETWEEN THE INVESTMENT PORTFOLIO AND BANKING FINANCIAL PERFORMANCE IN NIGERIA

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Abstract

The study aims to investigate the relationship between the investment portfolio and banking financial performance in Nigeria. The study took an ex post factor research design and firm was used as the unit of analysis. A population of the 15 commercial banks was taken but Skye Bank was screened out due to the unavailability of data and 14 banks were used as the sample for this study. Panel data analysis was used to analyze the data with E-views version 9 using the three models; without effect, random effect and fixed effect. The study reveals that investment in bond has a significant but negative effect on return on the asset while cash reserve had a positive but an insignificant effect on financial performance and treasury bills has a negative and an insignificant effect on financial performance. There is also a need for the management of investment companies to have a solid organization structure, as it will influence their investment portfolio choice, to avoid insignificant choices like treasury bills which do not impact on their financial performance. The research, therefore, recommends that the management of commercial banks should decrease their investment in bonds, cash reserve and treasury bills so as to avoid depleting the return on asset and consider investment in other portfolios like insurance, pension, forex and so on.

Keywords: Investment Portfolio, Banks, Financial Performance, Treasury bill, Cash reserve

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INTRODUCTION

Financial performance has been arguably the most critical and continuously monitored aspect of commercial banks. It has gained momentum from the last couple of years, it is for this reason that the banking sector is considered one of the main engines of economic growth (Hazzi & Kilani, 2013). The sector, being among the important sectors of the economy, is considered as one of the chariots of economic progress mainly for its contribution to the Gross Domestic Product. The banking sector of any nation is very prominent for it serves both the surplus and deficit units by channeling funds through a variety of services (Eken, Selimler, Kale & Ulusoy, 2012).

More also, Banks translate the aspirations and hopes of people into reality, thereby being an important source of financing for most businesses (Imamul-haque & Wani, 2015). This is only possible if they can generate the necessary income to cover the operational cost they incur in due course. In other words, for sustainable intermediation function, banks need to be profitable. Beyond the intermediation function, their financial performance has critical implications for the economic growth of any nation. Good financial performance rewards shareholders for their investment. This, in turn, encourages additional investment and brings about economic growth. On the other hand, poor banking performance can lead to banking failure and crisis, which have negative repercussions on economic growth (Ongore & Kusa, 2013). That is why the government regulates the banking sector through the Central Bank to foster a sound and healthy banking system, avoid banking crisis and protect depositors and the economy (Heffernan, 1996; Shekhar & Shekhar, 2007).

Alkhatib (2012) argue that portfolio composition principal factors that improve financial performance for financial institutions. According to Company managers are particularly concerned nowadays with the efficiency of asset utilization in an effort to improve the performance of the business. The rising pressure exercised by shareholders and limited funds make firms search ways to increase the efficiency of the assets in order to maintain competitiveness. To achieve this goal, companies need to properly assess the return on assets (Siminica; Circiumaru & Simion, 2012). The return of a firm is influenced by many factors. Knowing these factors is important primarily for the company management to adopt appropriate measures of growth and perform short or long-term forecasts.

Typically, banks generate fund from various sources, such as depositors, debt holders and equity holders, and allocate funds to portfolios including bonds, treasury bills, currencies (forex), pension, real estate, insurance, commodities, loan, cash reserves, mortgages, mutual and hedge funds, etc. On one hand, a more diversified portfolio allows banks to enhance asset quality, performance and resilience; on the other, it minimizes portfolio risk and reduces the need for external financing at high cost (Saltuk, 2012). In the event of a shift in economic and monetary policies, where one portfolio is in difficulty, they will continue leveraging other arms of the business to remain in the business. By this, they have to ensure that their portfolios are diversified enough to take care of unforeseen adversities and at the same time expand the possibilities of more income. According to the CBN financial stability report (2016), total bonds and treasury bills outstanding at the end of June 2016 stood at N7, 542.17 billion, with FGN, agency, sub-national, corporate bonds and treasury bills constituting N6, 571.96 billion, N0.90 billion, N433.24 billion and N536.07 billion, respectively. The total bonds and treasury bills outstanding at the end of June 2016 reflected an increase over the end-December 2015 figure of N6,901.94 billion, which comprised FGN, agency, sub-national, corporate bonds and treasury bills valued at N5,936.44 billion, N1.50 billion, N456.45 billion and N507.55 billion.

The concern for better decision making in portfolio diversification has received a worldwide attention, especially in the developed countries. This is in realization of the fact that the investment scene throughout the

world is characterized by risk and uncertainty and ignoring them may bring failure. Arising from the need to address the problem of risk and uncertainty, the pattern of investment has changed and investors have seen the safety aspect of diversification, as risk may be reduced by a trade-off with return (Olaleye, Aluko & Oloyede, 2006). According to Salawu (2009), the problem of how firms choose and adjust their strategic mix of securities has called for a great deal of attention and debate in the corporate financial literature. This is due to the mix of funds that affects the cost and availability of capital and thus, firms' investment decisions. Managers must take into account the causal relationship, find a special solution and make a decision, which follows a systematic approach. Otherwise it can bring the company to the brink of destruction (Habib, Khan & Wazir, 2016).

However, there are several empirical studies conducted on investment portfolio performance (Rop, Kibet & Bokongo, 2016; Lee, Miller, Velasquez & Wann, 2013), financial performance (Babatunde, 2016; Imamul-haque & Wani, 2015) investment portfolio effects on banks financial performance (Kamwaro, 2013; Njeru, Dominic & Fedrick, 2015; Lobão & Gomes, 2015; Yen, Talavera & Dinova, 2016) but only a few reviewed were conducted in Nigeria (Olatunji & Adegbite, 2014) limited to real estate, i.e. a single proxy among the investment portfolio proxies and the fact that Nigerian banks recently recognized the importance of investment in real estate and mutual fund, with only little data available on these proxies. Also, the results of some of the above studies showed that investment positively affects financial performance (e.g. Labao & Gomes, 2015; Karimi, 2013) while some concluded that there exists a negative relationship between investment portfolio and financial performance (e.g. 2012; Yen et al., 2016). Based on this inconsistency, lapses identified from previous studies and a contextual gap found this research will focused on the effects of investment portfolio using bond, treasury bills and cash reserve as proxies on the financial performance of money commercial banks using return on asset.

In line with the above arguments, the main purpose of this study is to investigate the relationship between the investment portfolio and banking financial performance in Nigeria. Therefore, the study would examine investment portfolio proxies (bond, Treasury bill and cash reserve) on the financial performance measured using return on asset of 14 selected commercial banks for a period of ten years (2008 - 2017). It should be noted that, bonds, treasury bills and cash reserve were used to measure investment portfolio because they are the most prominent in the Nigerian banking industry and the data can be accessed through financial reports unlike other options, such as pension, forex, real estate, insurance, mutual fund and return on asset was also used to measure financial performance, since return on asset is the total net income generated from the use of (investing) an organization's asset.

LITERATURE REVIEW

Technically, financial performance is defined as an objective measure which determines the operational efficiency of banks; it measures the financial soundness and health of the banking sector in monetary terms and thus assists in making comparisons (Imamul-haque & Wani, 2015). Furthermore, Pandey (2010) suggested that the firm's future plan should be in line with its financial strengths and weaknesses. Consequently, financial analysis is the starting point for making plans before adopting any advanced forecasting and planning techniques. Financial performance of an enterprise is the ability to leverage operational and investment decisions and strategies to achieve a business's financial stability. It is the measure of an enterprise's achievement of financial goals guided by financial objectives and benchmarks (Murithi, 2016). For the purpose of this study, return on asset was used as measure of financial performance. ROA is also another major ratio that indicates the profitability of a bank. It is a ratio of income to its total asset (Khrawish, 2011). It measures the ability of the bank management to generate

income by utilizing company assets at their disposal. The ratios of return are considered among the most important indicators used by the management of a business. It is found among the set of indicators published by most companies. The importance of return on assets as a measure of the firm performance is recognized in the specialized literature. Thus, Lindo (2008) believes that Return on Assets (ROA) is the financial ratio used to measure the relationship of profit earned to the investment in assets required to earn that profit.

Investment portfolio comes into play where there are many options available to individuals and organizations to invest in multiple products whose performance needs to be tracked and strategies made to ensure the investor reaps the most profit possible (Lopez, 2010). Those mechanisms include bonds, treasury bills, foreign exchange, cash reserve, pension fund, real estate, etc. Companies invest because of the desire to pass money from the present into the future. Institutions investors anticipate future cash needs and expect that their earnings in the future will not meet those needs or the desire to increase wealth, which requires risk-taking, as the return to investment in future are not guaranteed (Kamwaro, 2013). For the purpose of this study, bonds, treasury bills and cash reserve were used as investment portfolio mechanisms due to data unavailability of other mechanisms.

A bond is basically a loan issued by a corporation or government entity. The issuer pays the bondholder a specified amount of interest for a specified time, usually several years, and then repays the bondholder the face amount of the bond (Kiplingers personal finance, 2014). A bond is simply a promise to repay money, with interest, on a certain date in the future. However, while stocks represent ownership shares in a corporation, a bond is an IOU that obligates the borrower to pay the lender a specified sum of money at regular intervals and repay the principal amount of the loan at the maturity date. Therefore, the holder of a bond does not have the ownership privileges that a stockholder does (Vanguard, 2015).

Treasury bills are discounted short-term debt securities with maturities of up to one year. As a rule, bills are issued by governments and central banks. For a government, the issue of treasury bills is a way to cover short-term state budget deficits; for the central bank, it is a way to control banking sector liquidity (Hrvoľová, 2002). Moreover, bills represent an important instrument of governmental fiscal policy and the central bank's monetary policy. That is why the size of bill issues also depends on where an economy stands in the economic cycle (Blake, 1998).

The most common types of cash investments are bank and building society savings accounts and money market funds. Money held in the bank is arguably more secure than any of the other asset classes, but it is also likely to provide the poorest return over the long term (Inshore independent financial advisers, 2015). Investors may hold cash in their portfolios for various reasons—for example, to meet current living expenses or to have funds readily available for emergencies; Investors should carefully identify their specific cash needs and invest their cash accordingly. In so doing, they should be aware of the many strategies available to manage cash. The type of investment selected will depend on the investor's particular needs, with safety and liquidity the top concerns (Kimiry & Hammer, 2012).

When managing cash, investors should first identify their specific needs by assessing their major expenses and determining when those will come due. They must then determine what assets they have available to meet those needs (Glocke, Hammer & Ameriks, 2012). An investor should keep in mind two well-known downsides of holding cash: losing the opportunity to invest in higher-yielding instruments and inflation risk. Also, when the investor's objective is to protect principal, cash should not be invested in strategies that carry principal risk (such

as bonds), because such an approach would run counter to maintaining safety and liquidity in the cash holdings (Kimiry & Hammer, 2012).

This section reviews some studies made on the effect of an investment portfolio and financial performance. Kimeu's (2015) study sought to determine the effects of portfolio composition on the financial performance of investment companies listed in Nairobi securities exchange. He studied 5 investment companies in Kenya for a three years period from 2012-2014 using inferential statistics through ANOVA and multiple regressions. The study found that investment in bond real estate and equity positively affects financial performance. Kamwaro (2013) investigated on the effects of the investment portfolio on firm's financial performance. The study entailed a census of all the investment companies operating in Kenya and listed in the Nairobi Securities Exchange. Data was analyzed using multiple linear regressions and the study found that investment in bonds, equity and real estate positively influenced the financial performance of investment companies listed in the NSE.

The study of Addo and Sunzuoye (2013) examined the joint impact of interest rate and Treasury bill rate on stock market returns on Ghana stock exchange from 1995 to 2011 using Johansen's multivariate cointegration model and Vector Error correction model. The result showed that the treasury bill rate and interest rate both had a negative relationship with stock market returns and were not significant. Yahaya et al. (2015) studied the structure and size of current assets and its impact on the financial performance of commercial banks in Nigeria. Cash and bank balances, assets held for trading, derivative asset, loan and advances to banks and loan and advances to customers were used as parameters in this study. Data was collected from the 15 commercial banks from 2010 to 2014 and OLS regression was used to analyzed the data. The result from the analysis suggested a positive and significant relation between cash and bank balances, financial assets held for trading, loan and advances to customers and return on asset (dependent variable) while derivative asset and loan and advances to banks have a significant but negative relation with return on asset.

The research study reviewed the Modern portfolio theory and Capital Market portfolio. Balancing risk and returns is a cornerstone of the modern portfolio theory. Markowitz's (1952) seminal work derived measures for calculating expected returns and expected risk of a portfolio. He presented variance as a meaningful measure of risk and created a method of calculating the overall portfolio risk – taking into account the imperfect correlation of price movements between assets. The theoretical rationale for investing in an alternative asset class such as bond, treasury bills, equity and cash reserve (guided by Modern Portfolio Theory) is to improve the risk and reward characteristics of an investment portfolio, with the expectation that the asset will offer a higher absolute return whilst improving portfolio diversification (Bodie, Kane & Marcus, 2005), which is in line with the objective of the study to find whether deposit money bank investment portfolio yields the expected return or not.

The Capital market theory deals with the effects of investor decisions on security prices. More specifically, it shows the relationship that should exist between security returns and risk if investors constructed portfolios as indicated by the modern portfolio theory. Together, the portfolio theory and capital market theory provide a framework to specify and measure investment risk and develop relationships between expected security return and risk (and hence between risk and required return on an investment). These relationships are called *capital asset pricing models* (Fabozzi & Grant, 2001). In the same vain therefore, this study tries to analyze the return on assets of Nigerian commercial banks vis-à-vis their investment portfolio proxies to see whether or not first individually or collectively they yield a desirable outcome.

METHODOLOGY

Being that the study sought to find out the relationship between the investment portfolio and banking financial performance in Nigeria using secondary data, an ex-post-facto research design was deemed appropriate for this research. The population of the study is made up of all the commercial banks listed on the Nigerian Stock Exchange (NSE). According to Nigerian Stock Exchange 2017 report, 15 commercial banks were listed on it. A census of the 15 commercial banks was taken but Skye Bank was screened out due to data unavailability and classified as below standard by the NSE for their failure to publish their financial statements on time. The firm (banks) was used as unit of analysis in this study. Secondary method of data collection (banks published annual reports) was used to source the data needed for this research. It should be noted that, bonds, treasury bills and cash reserve were used to measure investment portfolio because they are the most prominent in the Nigerian banking industry data can be accessed through financial reports unlike other options, such as pension, forex, real estate, insurance, mutual fund and return on asset was also used to measure financial performance, since return on asset is the total net income generated from the use of (investing) an organization's asset. The independent variable (investment portfolio) proxies were adapted from the work of (Kamwaro, 2013; Kimiry & Hammer, 2012). Bond and treasury bills from Kamwaro (2013) and cash reserve from (Kimiry & Hammer, 2012). Inferential statistics was used to analyze the data needed for the study, which include regression analysis using E-Views version 9. Due to differences in capital size, years of operation, fixed and random effect models were regressed to capture the differences.

RESULTS AND DISCUSSION

Table 4.1 below shows the linear regression result for the data obtained no effect taking into account.

Model 1: Linear Regression with no Effect

From Table 1, bond was found statistically significant at the 99% confidence level and is negatively related to the return on asset with coefficient (-4.36), this is in line with the work of Dwilaksono (2010) and Habib et al., (2016) but is contrary to the findings of Rop et al., (2016) and Kamwaro (2013) that investment in bond is positively related to return on asset. Cash Reserve was found statistically insignificant at the 66.5% level of confidence; this is in line with the result(s) obtained by Oganda, Mogwambo & Otieno (2018) but contrary to ones found by Yahaya et al (2015) and Maccarthy (2016).

Table 1 The Dependent Variable: ROA

Variables	Coefficients	Probability(significance)	Expected signs
Bond	-4.36E-15*** (1.04)	0.000	(+)
CR	1.89E-14 (1.95)	0.3346	(+)
TB	3.87E-14 (4.29)	0.3692	(+)
R-Squared	0.097225		
Adjusted R-squared	0.084046		

Source: researcher's regression output 2019

Treasury bill was also found statistically insignificant at the 63.08% level of confidence and also negatively related to return on asset, this is in line with the result(s) obtained by Addo and Sunzuoye (2013) and Stanley (1998) but contrary to the ones found by Kamwaro (2013). R^2 stands at 0.097225 and adjusted R squared was 0.084. However, Sanchez (2015) found that R square obtained from panel data regressions is very low because market variance is consistently higher than the variance of expected return.

Model 2: Random Effect

Bond was found statistically significant at the 99% confidence level in Table 2 and is negatively related to the return on asset with the coefficient (-4.56). Cash reserve was also found statistically insignificant at the 18.85% level of confidence. Treasury bill was found insignificant with less than a 1% confidence level. The estimated value of C (constant) = 0.017191 with a probability of (0.0982) is significant at the 90% level of confidence. R^2 , that is the coefficient of determination of the regression in Table 2, is (0.130204), which is not strong. Meaning that, 13% of the variation of the dependent variable is being captured by the model.

This is similar to the R square obtained in researches conducted by (Fama & French, 1992; Roll & Ross, 1994; Kothari, Shanken & Sloan, 1995; Pettengill, Sundaram & Mahur, 1995; Sattar, 2017; and Sanchez, 2015). They conclude that low R square implies that there are many variables that can explain variability on Return on Asset other than Portfolio like interest rate, dividend policy, tax rate, etc. The value of adjusted R squared was 0.111, an indication that there was variation of 11.1% on the financial performance (ROA) of commercial banks as a result of the changes in bond, cash reserve and Treasury bill investment. -F-statistic with a coefficient 6.79 is also significant at the 97% confidence level in the Table.

Table 2 The Dependent Variable: ROA

Variables	Coefficients	Probability(significance)	Expected signs
Bond	-4.56E-15*** (1.2E-15)	0.000	(+)
CR	4.92E-15 (2.06E-14)	0.8115	(+)
TB	-5.76E-16 (5.28E-14)	0.9913	(+)
C	0.017191	0.0982	
R-Squared	0.130204		
Adjusted R- squared	0.111017		
F-Statistic	6.786	0.000268	

Source: researcher's regression output 2019

Model 3: Fixed Effect

Bond was found highly significant at the 99% confidence level in Table 3 and are negatively related to return on asset with the coefficient (-4.56). Cash reserve was also found insignificant at a 15.44% level of confidence (i.e. 85% level of significance) in Table 3. Treasury bill was also found insignificant at a 9.8% confidence level (i.e. 90% level of significance) from the Table and the relationship is negative. The estimated value of C (constant) = 0.018124 with probability of (0.0620) is significant at the 90% level of confidence. R^2 - that is the coefficient of determination is (0.253) in Table 3, the value of adjusted R squared was 0.157, and -F-statistic has a coefficient 2.6 is also significant at a 97% confidence level in the Table.

Table 3 The Dependent Variable: ROA

Variables	Coefficients	Probability(significance)	Expected signs
Bond	-4.56E-15*** (1.05E-15)	0.000	(+)
CR	4.23E-15 (2.17E-14)	0.8456	(+)
TB	-8.870E-15 (6.99E-14)	0.902	(+)
C	0.018124	0.0620	
R-squared	0.253721		
Adjusted R- Squared	0.156644		
F-statistic	2.613609	0.001527	

Source: researcher's regression output 2019

Hypothesis 1 stated that there is no statistically significant effect of bond investment on financial performance. The result revealed that bond is significant at the 99% level of confidence but negatively affects financial performance with coefficient (-4.4) in Table 1; (-4.6) in Table 2 and (-4.6) in Table 3. Therefore, the null hypothesis was rejected and the study concluded that bond investment has a negative effect on financial performance. This indicates that increase in bond investment leads to decrease on financial performances. Hypothesis 2 stated that there is no statistical significant effect of cash reserve on financial performance. Findings showed that cash reserve had coefficients of estimate (1.9) in Table 1; (4.9) in Table 2 and (4.2) in Table 3. At a probability which was insignificant at the 66.5%; 18.85% & 15.44% level of confidence respectively. Therefore, the null hypothesis cannot be rejected and the study concluded that cash reserve had a positive but an insignificant effect on financial performance. Hypothesis 3 state that there is no statistical significant effect of treasury bills investment on financial performances. Findings showed that treasury bills investment had coefficients of estimate (3.9) in Table 1; (-5.8) in Table 2 and (-8.7) in Table 3 and the probability was insignificant even at 63.08%; 0.87% and 9.8% confidence level respectively. Therefore, the null hypothesis cannot be rejected and infer that investment in treasury bills has a negative and an insignificant effect on financial performance.

CONCLUSIONS

This study examines the relationship between investment portfolio proxied by (Bond, Treasury bill and Cash reserve) on the financial performance measured using return on asset of 14 selected commercial banks for a period of ten years (2008 to 2017). The result from the regression analysis shows that bond was found at a highly significant confidence level but is negatively related to return on asset with the coefficient. The result implies that the management of commercial banks should decrease their investment in bond so as to avoid depleting return on asset. Cash reserve was found to be positively related to return on asset, as expected, but insignificantly affects return on asset of the commercial banks in Nigeria.

The management of commercial banks in Nigeria should reduce their investment in cash reserve and consider investment in another portfolio like insurance, pension, forex etc. Treasury bill was also found insignificant and with a negative relationship with return on asset of the deposit money bank. There is a need for the management of investment companies to have a solid organization structure, as it will influence their investment

portfolio choice, to avoid insignificant choices like treasury bills which do not impact their financial performance. Efforts should be made to promote the confidence in portfolio diversification and develop marketing policies that encourage its use to improve risk and returns enhancement and to lower restrictions on banking activities.

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