Financial Risk And Performance Of Deposit Money Bank: Evidence From West African Countries

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ABSTRACT
This study sought to ascertain the relationship between Financial Risk and Performance of Deposit Money Banks (DMBs) listed on Stock Exchange of two selected West African countries using a sample of twenty (20) Deposit Money Banks (DMBs). We covered 10 years period spanning from 2009 to 2018. Ex-Post Facto research design was employed while secondary data were collected and subjected to multiple regression and correlation analysis in order to achieve the study objectives. Three (3) specific objectives and hypotheses were tested and analyzed using descriptive statistics, Pearson correlation analysis and panel regression analysis. Financial Risk, which is the independent variable, was measured by Liquidity Risk, operational risk and interest rate risk, while Performance which is the dependent variable, was measured by Return on Assets and Return on Equity. Our result revealed that Liquidity risk has negative and significant effect on performance of banks in both Ghana and Nigeria using ROA model which was statistically significant at 1% level of significance while using ROE the negative effect of credit risk on banks performance was found to be statistically insignificant. Operational risk was discovered to have positive and significant effect on performance of Banks in West Africa having recorded a positive coefficient values across Nigeria and Ghana banks while Liquidity risk was found to have insignificant effect in both Ghana and Nigeria banks. This study recommended among others that, Deposit Money Banks in Nigeria and Ghana should comply with relevant provisions of the Banks and Other Financial Institutions Act (1999) as amended and the Prudential Guidelines. Additionally, deposit money banks should be well capitalized according to the size of their loan portfolio and regulatory requirement in order to cushion the loan loss from non-performing loans.

Keywords: Deposit Money Banks, Financial Risk, Return on equity

INTRODUCTION
The banking industry in both Nigeria and Ghana is in the business of providing financial capital to the business community as well as individual customers. Banks do this with the expectation of achieving targeted rates of returns on the extensions of credit over a period of time, and eventually reclaiming their principal with interest. Any extension of credit carries with it the risk of non-repayment, under the terms of the financial relationship between the financier and an individual or corporate organization (Oluwale,Tomola, Owoputi, & Adeyefa; 2015). Based on this fact, banks have a strong vested interest in performing extensive due diligence, prior to committing funds, and on a regular basis to minimize credit
risk and achieve an enhanced value for their organization. The financial services provided by banks are essential to economic and financial development. Their role as financial intermediaries facilitates rapid economic growth. Financial stability is vital for any nation so therefore the financial institutions need to be properly managed. The velocity of loan creation in an economy significantly influences the productive activities in a nation (Afriyie & Akotey; 2011). The main motive of a bank is to redirect funds from the surplus sector to the deficit sector in a profitable and sustainable manner. Interest on loans and advances are the main sources of income for a commercial bank, by given out loans, banks are exposed to different forms of risks e.g. liquidity risk, credit risk, etc. (Kargi, 2011).

Financial risk is the unexpected variability or volatility of returns (Holton, 2004). It includes credit, liquidity and market risks which contribute to the volatility of financial performance (Tafri, Hamid, Meera, & Omar, 2009; Dimitropoulos, Asteriou, & Koumanakos, 2010). The hypothesis is that financial risk leads into failure of financial performance if it is not well managed. The financial crisis acquires unparalleled proportions and inflicted long-term damage on economies, countries and people. Every business decision and entrepreneurial act is connected with risk. Many risks are common to all financial institutions. From banks to microfinance institutions, these include credit risk, liquidity risk, market or pricing risk, operational risk, compliance and legal risk, and strategic risk (Tomak, 2013). Deregulation has been a main driving force of the trends in financial markets that have had a significant impact on risk management practices today. Since the 1970s the deregulation of capital flows has led to increased globalization (Sverrisson & Van-Dijk, 2000); deregulation of industries has enabled the rapid expansion of new companies (Bodily & Bruner, 2002; Bratton, 2003); and with the deregulation of financial operations new risks have been acquired with some banks offering insurance products and insurance companies writing market and credit derivatives (Broome & Markham, 2000).

The business of a financial institution identify and manage financial risk. When an organization has financial market exposure, there is a possibility of loss but also an opportunity for gain or profit. Financial market exposure may provide strategic or competitive benefits. The reasons for managing financial risk are the same as those for implementing a risk management, as financial risk is a subcategory of the company’s risks. One of the main objectives is to reduce the volatility of earnings or cash flows due to financial risk exposure (Dhanini, Fifield, Helliar, & Stevenson, 2007). The reduction enables the firm to perform better forecasts (Drogt & Goldberg, 2008). Furthermore, this will help to assure that sufficient funds are available for investment and dividends. Another argument for managing financial risk is to avoid financial distress and the costs connected with it (Triantis, 2000; Drogt & Goldberg, 2008).

Financial risk management is considered by researchers as a yard stick for determining failure or success of a financial institution. It has not been given much attention in recent times. This research work sought to bring to light the need for financial institutions to pay attention to the management of risk. It is obvious that the aim of every business is to maximize shareholders’ wealth and acquire substantial profit either for expansion or to undertake new product development. Across the banking industry, the most prominent area that erodes the mass of their profit is risk management (credit, liquidity and operational). Financial risk management and its implications on banking sector performance have been fraught with difficulties and challenges that ultimately results to poor banking performance that incubate tendency and leading to unfavourable banking performance with unclear statement of financial position, bank failure and crisis in the financial sector leading to a systemic risk and thus have a negative functional ramification on economic growth. However, among the risks faced by banks financial risk (credit risk, operational risk and liquidity risk) plays a crucial role on banks performance since huge amount of banks revenue are from credit as a result of interest charged on credit. It is important to note that, interest rate charged is directly correlated with credit risk; high interest rate may increase the chances of credit default. The rate of capital accumulation in the banking sector depends upon the control of quality and efficiency of its financial risk management (Kargbo, Hui, & Xiao, 2015). Therefore, the very nature of banking business is so sensitive because credit creation process exposes banks to high default risk and thereby affecting its liquidity and general operation that might lead to financial distress including bankruptcy. Credit risk is the exposure faced by banks when a borrower (customer) default in honoring debt obligations on due date at maturity (Ebrahim, Khalil, Kargbo, & Xiangpe, 2015). To this end, the need
for financial risk management in the banking sector is inherent in the nature of banking business. However, in today’s dynamic environment, banks are exposed to a large number of risk such as credit risk, liquidity risk, operational risk and macro economic instability, (inflation, weak growth) among others are the risks that creates some source of threat for banks survival and success.

BGL Banking Report (2015) cited by Kolapo, Ayeni and Oke (2017) stressed that the Nigerian banking industry has been strained by the deteriorating quality of its credit assets as a result of the significant dip in equity market indices, global oil prices and sudden depreciation of the Naira against global currencies. The poor quality of the bank’s loan assets hindered banks to extend more credit to the domestic economy thereby adversely affecting economic performance. This prompted the Federal Government of Nigeria through the instrumentality of an Act of the National Assembly to establish the Asset Management Corporation of Nigeria (AMCON) in July, 2010 to provide a lasting solution to the recurring problems of non-performing loans that bedevilled Nigerian banks.

Evolving an effective risk management system has been a source of constant challenge to Deposit Money Banks. The fact that commercial banks are in the risk business accentuates the importance of a strong and sustainable system for identifying, measuring, monitoring and controlling the spectrum of risks faced by Deposit Money Banks. Various studies conducted have failed to establish a definite relationship between financial risk and performance in banks. Akong’a (2014) explored the effect financial risk on financial performance of commercial banks in Kenya and showed that there is a significant positive relationship between financial performance and financial risk management. In Pakistan, Tanveer, Muhammad and Sadaf (2017) found a significant positive relationship between financial risk and performance of commercial banks. On the other hand, Muriithi (2016) studied the effect of financial risk and performance of commercial banks in Kenya and found a significant negative relationship between financial risk and performance. In the same vein Adinde (2014) found a significant negative relationship between financial risk and performance of Deposit Money Banks in Nigeria. Also, Uwalomwa, Uwuigbe and Oyemo (2015) studied the relationship between credit risk management and banks performance of listed banks in Nigeria and found that credit risk management has a significant negative effect on the performance of banks in Nigeria, while Khalaf (2012) found no relationship between financial risk management and financial performance of listed banks in Jordan. While the above research outcomes provide valuable insights on financial risk management, they have not induced a clear relationship between financial risk and performance of deposit money bank, evidence from west African countries. The specific objectives includes;

1. Determine the effect of Liquidity Risk on performance of Deposit Money Banks of West African Countries.
2. Evaluate the effect of Operational Risk on performance of Deposit Money Banks of West African Countries.
3. Verify the effect of interest rate risk on performance of Deposit Money Banks of West African Countries.

Research Questions

In line with the objectives of this study, the following research questions were formulated:

1. To what extent does liquidity risk affect performance of Deposit Money Banks of West African Countries?
2. How does operational risk affect performance of Deposit Money Banks of West African Countries?
3. How does interest rate risk affect performance of Deposit Money Banks of West African Countries?

Hypotheses

In line with the objectives of this study, the following null hypotheses were hypothesized:

H01: Liquidity Risk has no significant effect on performance of Deposit Money Banks of West African Countries
LITERATURE REVIEW

Financial Performance

Financial performance is company’s ability to generate new resources, from day-to-day operations, over a given period of time and performance is gauged by net income and cash from operations. According to Toutou and Xiaodong (2011), financial performance is a general measure of how well a bank generates revenues from its capital. It also shows banks overall financial health over a period of time, and it helps to compare different banks across the banking industry at the same time. The bank’s financial performance generally can be recognized as its stability and profitability. The stability refers to its risk factors and profitability refers to its financial return. Financial performance (FP) is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues (Shoukat & Nadeem 2014). Financial performance is the measuring of bank’s policy and operations in monetary form. Suka (2010) looked at financial performance as a subjective measure of how well a firm uses its assets from primary mode of business to generate revenue. In order to assess the financial performance of deposit money banks there are variety of indicators which may be used. Some of the major financial performance indicators include Return on Asset (ROA), Return on Equity (ROE), Return on Capital Employed (ROCE), Earnings per Share (EPS) etc. (Bagh, Khan, Azad, Saddique, & Khan, 2017). This current study limits itself to only two financial performance measures such as Return on Asset and the Return on Equity as used by various scholars to measure the financial returns of deposit money banks across two countries Nigeria and Ghana.

To this end, we posit that performance of deposit money banks can be surrogated by Return on Assets (ROA). The ROA, defined as net income divided by total assets, reflects how well a company management is using the company real investment resources to generate profits. ROA is widely used to compare the efficiency and operational performance of company as it looks at the returns generated from the assets financed by the company. The return on Assets (ROA) is a ratio that measures company earnings before interest & taxes (EBIT) against its total net assets. The ratio is considered an indicator of how efficient a company is using its assets to generate before contractual obligation must be paid. It is calculated as: ROA = EBIT/ Total Assets. Return on assets gives an indication of the capital intensity of the banking industry, which will depend on the industry; banks that require large initial investment will generally have lower return on assets (Akong’a, 2014). Another measure of profitability is the return on equity (ROE), which indicates how effectively the management of the enterprise is able to turn shareholders’ funds into net profit. It is the rate of return flowing to the company’s shareholder.

Return on Equity (ROE)

The return on equity (ROE) is a measure of the profitability of a business in relation to the book value of shareholder equity, also known as net assets or assets minus liabilities. ROE is a measure of how well a company uses investments to generate earnings growth. The return on equity ratio or ROE is a profitability ratio that measures the ability of a firm to generate profits from its shareholder’s investments in the company. In other words, the return on equity ratio shows how much profit each naira of common stockholders’ equity generates. Return on equity (ROE) is calculated to see the profitability of owner’s investments. It is calculated as annual net income after tax divided by shareholders’ equity as a measure of performance. So a return on 1 means that every naira of common stockholders’ equity generates 1 naira of net income. This is an important measurement for potential investors because they want to see how efficiently a company will use their money to generate net income. ROE is also an indicator of how effective management is at using equity financing to fund operations and grow the company.

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ROE = \frac{\text{Net Income}}{\text{Shareholder Equity}} \times 100
\]
ROE is especially used for comparing the performance of companies in the same industry. As with return on capital, a ROE is a measure of management's ability to generate income from the equity available to it. ROEs of 15-20% are generally considered good (Valix & Peralta, 2018). ROEs are also a factor in stock valuation, in association with other financial ratios. In general, stock prices are influenced by earnings per share (EPS), so that stock of a company with a 20% ROE will generally cost twice as much as one with a 10% ROE. The benefit of low ROEs comes from reinvesting earnings to aid company growth. The benefit can also come as a dividend on common shares or as a combination of dividends and company reinvestment. ROE is less relevant if earnings are not reinvested (Valix & Peralta, 2018). The sustainable growth model shows that when firms pay dividends, earnings growth lowers. If the dividend payout is 20%, the growth expected will be only 80% of the ROE rate. The growth rate will be lower if earnings are used to buy back shares. If the shares are bought at a multiple of book value (a factor of x times book value), the incremental earnings returns will be reduced by that same factor (ROE/x). Most of the time, ROE is computed for common shareholders. In this case, preferred dividends are not included in the calculation because these profits are not available to common stockholders. Preferred dividends are then taken out of net income for the calculation. Also, average common stockholder's equity is usually used, so an average of beginning and ending equity is calculated.

The higher ROA and ROE reflects higher managerial efficiency of the company’s performance and vice versa (Peavler, 2017). Firms are exposed to different sources of risk, which can be divided into operational risks and financial risks. Operational risks or alternatively business risks relate to the uncertainty regarding the firm’s investments and investment opportunities, and are influenced by the product markets in which a firm operates. In addition to operational risks, unexpected changes in e.g. interest rates, exchange rates, and oil prices create financial risks for individual companies.

**Liquidity Risk**

This type of risk arises out of inability to execute transactions. Liquidity risk can be classified into Asset Liquidity Risk and Funding Liquidity Risk. Asset Liquidity risk arises either due to insufficient buyers or insufficient sellers against sell orders and buys orders respectively. Liquidity risk involves securities and assets that cannot be purchased or sold fast enough to cut losses in a volatile market. Asset-backed risk is the risk that asset-backed securities may become volatile if the underlying securities also change in value. The risks under asset-backed risk include prepayment risk and interest rate risk. Liquidity risk includes asset liquidity and operational funding liquidity risk. Asset liquidity refers to the relative ease with which a company can convert its assets into cash should there be a sudden, substantial need for additional cash flow. Operational funding liquidity is a reference to daily cash flow. General or seasonal downturns in revenue can present a substantial risk if the company suddenly finds itself without enough cash on hand to pay the basic expenses necessary to continue functioning as a business. This is why cash flow management is critical to business success and why analysts and investors look at metrics such as free cash flow when evaluating companies as an equity investment. Liquidity risk in deposit money banks is defined as the risk of being unable either to meet their obligations to depositors or to fund increases in assets as they fall due without incurring unacceptable costs or losses (Ismail, 2010). Liquidity risk is the possibility of negative effects on the interests of owners, customers and other stakeholders of the financial institution resulting from the inability to meet current cash obligations in a timely and cost-efficient manner. Liquidity risk usually arises from management’s inability to adequately anticipate and plan for changes in funding sources and cash needs (Ogol, 2011, Awojobi, 2011).

**Operational Risk**

Operational risk is the risk of a change in value caused by the fact that actual losses, incurred for inadequate or failed internal processes, people and systems, or from external events (including legal risk), differ from the expected losses. It can also include other classes of risk, such as fraud, security, privacy protection, legal risks, physical (e.g. infrastructure shutdown) or environmental risks. In similar fashion, operational risks affect client satisfaction, reputation and shareholder value, while increasing business volatility. Operational risks refer to the various risks that can arise from a company's ordinary business activities. The operational risk category includes lawsuits, fraud risk, personnel problems and business
model risk, which is the risk that a company’s models of marketing and growth plans, may prove to be inaccurate or inadequate.

Operational risk can be classified into Fraud Risk and Model Risk. Fraud risk arises due to lack of controls and Model risk arises due to incorrect model application. Operational risk is the risk of a change in value caused by the fact that actual losses, incurred for inadequate or failed internal processes, people and systems, or from external events (including legal risk), differ from the expected losses. It can also include other classes of risk, such as fraud, security, privacy protection, legal risks, physical (e.g. infrastructure shutdown) or environmental risks.

Operational Risk = Operating Expenses /Operating Income

Interest Rate Risk
Interest rate is a percentage of the principal the borrowers pay to use the money they borrow from creditors. In the context of financial institutions, commercial banks being inclusive, the borrower-lender relationship is arrived at from two angles. The interest rate risk is proxied by Net Interest Margin (log of NIM) and it is adjusted for change in interest rate as used by Aruwa and Musa (2014). Murthy and Rama (2003) as cited by Odeke and Odongo (2014) indicated that change of interest rates by banks has direct impact on the interest earned on loans and investments and the interest paid on deposits. Interest rate risk exposures involves managing the net interest margin (interest income minus interest expense) and controlling the risk posed by changing interest rates while trying to take advantage of changing interest rates. Murthy and Rama (2003) stated that even when interest rates change a bank can control interest rate risk by matching the repricing maturities of assets and liabilities.

However, the rate from the perspective of commercial banks is that of a key determinant of their financial performance. The variables used in this case are normally the interest rate spread. Note that the interest spread refers to the difference between the borrowing rate of commercial banks from central bank and the lending rate to the clients. The general statement is that low interest rate spread affects the profitability of firms positively.

Empirical Review
Li yuqi (2007) examined the determinants of banks’ profitability and its implications on risk management practices in the United Kingdom. The study employed regression analysis on a time series data between 1999 and 2006. Six measures of determinants of bank’s profitability were employed. They indicated Liquidity, credit and capital as internal determinants of banks’ performance. GDP growth rate, interest rate and inflation rate were used as external determinants of banks’ profitability. The six variables were combined into one overall composite index of bank’s profitability. Return on Asset (ROA) was used as an indicator of bank’s performance. It was found that liquidity and credit risk have negative impact on bank’s profitability.

Harvey and Merkowsky (2008) used descriptive, correlation and regression techniques to study whether credit risk affects banks’ performance in Nigeria from 2004 – 2008. They also found out that credit risk management has a significant impact on profitability of Nigerian banks.

Kithinji (2010) examined the impact of credit risk management on the profitability of commercial banks in Kenya between 2004 and 2008. Using regression analysis, he found that the larger part of the banks’ profits was influenced by other variables other than credit and non-performing loans.

Githinji (2010), did a study on credit risk management and profitability of commercial Banks in Kenya to assess the degree to which the credit risk management in practice had significantly contribute to high profits in commercial banks of Kenya. Data on the amount of credit, level of non-performing loans and profits were collected for the period 2004 to 2008. The results of the study showed that, there was no relationship between profits, amount of credit and the level of nonperforming loans. The findings reveal that the bulk of the profits of commercial banks were not influenced by the amount of credit and nonperforming loans suggesting that other variables other than credit and nonperforming loans impact on profits. Commercial banks that are keen on making high profits should concentrate on other factors other than focusing more on amount of credit and nonperforming loans. A regression model was used to
elaborate the results which showed that there was no significance relationship between the banks profit and credit risk management proxy by level of Non-Performing Loans and Loans and Advances/Total assets.

Alper and Anbar (2011) examined the determinants of banks profitability in Turkey over the time period from 2002 to 2010. In that study, the bank profitability is measured by return on assets (ROA) and return on equity (ROE), while credit risk is proxy by loans to total assets and loans under follow-up to total loans. In their findings, the ratios of loans/assets and loans under follow-up/total loans are found to have negative and significant impact on profitability. Tarraf and Majeske (2015) studied the relationship among corporate governance, risk taking and financial performance at bank holding companies’ (BHCs) during the 2008 financial crisis. While the study did not find a significant relationship between level of risk taking and corporate governance, it showed that BHCs with lower risk performed better than BHCs with higher risk during the crisis. The results suggested that risk taking contributed to the financial crisis. The study demonstrated the need for future studies that examined corporate governance provisions and their relevance to risk taking and financial performance. The findings contributed to more effective bank regulations and risk management.

Olusanmi, Uwuigbe and Uwuigbe (2015) investigated the impact of effective risk management on bank’s financial performance from 1998-2014. The ordinary least square regression was employed in testing the hypothesis formulated. Data was collected from the annual reports of banks listed on the floor of the Nigerian Stock Exchange. The study observed that there exists a negative non-significant relationship between risk management proxies and bank’s performance as captured with return on equity. Thus financial performance cannot be explained away by the compliance or non-compliance to Basel’s regulation by financial institutions, but could be as a result of the accumulation of minor difficulties and inconsequential malfunction of the individual actors resulting in a massive breakdown.

METHODOLOGY
This study adopted Ex-Post Facto research design in conducting the research. Ex-Post Facto seeks to find out the factors that are associated with certain occurrences, conditions, events or behavior by analyzing past events or already existing data for possible casual factors (Kothari & Garg 2014). That is to say that data were collected after the event or phenomenon under investigation has taken place, which is why it is called ex-post facto. Thus, ex post facto or causal-comparative research design was used to describe the effects of financial risk on performance of deposit money banks in West African countries by using existing data from financial statements of the quoted banks which cannot be manipulated or altered by the researcher. In addition to ex-post facto research design, the study also used correlational research design by employing both descriptive and inferential statistics using panel regression analysis.

Area of Study
The study covered all the selected listed banks in West Africa within the period of ten years from 2009 to 2018. The investigation period ends at December 2018 due to lack of data availability in 2019 as the most recent year during the time of this study. West African countries covered include Nigeria and Ghana. These two West African countries were selected because they have the largest and most active stock markets in West Africa. Deposit money banks were chosen because of their uniqueness in financial reporting disclosure requirements. The start of 2009 is chosen because this period is generally considered as the start of the financial crisis in which the first severe sub-prime losses were realized. However still after 2009, many banks were still struggling for their existence after the capitalization exercise. During these periods, profits are under high pressure and therefore managers may be encouraged to engage lysis.

Population of Study
The population for this study consist of all the listed deposit money banks published in the Nigeria and Ghana stock Exchange (NSE) for the period of ten years ranging from 2009 to 31st December 2018. The population consist of all the 26 deposit money banks in Nigeria and Ghana rated as follows: Nigeria have 15 deposit money banks while Ghana has 11 deposit money banks.
Sample Size and Sampling Technique

Purposive sampling technique was employed to arrive at ten (10) banks each from the two countries and this was considered as sample size for this study. The ten deposit money banks each will be purposively selected based on the availability and completeness of data set for the studied period (2009-2018). Ten banks each from Nigeria and Ghana were chosen for easy comparison to give us a total of twenty banks for the two countries. Also, newly listed banks were excluded due to inadequate data. Based on consideration of sampling, the size of sample in this study is twenty (26) banks but there are 6 banks that do not have the completeness of the data and they were filtered as follows:

Sample Selection and Filtration

<table>
<thead>
<tr>
<th>Condition</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank-years with number of observations &lt; 10/Newly listed banks</td>
<td>2</td>
</tr>
<tr>
<td>Number of missing observations for variables in the models</td>
<td>3</td>
</tr>
<tr>
<td>Banks that have been delisted</td>
<td>1</td>
</tr>
</tbody>
</table>

**Final Sample Size**

Therefore, only 20 banks are with sufficient information and were finally selected to be sample of this study. Note that 20 banks were selected based on complete availability of data. The sample selection covers only audited annual report of 20 banks for the year 2009 to 2018 which is considered as the current sample size for this study. Again, to enable us compare the countries specific results, we selected 10 banks each from the two West African Countries to arrive at a total sample of 20 banks for easy comparison.

Model Specification

Multivariate regression equation was set up to evaluate the hypothesized relationships between the dependent variable and the independent variables in this study. Our model was adopted from prior studies of Akong’a (2014). This model modifies and extended the model tested by prior studies and panel least square was adopted for the purpose of hypothesis testing and was guided by the following linear model expressed in its econometric form of the equation. It is given as follows:

\[
Y = \beta_0 + \beta_1X + \beta_2X + \beta_3X + \beta_4X + \beta_5X + \beta_6X + \varepsilon \quad \text{equ 1}
\]

\[
Y = \beta_0 + \beta_1X + \beta_2X + \beta_3X + \beta_4X + \beta_5X + \beta_6X + \varepsilon \quad \text{eqn 2}
\]

Taking the implicit model as:

\[
\text{ROA} = f (\text{CRSK} + \text{LRSK} + \text{OPRSK} + \text{IRSK} + \text{CARSK} + \text{LLPV}) \quad \text{...........................................1}
\]

\[
\text{ROE} = f (\text{CRSK} + \text{LRSK} + \text{OPRSK} + \text{IRSK} + \text{CARSK} + \text{LLPV}) \quad \text{...........................................2}
\]

Taking the explicit model as:

\[
\text{ROA}_i = \beta_0 + \beta_1\text{CRSK}_i + \beta_2\text{LRSK}_i + \beta_3\text{OPRSK}_i + \beta_4\text{IRSK}_i + \beta_5\text{CARSK}_i + \beta_6\text{LLPV}_i + \varepsilon_i \quad \text{Model 1}
\]

\[
\text{ROE}_i = \beta_0 + \beta_1\text{CRSK}_i + \beta_2\text{LRSK}_i + \beta_3\text{OPRSK}_i + \beta_4\text{IRSK}_i + \beta_5\text{CARSK}_i + \beta_6\text{LLPV}_i + \varepsilon_i \quad \text{Model}
\]

Test of Hypotheses

The study investigated the relationship that exists between financial risk and performance of listed deposit money banks in two West African countries between 2009 and 2018. The study carried out some preliminary tests like descriptive statistics and correlations analysis. The descriptive statistics was used to analyse the data in order to ascertain the normality and nature of the data. Correlation analysis was used to ascertain the association between the variables and to test for the presence of multi-collinearity. To further check for the case of perfect correlation among variables, Variable inflation factor (VIF) was
conducted. Finally, the study used panel regression analysis in obtaining functional causal effect relationship between performance of deposit money banks and financial risk components like credit risk, liquidity risk, operational risk, interest rate risk, capital adequacy risk and loan loss provision.

**Descriptive Statistics Analysis**

The Table below shows the descriptive statistics of the selected banks that make up our sample.

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>ROE</th>
<th>LRSK</th>
<th>OPRSK</th>
<th>IRSK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.145759</td>
<td>1.048482</td>
<td>0.192618</td>
<td>0.062251</td>
<td>0.045288</td>
</tr>
<tr>
<td>Median</td>
<td>0.110000</td>
<td>0.830000</td>
<td>0.160000</td>
<td>0.040000</td>
<td>0.030000</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.390000</td>
<td>7.260000</td>
<td>0.870000</td>
<td>1.020000</td>
<td>0.530000</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.010000</td>
<td>0.030000</td>
<td>-0.010000</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.140590</td>
<td>0.852095</td>
<td>0.142354</td>
<td>0.106186</td>
<td>0.072800</td>
</tr>
<tr>
<td>Skewness</td>
<td>6.498272</td>
<td>3.472670</td>
<td>2.073146</td>
<td>6.914992</td>
<td>4.368385</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>49.42088</td>
<td>21.87889</td>
<td>9.604814</td>
<td>55.04308</td>
<td>23.67924</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>18493.64</td>
<td>3220.343</td>
<td>483.9885</td>
<td>23077.18</td>
<td>4010.698</td>
</tr>
<tr>
<td>Probability</td>
<td>0.000000*</td>
<td>0.000000*</td>
<td>0.000000*</td>
<td>0.000000*</td>
<td>0.000000*</td>
</tr>
<tr>
<td>Sum</td>
<td>27.84000</td>
<td>200.2600</td>
<td>36.79000</td>
<td>11.89000</td>
<td>8.650000</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>3.755465</td>
<td>137.9525</td>
<td>3.850291</td>
<td>2.142332</td>
<td>1.006959</td>
</tr>
<tr>
<td>Observations</td>
<td>200</td>
<td>200</td>
<td>200</td>
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*Source: researcher’s summary of descriptive result (2019) using E-view 8*

*Note: *1% level of significance, **5% level of significance, ***10% level of significance

**Summary of Findings**

Liquidity risk was found to have insignificant effect in both Ghana and Nigeria banks.

1. Operational risk was discovered to have positive and significant effect on performance of Banks in West Africa having recorded a positive coefficient values across Nigeria and Ghana banks.

2. It was discovered that interest rate risk has positive and significant effect in Ghana banks using ROA while a negative and significant effect was documented against Ghana banks using ROE which was statistically significant at 1% level of significance. In Nigeria banks, it was discovered that interest rate risk has insignificant effect.

**CONCLUSION**

To identify the effect of risk management on the performance of deposit money banks in West African countries, Descriptive statistics and panel data regression analysis were employed on data collected from the deposit money banks in West African countries over 10 years’ period from 2009 to 2018. The ratio of non-performing loan which measures credit risk and loan loss provision ratio is sharply declining in recent years. This indicates that the risk management of deposit money banks in West African countries had been improving during the study period. The capital adequacy risk and operational risk ratio was also found to be a little bit higher than the regulatory requirement. Based on the descriptive analysis, the deposit money banks in West African countries have an adequate capital to withstand shocks resulting from credit and other operational risks. West African banks and regulatory authority should periodically review the operations of banks to ensure they comply with relevant provisions of the Bank and Other Financial Institutions Act (BOFIA, 1990) and prudential guidelines. Moreover, Nigeria and Ghana banks should enhance their capacity in risk management by devising effective and efficient process to identify measure, monitor and control risks.
RECOMMENDATIONS
On the basis of the findings and conclusions of the study, the thesis makes the following suggestions:

I. The study recommended that banks should manage operational risks involved during their operations to minimize potential risks and losses involved.

II. West African Banks and regulatory authority should pay more attention to banks’ compliance to relevant provisions of the Bank and other Financial Institutions Act (1990) and prudential guidelines with respect to Interest rate risk and Loan administration.

REFERENCES


