

# The Effects of Credit Risk Management on the Performance of Some Selected Deposit Money Banks in Nigeria

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**Abstract:** This study seeks to assess the relationship between credit risk management and performance in deposit money banks in Nigeria. To achieve this, the study would cover five years (2010-2015). Ten commercial banks will be chosen as sample of the whole Nigeria commercial banks. The audited annual financial statement of the selected Banks for the years in view will be used in obtaining data for the purpose of this research. Most research conducted under this study shows a significant relationship between credit risk management and performance using Return on Assets (ROA) and Return on Equity (ROE) in Sub-Saharan countries. Very few of this research has measured net interest margin (NIM) as a measure of performance in Nigeria. The independent variable which is Credit Risk Management measures the Non-Performing Loan Ratio (NPLR) and Loan to Deposit Ratio (LTDR) while the dependent variable which is performance measures the Return on equity (ROE), return on assets (ROA) and Net interest margin (NIM). Descriptive statistics and Econometric analysis using the panel linear regression methodology consisting of periodic and cross sectional data in the estimation of the regression equation will be adopted in the methodology and analysis in determining the relationship of both variable in Nigerian deposit banks. The need for management to create the right credit policy and also ensure full implementation must be adhered to in other to bring positive performance and also the importance of knowing how credit policy affects the operation of their banks activities to ensure an efficient utilization of customer deposits.

**Keywords:** Credit risk management, performance, commercial banks, return on assets, net interest margin.

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## 1. INTRODUCTION

Performance measurement is a very important aspect of every business activities. The objective of measuring performance does not only cover how a business is performing but also gives an insight on how business can perform better. It helps to improve the overall performance of an organization so as to ensure stakeholders achieves their various objectives.

(Horngren, et-al 2006) further explained that organizations are increasingly presenting both financial and non-financial performance measures in their Balance Scorecard to show how well an organization is doing. (Hofmann, 2001) notes that non-financial measures are mostly used for performance evaluation. He added that these performance measures serve as an indicator of the firm's long term performance and may therefore be included in incentive contracts. Financial performance is company's ability to create new resources, from day-to-day operation over a given period of time and it is gauged by net income and cash from operation. The financial performance measure can be divided into traditional measures and market based measures (Aktan & Bulut, 2008). Assessment carried out in an economy can be accomplished by studying the financial performance of its banks. (Ofley 2003) stressed the importance of performance as financial measure as a tool of financial management, main goal of an organization, and a means of motivating and controlling activities within an organization.

Decision makers who make use of performance measures in decision severally asked the questions of "What drives performance?" in order to address this question, scholars have focused their efforts on the operational details (Soteriou and Zenios, 1999). Answer to this question is identifying the various performance measures. The widely used measures to

assess performance are return on total assets (ROA) and return on total equity (ROE) and Net interest margin (NIM). These measures over the years have been used by analysts and bank regulators in (a) assessing industry performance (b) forecasting market structure trends (used to predict bank failures and mergers) and (c) other purposes where a performance measure is needed (Gilbert and Wheelock, 2007).

It can therefore be concluded that a positive performance measure should be determined by an effective credit risk management as it is expected that an effective credit risk management would lead to effective performance in deposit money banks.

Risk is a major factor to be considered in every financial intermediation. A great threat to financial business and its effective management should be considered in attaining performance. Most credit decisions in financial institutions exposes its management to some level of risk, hence the need for effective risk management policy. It involves identification, quantifying and managing the uncertainties that firm faces as outcomes of financial intermediation activities are uncertain which in turn result to risk. Risk come to play as a result strategic failure, operational failure, financial failure, market failure and disruptions, environmental disaster and regulatory violations. Risk is a statistical concept that is measured using statistical concepts that are related to the unknown future. Credit risk exists when the financial borrower or counterparty fail to meet its obligations in accordance with agreed terms. The objective of credit risk management is to optimize the bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable level (Basel Committee on Banking Supervision, 2000).

Banks main activity involves credit creation which is get from surplus unit and render to shortage or deficit unit resulting to multiplier effect with return usually calculated as interest which is partly paid out to the surplus for depositing their funds with the bank. Other secondary activities are rendering payment services such as checking accounts, electronic banking and payment system, debit cards, cashier's checks and financial and advisory services. Banks may also offer investment and insurance products (Sloan, 2011). Banks cannot remain in business if it neglects the credit function (Osayeme 2000). Financial intermediation in banks create credit risk which brings the need for monetary policy and reforms. The banking sector remains at the center of this process, even in economies with highly developed financial markets. Banks provide important positive externalities as mobilisers of savings, allocators of resources, and providers of liquidity and payment services, as well as a fulcrum for monetary policy implementation.

Therefore, credit risk management is of critical importance for good performance to banks. It is expected that good credit would result to greater performance through higher profit, good productivity, increased capital investment and also create opportunities that would improve the standard of living. Organizations are enhancing their management of key risks, which include: market risk, credit risk, liquidity and operational risk. The bank's motivation for risk management comes from the tendency of risks leading to bank underperformance (Eduardus et al., 2007).

Financial regulatory agencies in most Sub Sahara African countries have been successful in enforcing supervisory and regulatory reforms, as well as in the implementation of structural reforms to reduce financial risks and promote financial development using return on equity and return on asset as measures of performance. Despite these controls, banks still operate in risky financial environments, which constitute weak legal institutions and loose enforcement of creditor rights (Flamini, McDonald & Schumacher, 2009). Of concern is not measuring performance with net interest margin. Implementing an efficient credit risk management leads to better banks performance. Better bank performance creates the right brand image and market share for the banks, thereby obtaining lower cost of risky capital and other sources of funds. The banks also get more opportunities to increase the productive assets, leading to higher bank profitability (Cebenoyan & Strahan, 2004).

Failures in deposit money banks in Nigeria can be attributed to poor credit risk management resulting from non-performing loans (NPLs). Banks in Nigeria in the past are known to have been accommodating huge load of toxic assets that rose progressively from year to year without being reported through good credit risk management (Ugoani, 2012). These has resulted to the liquidation of 33 banks between 1994 to 2002 resulting to a loss of over N200 billion (Nwaze, 2006). Such non-performing loans came into existence as a result of given out credits indiscriminately without proper credit risk appraisal and management which further resulted to the mismanagement of funds and then bad and irrecoverable loans. Philip (2007) cited in Ugoani (2012), consequently loan assets quality degenerated and contributed to bank failures. Despite various prudential measures employed to wage the tide, the rising profile of non-performing loans (NPLs) continued unabated into the 2000s. Ajekigbe (2008), in his findings, noted that non-performing loans, advances and discounts (LAD) portfolio of First Bank of Nigeria Plc., kept from N2.021 billion in 2007 to N6.015 billion in 2008.

An example of poor credit risk management in Nigerian deposit money banks in the past. In 2009, banking licenses of 10 out of 24 banks in Nigeria were further revoked by the Central Bank of Nigeria (CBN), accusing their executive management teams of high display of poor credit risk management, poor sense of judgment as well as inexperience. Takang and Ntui (2008) noted, "The very nature of the banking business is so sensitive because more than 85% of their liability is deposits from depositors. (Saunders & Cornett, 2005) Banks further use these deposits to generate credit for their borrowers, which in fact is a revenue generating activity for most banks. This credit creation process exposes the banks to high default risk which might led to financial distress including bankruptcy" (p.7). Despite the incumbent risk, it is part of the duties of banks to provide credit facilities for their customers. Provision of credit facility is also a source of income to the bank as well as growth strategy in order to meet the demand of a competitive market. The problem however, is the importance of banks function as credit provider and the sensitivity of the inherent risk.

Various researches have been conducted using Non-Performing Loan Ratio (NPLR) and Loan to Deposit Ratio (LTDR) as independent variables to measure banks performance through its dependent variable which is performance measures the Return on equity (ROE), return on assets (ROA). Of major interest is few study was found to have used Net Interest Margin (NIM) in evaluating banks performance. Therefore, this research aims to measure banks performance using return on equity (ROE), return on assets (ROA) as well as net interest margin (NIM). The study would use secondary data of 5 financial years, which is from 2010 to 2015.

The main aim of this paper is to evaluate the relationship between credit risk management and bank performance. The expectancy is good credit risk management would lead to better performance and vice versa, while bad credit management would lead to poor and bad performance and vice versa. The specific objectives of this study are to:

1. Identify the relationship that exists between non-performing loans and return on equity;
2. Identify the relationship that exists between non-performing loans and return on asset;
3. Identify the relationship between non-performing loans and net interest margin;
4. Identify the relationship between loan to deposit and return on equity;
5. Identify the relationship between loan to deposit and return on asset;
6. Identify the relationship between loan to deposit and net interest margin;

## **2. CONCEPTUAL DEFINITIONS**

### **2.1. Loan Loss Provision:**

An expense set aside as allowance for bad loans (customer defaults, or terms of a loan have to be renegotiated etc.). One of the principal duties of financial institutions is to provide loans, this is typically the source of income to banks, bank loans and credit also constitute one of the ways of increasing money supply in the economy. As banks give loans, they need to make provisions for loan losses in their books. The higher this provision becomes, relative to the size of total loans, the riskier a bank becomes. An increase in the value of the provision for loan losses relative to total loans is an indication that the bank's assets are becoming more difficult to collect. Credit risk, defined as the ratio of loan loss provision to total loans. This ratio is commonly used in the literature. A high ratio is considered an indicator of poor credit risk management (Joan et. al, 2009).

#### **2.1.1. Non-Performing Loan:**

A non-performing loan is a loan that is in default or close to being in default. Many loans become non-performing after being in default for 90 days, but this can depend on the contract terms.

A loan is nonperforming when payments of interest and principal are past due by 90 days or more, or at least 90 days of interest payments have been capitalized, refinanced or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons to doubt that payments will be made in full"

By bank regulatory definition, non-performing loans consist of:

1. Other real estate owned which is taken by foreclosure or a deed in lieu of foreclosure,
2. Loans that are 90 days or more past due and still accruing interest, and

3. Loans which have been placed on nonaccrual (i.e., loans for which interest is no longer accrued and posted to the income statement).

Generally NPL problems are resolved in two ways:

1. **Centralization** – This happens when all the concerned parties including the banks, regulators and government get together to find solutions. This generally takes the form of a central organization/agency such as an Asset Management Company.

2. **Decentralization** – This approach involves steps taken by the affected banks. The decentralized approach is common for bad loans arising from bad lending. In this approach, the banks are left alone to manage their own bad loans by giving them incentives, legislative powers, or special accounting or fiscal advantages.

#### **2.1.2. Loan to Deposit RatioL:**

The formula for the loan to deposit ratio is exactly as its name implies, loans divided by deposits. The loan to deposit ratio is used to calculate a lending institution's ability to cover withdrawals made by its customers. A lending institution that accepts deposits must have a certain measure of liquidity to maintain its normal daily operations. Loans given to its customers are mostly not considered liquid meaning that they are investments over a longer period of time. Although a bank will keep a certain level of mandatory reserves, they may also choose to keep a percentage of their non-lending investing in short term securities to ensure that any monies needed can be accessed in the short term Loan-deposit ratio, also known as the LTD ratio, is a ratio between the banks total loans and total deposits.

Deposits are considered to be a more stable form of funding (unless there are doubts about the solvency of the bank) and in the current environment the loan to deposit ratio is one of the key risk metrics to consider when looking at a bank (Boy, 2008).

#### **2.1.3. Bank Performance:**

The efficiency of the banking system has been one of the major issues in the new monetary and financial environment (Sharon, 2013). The efficiency and competitiveness of financial institutions cannot easily be measured, since their products and services are of an intangible nature. Many researchers have attempted to measure the productivity and efficiency of the banking industry using outputs, costs, efficiency and performance (Kosmidou, 2008).

#### **2.1.4. Return on Equity:**

Return on equity (ROE) measures the rate of return for ownership interest (shareholders' equity) of common stock owners. It measures the efficiency of a firm at generating profits from each unit of shareholder equity, also known as *net assets* or *assets minus liabilities*. Harvey (2011) explained Return on Equity (ROE) as an Indicator of profitability determined by dividing net income for the past 12 months by common stockholder equity (adjusted for stock splits). Result is shown as a percentage. Investors use ROE as a measure of how a company is using its money. ROE may be decomposed into return on assets (ROA) multiplied by financial leverage (total assets/total equity). Many analysts consider ROE the single most important financial ratio applying to stockholders and the best measure of performance by a firm's management. Return on equity is calculated by dividing net income after taxes by owners' equity (Scott, 2003).

#### **2.1.5. Return on Assets:**

The return on assets (ROA) shows the percentage of how profitable a company's assets are in generating revenue. Kennon (2011) explained Return on Assets or ROA for short, as an indicator for how much profit a company generated for each \$1 in assets. The return on assets figure is also a sure-fire way to gauge the asset intensity of a business. An indicator of how profitable a company is relative to its total assets.

#### **2.1.6. Net Interest Margin:**

It's a measure of the difference between the interest income generated by banks or other financial institutions and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-earning) assets. It is similar to the gross margin (or gross profit margin) of non-financial companies.

It is usually expressed as a percentage of what the financial institution earns on loans in a time period and other assets minus the interest paid on borrowed funds divided by the average amount of the assets on which it earned income in that time period (the average earning assets).

Net interest margin is similar in concept to net interest spread, but the net interest spread is the nominal average difference between the borrowing and the lending rates, without compensating for the fact that the earning assets and the borrowed funds may be different instruments and differ in volume. The net interest margin can therefore be higher (or occasionally lower) than the net interest spread.

#### **2.1.7. Credit Risk:**

A credit risk is the risk of default on a debt that may arise from a borrower failing to make required payments. In the first resort, the risk is that of the lender and includes lost principal and interest, disruption to cash flows, and increased collection costs. The loss may be complete or partial and can arise in a number of circumstances, for example:

1. A consumer may fail to make a payment due on a mortgage loan, credit card, line of credit, or other loan.
2. A company is unable to repay asset-secured fixed or floating charge debt.
3. A business or consumer does not pay a trade invoice when due.
4. A business does not pay an employee's earned wages when due.
5. A business or government bond issuer does not make a payment on a coupon or principal payment when due.
6. An insolvent insurance company does not pay a policy obligation.
7. An insolvent bank won't return funds to a depositor.
8. A government grants bankruptcy protection to an insolvent consumer or business.

Credit risk according to Basel Committee of Banking Supervision BCBS (2001) and (Gostineau 1992 as cited in Kargi, 2011) is the possibility of losing the outstanding loan partially or totally, due to credit events (default risk). Credit risk is by far the most important risk faced by banks and the accomplishment of their business depends on accurate measurement and efficient management of this risk to a greater extent than any other risks (Kargi, 2011). Chin (2010) explains Credit risk as the possibility of loss due to a debtor's non-payment of a loan or other line of credit (either the principal, interest or both). The default events include a delay in repayments, restructuring of borrower repayments, and bankruptcy. Credit risk can be defined as the probability that some of the bank's assets will decline in value and perhaps become worthless (Rose & Hudgins, 2005). Joan, Anthony & Anthony (2009) view credit risk as the probability that some of a bank's assets, especially its loans, will decline in value and possibly become worthless. Since banks hold little owners' capital relative to the aggregate value of their assets, only a small percentage of total loans need to go bad to push a bank to the brink of failure. Therefore, the management of credit risk is of valid importance not only to deposit money banks, but also to the entire financial system. Van Roy, Patrick, (25, 2005); Banks have better knowledge; measure and control of sophisticated risks they face with the inception of the Basel II. Key risks that fall under these are Credit risks; Operational risks; and Market risks. Each of these risks has defined approaches of measuring them with varying levels of complexity in its calculation.

As a means of managing minimum capital requirement most banks have adopted the standardized approach in credit risks and capital adequacy from Basel II. Other banks are using advanced internal rating approach which requires banks to develop their own internal rating system in deciding their risk exposure to lending activity and setting of capital reserves. It has a better assessment for various loan portfolios to corporate bodies, interbank lending, businesses and individuals, using a more risk sensitive mechanism from Basel II and the extensive use of Credit assessment agencies to measure the sensitivity of risks and exposure of the bank's lending activity to risks.

Significantly; Banking institutions have overcome regulatory capital arbitrage which was a common problem under Basel I with the introduction of Basel II and further consideration is given to other areas of risks supported by supervisory review.

(Schuermann, 2004) some of the fundamental key components in credit risks such as the Loss Given Default (LGD) questions the appropriateness of the credit risks under Basel II. He is of the view that borrowers whom the LGD is used on can range from individual borrowers, business borrowers, mortgage loans, bonds secured and unsecured loans among others and therefore banks need substantial knowledge about these creditors business environment, changing status as well as the risks they face to reflect it in the sensitive analysis of the LGD for effective judgment. He further concluded that the rate at which deposit money banks prefer to perform their own internal risks assessments, supervisory review will



be efficient if the regulators' obtain their own independent data on LGD of bank's clients in accordance with Basel II in order to offer independent advice and supervision to banks. This is due to the varying nature of factors to consider in developing the model and the level of accurate knowledge and availability of information about the borrowers. Acharya, Bharath and Srinivasan (2003) revealed that in times of economic recession there is increase in LGD whilst during economic recovery seasons there is reduction in LGD. The implications of this is such that banks will have to hold back lending to the various economic sector ( to mitigate risks) in recession times when financing will be needed most and rather lend when there is economic growth. Sabato, Gabriele, et al (2008) in his research pointed out a problem in Vasicek Model (Vasicek, 2000), applied in Basel II risks assessment on LGD. He clarified an underestimation in the model of credit risks banks face especially when many firms are defaulting and there are low recoveries on bank lending thereby giving inadequate information for risks management.

## **2.2. Review of Relevant Literature and Hypothesis Development:**

Kolapo, Ayeni and Oke (2012) carried out an empirical investigation into the quantitative effect of credit risk on the performance of commercial banks in Nigeria over the period of eleven (11) years (2000-2010). Using panel model analysis to estimate the determinants of the profit function. The result showed that the effect of credit risk on bank performance is cross-sectional invariant. That is the effect is similar across banks in Nigeria suggesting that banks in Nigeria should enhance their capacity in credit analysis and loan administration.

Kargi (2011) evaluated the impact of credit risk on the performance of Nigerian banks. Financial ratios as measures of bank performance and credit risk were collected from the annual reports and accounts of sampled banks from 2004-2008 and analyzed using descriptive, correlation and regression techniques. The findings revealed that credit risk management has a significant impact on the profitability of Nigerian banks. It concluded that banks' profitability is inversely influenced by the levels of loans and advances, non-performing loans and deposits thereby exposing them to great risk of illiquidity and distress.

Epure and Lafuente (2012) examined bank performance in the presence of risk for Costa-Rican banking industry during 1998-2007. The results showed that performance improvements follow regulatory changes and that risk explains differences in banks and non-performing loans negatively affect efficiency and return on assets while the capital adequacy ratio has a positive impact on the net interest margin.

Kithinji (2010) assessed the effect of credit risk management on the profitability of commercial banks in Kenya. Data on the amount of credit, level of non-performing loans and profits were collected for the period 2004 to 2008. The findings revealed that the bulk of the profits of commercial banks are not influenced by the amount of credit and non-performing loans, therefore suggesting that other variables other than credit and non-performing loans impact on profits.

Bourke (1989) reports the effect of credit risk on profitability appears clearly negative this result may be explained by taking into account the fact that the more financial institutions are exposed to high risk loans, the higher is the accumulation of unpaid loans, implying that these loan losses have produced lower returns to many commercial banks (Miller and Noulas, 1997).

Onyiriuba (2009), provided some empirical evidence on how poor stock returns emanating from underperforming Nigerian bank credit portfolio fuelled negative volatilities in foreign exchange, substantial reduction in the aggregate value of capital market and contagious in other sectors of the Nigerian economy

Owojori et al (2011) highlighted that available statistics from the liquidated banks clearly showed the inability to collect loans and advances extended to customers and directors of companies, relatives to directors/managers was a major contributor to the distress of the liquidated banks.

Cooper et al (2003) add that variations in credit risk would lead to variations in the health of banks' loan portfolio which in turn affect bank performance.

Heffernan (1996) stressed that credit risk is the risk that an asset or loan becomes irrecoverable, in the case of outright default or the risk of delay in servicing of loans and advances. Thus, when this occurs or becomes persistent, the performance, profitability, or net interest income of banks is affected.

Ahmad and Ariff, 2007 as cited in kolapo et al, 2012 examined the key determinants of credit risk of commercial banks on emerging economy banking systems compared with the developed economies. The study found that regulation is

important for banking systems that offer multi-products and services; management quality is critical in the cases of loan-dominant banks in emerging economies.

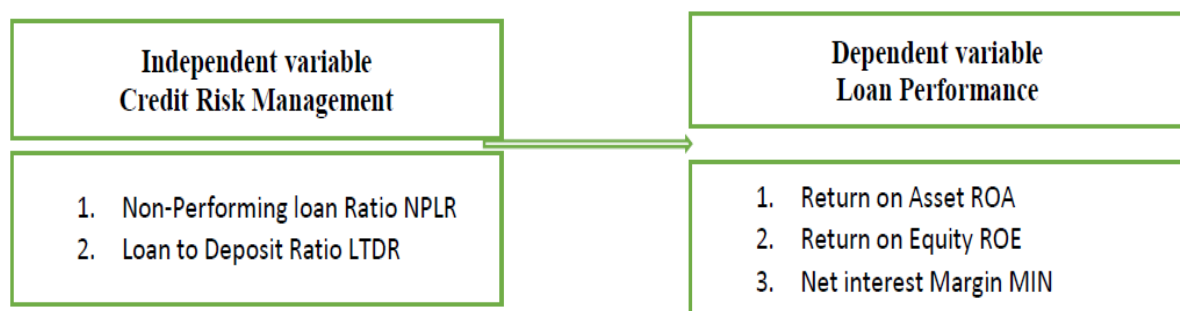
Al-Khouri (2011) assessed the impact of bank’s specific risk characteristics, and the overall banking environment on the performance of 43 commercial banks operating in 6 of the Gulf Cooperation Council (GCC) countries over the period 1998-2008. Using fixed effect regression analysis, results showed that credit risk, liquidity risk and capital risk are the major factors that affect banks performance when profitability is measured by return on assets while the only risk that affects profitability when measured by return on equity is liquidity risk.

Ahmed, Takeda and Shawn (1998) in their study found that loan loss provision has a significant positive influence on non-performing loans. Therefore, an increase in loan loss provision indicates an increase in credit risk and deterioration in the quality of loans consequently affecting bank performance adversely

Felix and Claudine (2008) investigated the relationship between bank performance and credit risk management. It could be inferred from their findings that return on equity (ROE) and return on assets (ROA) both measuring profitability were inversely related to the ratio of non-performing loan to total loan of financial institutions thereby leading to a decline in profitability.

Kuo and Enders (2004) investigated credit risk management policies for state banks in china using a survey research design. The study found out that with the increasing opening of the financial market, the state owned commercial banks in China are faced with the unprecedented challenges.

**2.3. Theoretical Framework/Model of the Study:**



**Variables Interconnectivity**

**Figure1; Relationship between Credit Management Systems and Loan Performance**

**2.3.1. Interconnectivities of variable:**

Credit risk management is expected to have a direct and significant relationship to banks performance. A non-performing loan is a facility that is in default or close to being in default. When credit is considered to be non-performing, such would adversely affect the return on equity, return on asset and the net interest margin of the banks. Loan to deposits determines the liquidity of funds in banks. If such tends to be high, it is expected that the banks would not have enough to meet other banks obligation and in turn would either affect performance in terms to return on equity, return on asset and net interest margin.

**2.4. Hypothesis Development:**

Drawing from the literature, the hypotheses to be tested in this study are stated below in their alternate forms:

1. H1: There is significant relationship between non-performing loans and return on equity in Nigerian banks.
2. H2: There is significant relationship between non-performing loans and return on asset in Nigerian banks.
3. H3: There is significant relationship between non-performing loans and net interest margin in Nigerian banks.
4. H4: There is significant relationship between loans to deposit and return on equity in Nigerian banks.
5. H5: There is significant relationship between loans to deposit and return on assets in Nigerian banks.
6. H6: There is significant relationship between loans to deposit and net interest margin in Nigerian banks.

### 3. METHOD

#### 3.1. Sample:

In this study, the audited annual financial statement of listed banks, financial publications and reports from the Central Bank of Nigeria covering the period 2010-2015 will be analyzed. Selection of these periods is justified based on the fact that it was plagued with a number of corporate frauds arising from poor corporate governance practice and institutional failures. However, a total of 10 listed banks in Nigeria were selected and analyzed for the study using the purposive sampling method. Nevertheless, in analyzing the research hypotheses, the study adopted the use of both descriptive statistics and econometric analysis using the Panel linear regression methodology consisting of periodic and cross sectional data in the estimation of the regression equation. The use of the measures of performance as cited in <http://wps.aw.com/wps/media/objects/3000/3072002/appendixes/ch09apx2.pdf> (nd) provides measures of return on assets (ROA), return on equity (ROE), and the net interest margin (NIM) for all federally insured commercial banks from 1980 to 2005.

#### 3.2. Specifications of the Econometric Model:

Data obtained from the financial statements of the selected banks will be analyzed using the regression analysis which could be termed to be a statistical technique used to find relationships between variables for the purpose of predicting future values. Using the formula;

$$Y=F(x)$$

#### Where;

Y is the Independent Variable (Credit Risk Management) that measures non-performing loan ratio and loan to deposit ratio

X is the dependent variable (performance measured as Return on Asset ROA, Return on Equity ROE and Net interest Margin NIM)

X = X1, X2, X3. X1 = Return on Asset. X2 = Return on Equity. X3 = Net interest Margin

A general panel data regression model is stated as;  $Y_{it} = a + \beta x_{it} + e_{it}$

Adapting the model provided in (Takang, 2008; Uwuigbe, Jimoh and Ajayi, 2012 and Uwuigbe, 2013) the association between bank performance and credit risk management in this study is stated in the following functional form as:

$$P_{it} = f(ROE_{it}, ROA_{it}, NIM_{it}) \dots \dots \dots (1)$$

In an explicit form this equation can model can be written as:

$$P_{it} = \beta_0 + B1ROE_{it} + B2ROA_{it} + B3NIM_{it} + e_{it} \dots \dots \dots (2)$$

#### Where;

Pit = Performance (P) here will be measured with ROE = Return on Equity, ROA = Return on Asset and NIM= Net interest Margin

i = 10 banks sample, e = Stochastic or disturbance term, t = Time dimension of the Variables,  $\beta_0$  = Constant or Intercept, B1-3 = Coefficients to be estimated or the Coefficients of slope parameters.

The expected signs of the coefficients (a priori expectations) are such that  $\beta_1, \beta_2, \beta_3 < 0$ .

### 4. CONCLUSION

This study attempts to respond to past studies by also putting into consideration Net Interest Margin as a dimension of performance, and not only Return on Equity and Return on Asset as conducted by most previous studies. At a secondary level, analyzing the financial statement of the selected deposit money banks in Nigeria, the study is expected to evaluate credit risk management and banks performance at a significant level. The study has both practical and theoretical value as this will enable various stake holders understand performance from the different perspective by adding to the existing study conducted and also ensure right decisions are implemented to ensure good credit and better performance.



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