

EFFECT OF RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF QUOTED DEPOSIT MONEY BANKS IN NIGERIA

MKPE, Nicholas Osa¹ (mkpenicholas@yahoo.com), EKPA, Felix² (informfelixnow@gmail.com) and OCHEPA, Abdulhafeez Abubakar³ (a.ochepa@futminna.edu.ng)

^{1&2}: Department of Accounting, Kogi State University, Anyigba

³Department of Entrepreneurship and Business Studies, Federal University of Technology, Minna, Niger State

ABSTRACT

Corporate risk management has become more important for businesses, particularly in today's dynamic and emerging risk environment. Risk management issues in the banking sector do not only impact bank performance but also on national economic growth and general business development. Against this background, this study investigates the effect of Risk Management on Financial Performance of quoted Deposit Money Banks in Nigeria from 2009-2018. The independent variable (risk management) is measured by Non-Performing Loan Risk and Foreign Exchange Risk while, Return on Assets measure the dependent variable – Financial Performance. Data were sourced from the financial statements of the sampled Deposit Money Banks for the ten (10) years period under study. The pre-estimation tests conducted were Pairwise correlation, variance inflation factor (VIF), descriptive statistics, Shapiro-Wilk normality test. The hypotheses were tested using Panel Least Squared multiple regression technique. The results show that Non-Performing Loans Risk has a significant negative effect on Return on Assets. The results further show that Foreign Exchange Risk has an insignificant positive effect on Return on Assets of Nigerian Deposit Money Banks from 2009-2018. The study recommends amongst others that management of banks should ensure that, the profile and business potentials of customers are well studied before granting loan facilities to minimize defaults to maximize profit and shareholders' interest.

Keywords: Risk Management, Non-Performing Loans Risk, Foreign Exchange Risk, Financial Performing, Return on Assets.

INTRODUCTION

Corporate risk management has become more important for businesses particularly in today's dynamic and emerging risk environment and has become an essential part of corporate governance for a firm in preserving its shareholder's interests as well as other stakeholders of the firm (Abdullah, Janor, Hamid & Yatim 2017). Njogo (2012) states that risk management refers to the totality of the process of the identification, assessment and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events. Risk is inherent in every business activity, but, the risk in the banking sector is more threatening and as such risk management is of grave importance to the sector in Nigeria as in all developing economies (Oluwafemi & Obawale (2010).

Risks can be grouped under systematic and unsystematic risks. Chukwunulu, Ejebasili and Igbojika (2019) assert that the unsystematic risks are the credit, operational and liquidity risks, which result from internal operations and management decisions of the banks, whereas the systematic risks which are foreign exchange and interest rate risks are imposed on banks by external forces like the Central Bank of Nigeria policy and foreign exchange regulations. Muiruri (2014) describes the systematic risks as irrelevant risks since they are beyond the control of business managers working in the market, adding that, it is irrelevant from the point of view that it is practically difficult to shade businesses from systematic risk. Concurring with Muiruri's position, Chukwunulu, Ejebasili and Igbojika (2019) maintain that unsystematic risk is the relevant risk which a manager should border about because it is under the control of the investor to decide in which security to invest or not, and can be controlled or eliminated through diversification.

Banking is a business of risk-taking and generally, they perform the intermediation role by accepting deposits from the savers and lending the money to borrowers. In doing so, they are exposed to various risks, which directly and/or indirectly influence their profitability (Olweny & Siphon, 2011). Subsection 6.1.1 of the code of corporate governance for banks and discount houses (2014) stipulates that every bank shall have a risk management framework specifying the governance architecture, policies, procedures and processes for the identification, measurement, monitoring and control of the risks inherent in its operations. The code added in subsection 6.1.2 that the board is responsible for the bank's policies on risk oversight and management and shall satisfy itself that management has developed and implemented a sound system of risk management and internal control.

The non-performing loans (NPL) ratio refers to loans whose servicing time has elapsed and banks still find it difficult to recover (Ahmad & Ariff, 2007). Waweru and Kalani (2016) note that loans are part of the assets of a commercial institution since they are meant to earn interest over time, but most times, this is not always the case as loans do not perform as expected and are termed non-performing loans Non-performing loans are calculated by dividing non-performing loans to total loans and advances and it is used as an indicator of credit risk. The higher the NPL ratio, the poorer the credit quality and, therefore, the higher the risk that more loan loss will be charged against profits. (Kingu, Macha & Gwahula, 2018).

Foreign exchange risk refers to the difference between foreign exchange denominated financial and commercial assets and foreign exchange denominated liabilities. One important macroeconomic factor which is known to deviate very frequently

from the expected outcome and therefore carries great risk is the foreign exchange rate, which indicates the relative currency's value between countries. Imbalances in foreign exchange rates are measured by deviations in relative purchasing power parity. Parlak and Ilhan (2015) assert that an exchange rate represents the changing level of the price of one nation's currency when compared with another nation's currency.

Hamidah, (2013) avers that one of the success measures of company financial performance, especially banks, is by measuring the return on assets (ROA) that can be a benchmark in corporate decision-making, noting that, return on assets (ROA) can be used to assess the condition of bank profitability and that the higher the ROA, the more effective the bank in the use of assets to generate profits.

In Nigeria, commercial banks play an important role in the intermediation of funds in mobilizing financial resources from surplus areas to the areas where these funds are needed by extending credit to various businesses and investors. Lending represents the heart of the banking industry and that involves risk which must be effectively managed for making a profit and maximize shareholders' wealth. However, from the available literature, there has been an unending polarization of findings among scholars regarding the effects of risk management on financial performance of firms. For instance, while Ahmadyan (2018); Serwadda (2018); Herelimana (2017); Mburu (2017); Abdullah, Janor, Hamid and Yatim (2017) and Nwangi (2014) maintain that risk management has a significant effect on financial performance. Other scholars including Oduro, Asiedu and Gadzo (2019); and Olusanmi, Uwuigbe and Uwuigbe (2015) report that risk management has an insignificant effect on financial performance of firms.

Furthermore, reviewed literature reveals that most of the previous studies considered a relatively short period of study which ranges from 3-6 years, a period considered too short by this study for meaningful findings. Scholars who captured these short periods include Wadesongo, Mhaka and Shava (2018); Ogato, Mulyungi, and Shukla (2018); Erin, Asiriwa, Olojede, Ajetunmbi and Usman (2018); John (2018); and Wanjohi and Ndombiri (2017) who captured 3, 4, 5, 6 and 5 years respectively. The unending divergent conclusions as regards the effect risk management has on financial performance of firms including deposit money banks opens a wide space for more contributory studies and coupled with the need to enlarge the period of study to ten (10) years as used herein necessitate this study titled: Effect of Risk Management on Financial Performance of Quoted Deposit Money Banks in Nigeria.

The main objective of the study is to investigate the effect of Risk Management on Financial Performance of Quoted Deposit Money Banks in Nigeria, while, the specific objectives are to:

- i) ascertain the effect of Non-Performing Loans Risk on Financial Performance of quoted Deposit Money Banks in Nigeria; and
- ii) examine the effect of Foreign Exchange Risk on Financial Performance of Deposit Money Banks quoted in Nigeria.

To achieve the stated objectives, the following null hypotheses were formulated:

Ho₁: Non-Performing Loans Risk has no significant effect on financial performance of quoted Deposit Money Banks in Nigeria; and

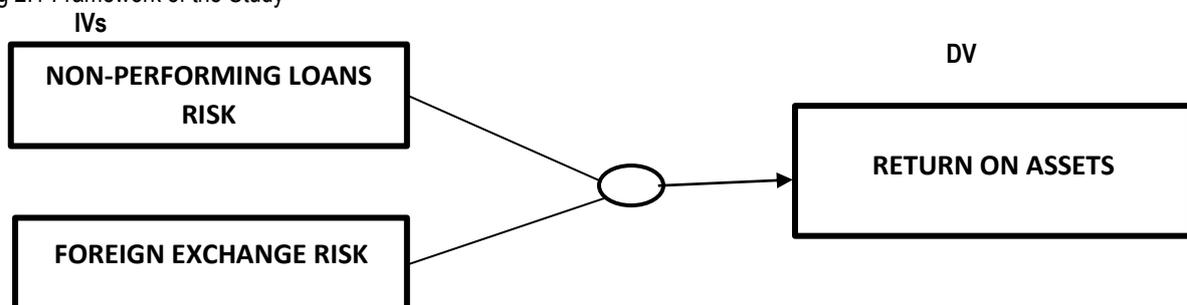
Ho₂: Foreign Exchange Risk has no significant effect on financial performance of quoted Deposit Money Banks in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Framework

The conceptual framework of this study comprises Risk Management represented by Non-Performing Loans Risk and Foreign Exchange Risk and Financial Performance measured by Return on Assets (ROA).

Fig 2.1 Framework of the Study



Source: Adapted from Pervaiz and Akram (2019).

Risk Management

Risk management as defined by Tasmin and Muazu (2017) is a process formulated and implemented by those charged with the management of an organization together with other employees to identify potential events or actions that have the potential of negatively affecting the ability of the organization to conduct its business to achieve the preset objectives. It is an

ongoing process as the risk events are ever-present and keep changing. Casualty Actuarial Society (2003) defines risk management of a firm as the discipline by which an organization assesses, controls, exploits, finances, and monitors risks from all sources to increase the organization's value to its stakeholders. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) (2004) describes risk management (RM) as a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

Abdullah, Janor, Hamid and Yatim (2017) observe that corporate risk management has become more important for businesses, particularly in today's dynamic and emerging risk environment. They hinted that risk management is an essential part of corporate governance, vital for a firm in preserving its shareholder's interests as well as other stakeholders of the firm. Manab, Kassim and Hussin (2010) argue that the main objective of the financial firm of implementing enterprise risk management (ERM) is business survival rather than value creation, while, Tahir and Razali (2011) find no evidence in the relationship between risk management in an enterprise and firm value. Athanasoglou, Delis and Staikouras (2006) note that bank risk-taking has some effects on bank profits (Performance) as indicated by total assets, total deposit, net interest, margin and net income. For this study, bank risks are Non-Performing Loan risk and Foreign Exchange risk.

Financial Performance

A major objective of bank management is to increase shareholders' return which comes through bank performance. The objective often comes at the cost of increased risk. The bank faces various risks such as interest risk, market risk, credit risk, off-balance risk, technology and operational risk, foreign exchange risk, country risk, liquidity risk, and insolvency risk (Tandellin, Kaaro, Mahadwartha & Supriyatna (2007). The bank's motivation for risk management comes from those risks which can lead to bank underperformance. Mardiana, Endah and Dinata (2018) define performance as the achievement of the purpose of a particular activity or occupation as measured by a standard noting that assessment of bank performance is essential for every stakeholder in competitive financial markets such as bank management, customers, business partners, and government. Bikker and Metzmakers (2005) note that the profitability of a bank depends on its ability to foresee, monitor and avoid risks, and the possibility of provisions to cover losses brought about by risk that arises.

An earlier study conducted by Richard (2006) asserts that bank performance is best estimated by ROA in that ROA is not distorted by high equity multipliers. They explain that ROA represents a better measure of the ability of the firm to generate returns on its portfolio of assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Other measures of bank performance include return on equity/investment (ROE) as the net income per naira of equity capital and net interest margin (NIM) which is the difference between interest income and interest expenses as a percentage of total assets and others. This study adopts ROA as the measure of financial performance.

Non-performing Loans and Financial Performance

Non-performing loans are the percentage of loan amounts that are not serviced for three months and above (Ahmad & Ariff, 2007). Raza and Hanif, (2013) report that non-performing loans as an indicator of credit risk can reduce the value of a bank and destabilize the credit system. Agu (1998) who was cited in Djan, Frimpong, Bawuah, Halidu and Kuutol (2015) states that loan default reduces the resource base of a bank for further lending, weakens staff morale and affects the borrower's confidence, stressing that the cost of managing overdue loans tends to be very high and can reduce banks' profitability levels. In some cases the cost of unpaid loans is shifted to other customers or borrowers in the form of a higher interest margin charged on loans which diminish the willingness to borrow, thereby reducing profits. Ozili and Outa (2017c) maintain that banks that have significant exposure to non-interest source of income would have fewer non-performing loans, thus improving bank performance because they rely less on interest income associated with bank lending.

Ozili (2019) point out that non-performing loans are positively associated with financial development measured, explaining that implying the banking sectors with greater financial development via greater financial intermediation and foreign bank presence experience higher non-performing loans risk. Hosna, Manzura and Juanjuan (2009) identify that non-performing loans affected banks' performance as measured by return on equity more than the capital adequacy ratio. Beck, Jakubik and PiloIU (2015) assert that the level of the non-performing loan is an indicator of bank performance and that the lower the better.

Foreign Exchange Rate Risk and Financial Performance

Foreign exchange rate risk also refers to as transactional risk can be defined as the probability of loss and gain because of exchange rate fluctuations and their effect on expected cash flows. In other words, the transactional risk is the risk that is caused by variations between exchange rates on the transaction date and contract date for futures in types of foreign currency (Christoffersen 2012), Okinyi (2013) note that volatility of currency affects the domestic enterprises in a country and increases risks, such that the management of these organizations must make efforts to put in place a risk management unit. In any case, Kiore (2018) asserts that the interest rate risk comes about as a disparity between the assets held by a bank and the loans that fund its statement of financial performance.

Parlak and İlhan (2015) argue that companies with short foreign exchange position had lower operating profitability than companies with long foreign exchange position. Runo (2013) observes the relationship between foreign exchange risk and

financial performance and reports that foreign exchange risk is a strong determinant of profitability, warning that, if not properly managed, can affect the overall performance of a company. Similarly, Diffu (2011) finds out that foreign exchange risk is a major determinant of a company's profitability.

Theoretical Framework

The Anticipated Income Theory: This study is anchored on the theory of anticipated income propounded by Prochanov (1944) which posits that the cash flow of the borrower is enough to hedge against risks from default. A bank's loan portfolio is thus considered a source of liquidity. The loan is repaid in instalments out of the anticipated earnings of the borrower instead of a lump sum at maturity. This theory satisfies the three main objectives of sound banking operation namely, liquidity, safety and profitability. The loan is repaid in regular instalments ensuring liquidity. The ability of the borrower to repay guarantees safety and the regular cash inflow enables the bank to grant more loans thus ensuring profitability. According to this theory, regardless of the nature and character of a borrower's business, the bank plans the liquidation of the term-loan from the anticipated income of the borrower. This theory asserts that an effective risk management strategy can enhance bank profitability. The management of bank risks reduces the level of bank and customer defaults. The bank that lacks liquid assets can default in honouring financial obligations that fall due, likewise the customer that did not fund his/her account. The strength of the theory is that it fulfils the three objectives of liquidity, safety and profitability. Liquidity is assured to the bank when the borrower saves and repays the loan regularly in instalments. The theory's main weakness lies in the fact that repayment of loans in instalments to the bank no doubt provide a regular stream of liquidity, but the instalment cash flow fails to meet the emergency cash needs of the lender bank. (Brissimis, Athanasoglou & Delis, 2005; Ibe, 2013; Alshatti, 2014; & Ismail, 2016),

Empirical Review

Fadun and Oye (2020) analyse the impact of operational risk management practices on the financial performance of commercial banks in Nigeria for 10 years from 2008 – 2017. Secondary data extracted from audited financial statements of selected commercial banks in Nigeria were used for the study. The data were analysed using the Linear Multiple Regression Model. The results showed that there is a positive relationship between operational risk management and the financial performance of banks. The findings also reveal that sound operational risk management practices impact positively on the financial performance of banks. They recommend that banks' management should deploy adequate resources towards understanding operational risk to ensure sound operational risk management and improved financial performance of banks

Sathyamoorthi, Mogotsinyana, Mphoeng and Mashoko (2020) examine the impact of financial risk management practices on the financial performance of commercial banks in Botswana. The study used Return on Assets and Return on Equity to measure financial performance. Inflation, Interest rates, total debt to total assets, total debt to total equity, total equity to total assets and loan deposit ratios were used as proxies for financial risk management. The study covered a period of 8 years from 2011 to 2018. This descriptive study sourced monthly secondary data from the Bank of Botswana Financial Statistics database. Descriptive statistics, correlation and ordinary least square regression analyses were applied to analyze the data. The results from regression analysis showed that interest rates had a negative and significant impact on return on assets and return on equity. On the other hand, total debt to total assets showed a negative and insignificant effect on return on assets. However, total debt to total assets revealed a positive and insignificant effect on return on equity. The loan deposit ratio indicated a negative and significant impact on return on assets and return on equity. They recommend that banks should strike a proper balance between financial risk management practices and financial performance by engaging in appropriate market, credit, and liquidity risk management practices that will ensure safety for their banks and yield positive profits.

Chukwunulu, Ezeabasili and Igbodika (2019) examine the effect of risk management on bank performance in Nigeria. Two bank performance indicators (return on assets and return on equity) were used as the dependent variables while unsystematic risk management measures including credit risk, liquidity risk, operational risk and capital adequacy risk are the independent variables. The data for the study covering 23 years from 1994 to 2016 were obtained from Nigerian Deposit Insurance Corporation (NDIC) annual reports. The SPSS was used to run OLS regression analysis. Furthermore, credit risk has a significant negative effect on return on equity and insignificant negative effect on return on assets; Liquidity Management has no significant effect on bank performance; Operational risk has no significant effect on bank performance in Nigeria; while capital adequacy has a significant positive effect on return on equity but a negative insignificant effect on return on assets. They recommend that the CBN and other regulators should endeavour to enforce risk identification, assessment, measurement and control mechanisms in line with global best practices in order to avoid financial crisis and also improve commercial banks' performance.

Okoh, Inim and Idachaba (2019) examine the effect of Non-Performing Loans on the financial performance of commercial banks in Nigeria between the periods of 1985 to 2016. The study employed the OLS multiple regression techniques to analyze data collated from the Central Bank of Nigeria (CBN) statistical bulletin and Nigeria Deposit Insurance Corporation (NDIC) publications for various years. The result of the study shows that the Non-Performing Loans to Total Loans ratio (NPL/TLR) and Cash Reserve Ratio (CRR) had a statistically negative significant effect on Return on Asset (ROA). The results show that a high level of non-performing loans would reduce the financial performance of commercial banks in

Nigeria. They recommend that the regulatory authorities in Nigeria should create and support an environment where commercial banks in Nigeria can have strong risk management practices.

Kingu, Macha and Gwahula (2018) examine the impact of Non-performing loans on a bank's profitability using information asymmetry theory and bad management hypothesis. This study adopted a causality research design using panel data (2007 to 2015) of 16 commercial banks in Tanzania. The study employed Descriptive statistics and multiple regression analysis estimation methods. Likewise, Ordinary Least-Squares (OLS) regression technique was also used, and then Fixed Effects (FE) and Random Effects (RE) assumptions were considered. The study found that the occurrence of non-performing loans is negatively associated with the level of profitability in commercial banks in Tanzania. The results extend further the information asymmetry theory and bad management hypothesis. They recommended that practitioners and bank managers need to thoroughly scrutinize client data and information during the credit analysis stage so to reduce information asymmetry, and that, management need to invest in robust credit information systems; thus, to reduce informational gaps and increase access to complete, accurate and reliable information concerning borrowers.

Okika, Udeh and Okoye (2018) find out the effect of exchange rate fluctuation on the firm profitability of selected quoted conglomerates in Nigeria. Specifically, they investigated the extent to which exchange rate fluctuation affect the return on financial performance. In pursuit of the objectives of this study, two hypotheses were formulated and tested using secondary data obtained from the firms' annual report and CBN annual statistical bulletin. Data were analyzed using ANOVA (analysis of variance) and multiple linear regression analytical estimation technique with the aid of SPSSv21 which was used in determining the effect of exchange rate fluctuation on firm profitability. The findings confirmed that the two hypotheses tested were insignificant. They recommend that Government should make policy aims at naira appreciation against foreign exchange which will greatly help reduce the cost of production in the manufacturing sector.

Ogato, Mulyungi and Shukla (2018) evaluate the effect of exchange rate volatility on a company's financial performance through a survey of listed companies in the Rwanda Stock Exchange that covered the period of 3 years 2012 to 2015. The research adopted a descriptive research design which involved the use of both qualitative and quantitative data. A census approach was used on the eight firms listed in the Rwanda stock exchange. The research utilized questionnaires for data collection comprising structured questions. Data were collected from primary and secondary sources. The primary source was from senior managers in finance using questionnaires. Both descriptive and inferential research methods were used to analyze the data collected. Descriptive statistics included frequencies, percentages, the measure of central tendency, range, variance and standard deviations. Inferential statistic included correlation analysis, while the analytical package used was Statistical Packages for Social sciences version 21 (SPSS). The study found that listed firms financial performance was affected by the foreign exchange rates movements. They recommend that future researcher may conduct further studies and identify other macro-economic factors that significantly affect a firm's financial performance.

Gap in Literature

From the available literature, it was observed that the ten (10) years captured by this study is relatively a longer period compared with most of the previous studies. For instance, studies including those Wadesongo, Mhaka and Shava (2018); Ogato, Mulyungi, and Shukla (2018); Erin, Asiriwa, Olojede, Ajetunmbi and Usman (2018); John (2018); and Wanjohi and Ndombiri (2017) covered 3, 4, 5, 6 and 5 years respectively with is seen to be too short for a meaningful conclusion. The relatively long period of coverage constitute the gap these studies fill in literature.

METHODOLOGY

The study utilized the *ex-post facto* design because of the fact that the event under study has taken place and documented as historical data. The population of the study comprise of the 21 deposit money banks (DMBS) operating in Nigeria from 2009-2018. The sample size of this study comprises the 14 deposit money banks quoted on the Nigerian stock exchange from 2009-2018. These 14 quoted banks were sampled out for this study through filtering sampling technique which separated banks that are not quoted on the exchange and therefore do not publish their annual reports for the researcher to access. The data to be used for this study were obtained from secondary sources which are the financial statements of the individual banks sampled. The pre-estimation tests were Pairwise correlation and variance inflation factor to test for multicollinearity, descriptive statistics, Shapiro-Wilk normality test and Panel Linear Square (PLS) multiple regression was used in testing the hypotheses. The analysis were carried out with the aid of STATA 12 software.

Model Specification

The dependent variable which is Financial Performance measured by Return on Asset (ROA), while, the independent variable (risk management) was represented by Non-Performing Loans Risk (NPLR) and Foreign Exchange Risk (FER). Specifically, the linear regression equation is presented as follows:

$$ROA = f(NPL + FER) \dots\dots\dots (1)$$

Representing the above equation in Econometric term, the equation as adapted from Oduro, Asiedu and Gadzo (2019) becomes:

$$ROA_{it} = \beta_0 + \beta_1NPL_{it} + \beta_2FER_{it} + \mu_{it} \dots\dots\dots (2) \text{ [Model]}$$

Where: ROA= an indicator for Return on Asset (Dependent Variable)

- β_0 = Intercept term (a constant)
- β_1 = Coefficient of Non-Performing Loan Risk
- β_2 = Coefficient of Foreign Exchange Risk
- NPL = a predictor representing independent variable – Non-Performing Loans Risk
- FER = a predictor representing Independent Variable – Foreign Exchange Risk
- μ = Stochastic error term (representing the combined effect of omitted variables)
- i = Firms;
- t = Periods (Time)
- f = Functional relationship.

Variable Measurement and Justification

Table 3.1 shows the variable measurement and the justification for use.

| VARIABLE | ACRONYM | TYPE | MEASUREMENT | JUSTIFICATION |
|-----------------------|---------|-------------|--|---|
| Return On Asset | ROA | Dependent | Net profit divided by Total Assets | Chukwunulu <i>et al</i> (2019); John (2018); Mardiana <i>et al</i> (2018) |
| Non-performing Loans | NPL | Independent | Defaulting loans divided by Total loans multiplied by 100% | Okoh <i>et al</i> (2019); Mardiana <i>et al</i> (2018); and Kingu <i>et al</i> (2018) |
| Foreign Exchange Risk | FER | Independent | Average exchange rate at year end (Naira:USD). | John (2018); Ogato <i>et al</i> (2018); and Mburu (2017); |

Source: Researcher’s compilation, 2020.

DATA ANALYSIS

Correlation Test for Multicollinearity

Table 3.2 below shows the result of the Pairwise correlation test for the presence of multicollinearity problem within the model..

| | ROA | NPLR | FER |
|------|---------|--------|--------|
| ROA | 1.0000 | | |
| NPLR | -0.2932 | 1.0000 | |
| FER | 0.0485 | 0.1130 | 1.0000 |

Source: STATA output, 2020.

Table 3.2 above shows that there is no problem of multicollinearity among the proxies of the independent variables as there is no correlation between them that is higher than 0.85 (or 85%) which is the maximum, if exceeded, meant that multicollinearity problem sets in according to Hair, Tathan and Anderson, (2005). The absence of the multicollinearity problem meant that no further diagnostic investigation is necessary on the data.

Descriptive Statistics

Table 3.3 below shows the descriptive statistics of the overall data set comprising of the proxies for the variables.

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|----------|-----|----------|-----------|--------|----------|
| roa | 139 | .01067 | .0322 | -.2424 | .1064 |
| nplr | 101 | 5.31e+07 | 7.85e+07 | 306371 | 4.15e+08 |
| fer | 139 | 196.6707 | 60.69593 | 148.88 | 306.08 |

Source: STATA output, 2020.

Table 3.4 above revealed that all the variables namely: ROA, NPLR and FER have means (0.0107, 5.31+07 and 196.6707 respectively) that fall between their minimum and maximum respectively which signifies that the series is evenly spread. Furthermore, Table 3.4 revealed the standard deviation which highlights the extent of dispersion of the series. While ROA and Non-Performing Loans Risk have standard deviations that are greater than their means, an indication that they had had

faster growth rate, Foreign Exchange Risk has a standard deviation that is less than its mean which implies that it had had a slow rate of growth during the period of study.

Shapiro-Wilk W' Data Normality Tests

Table 3.5 below shows the results of the Shapiro-Wilk normality test which reveals the pattern of the distribution of the series.

| Variable | obs | w | v | z | prob>z |
|----------|-----|--------|--------|-------|--------|
| ROA | 130 | 0.6421 | 39.022 | 8.174 | 0.000 |
| NPLR | 102 | 0.5247 | 39.059 | 8.130 | 0.000 |
| FER | 140 | 0.7553 | 26.843 | 7.432 | 0.000 |

Source: STATA output, 2020.

Table 3.5 above revealed that the series is not normally distributed since all the variables have prob>z that are all 0.0000, a figure less than 0.05 or 5%. That the series is not normally distributed means that, one of the basic assumptions of Ordinary Least Square regression technique which requires data to be normally distributed has been violated. The result implies that OLS technique cannot be used to estimate the model in this study. This will therefore use Panel least square multiple regression technique.

Regression Estimate with Panel least square (PLS) technique.

Table 3.6 below is the results of the Panel Least Square multiple regression technique used to estimate the model.

| Variable | Coefficient | t-stat | prob |
|----------|-------------|--------|----------|
| NPLR | -1.33e-10 | -3.15 | 0.002*** |
| FER | 0.0001 | 0.92 | 0.358 |

| | |
|----------------------|---------|
| R-square | = 0.38 |
| F.statistics (2, 99) | = 5.12 |
| Prob>F | = 0.008 |

Source: STATA output, 2020.

Notes: *** represent 1% significance level.

Results from Table 3.6 above revealed that the coefficient of determination (R-square) is 0.38 which means that Non-Performing Loans Risk (NPLR) and Foreign Exchange Risk (FER) have a 38% percent combined effect on financial performance of banks in Nigeria. Furthermore, the results showed F.stat and Prob>F to be 5.12 and 0.008 (1% significant level) respectively, indicating that the model is fit. Table 3.6 also revealed that Non-Performing Loans has significant negative effect on profitability of banks in Nigeria from 2009-2018. The results further showed that Foreign Exchange Risk has an insignificant positive effect on profitability of bank during the period studied.

Test of Hypotheses

For the purpose of achieving the set objectives, the formulated null hypotheses were tested as follows.

The results from the study revealed that Non-Performing Loans Risk has a significant negative effect on profitability with a coefficient of -1.33 a t-stat of -3.15 and a prob. of 0.002 which means that the null hypothesis One (Ho₁) which states that Non-Performing Loans has no significant effect on return on assets is rejected.

The results from the study indicate that Foreign Exchange Risk has an insignificant positive effect on profitability with a coefficient of 0.0001, a t-stat of 0.92 and a prob. of 0.358 which means that the null hypothesis Two (Ho₂) which states that Foreign Exchange Risk has no significant effect on return on assets is accepted.

Discussion of Findings

This study reveals that Non-Performing Loans Risk has a significant negative effect on return on assets and that holding the other variables constant, a unit increase in Non-Performing Loans brings a 3.15 decrease in the Return on Assets of banks. This finding is in agreement with those of Okere *et al* (2018); Serwadah (2018); and Mohammed (2016) who report that Non-Performing Loans has a significant effect on profitability, but it disagrees with that of Okoh *et al* (2019); Kingu *et al* (2018); and Mardiana *et al* (2018) who submitted that Non-Performing Loans has an insignificant effect on profitability.

This study also reveals that Foreign Exchange Risk has an insignificant negative effect on return on assets and that holding the other variables constant, a unit increase in Foreign Exchange Risk brings a 0.92 increase in the Return on Assets of banks. This finding is in consonance with that of Okika (2018); who report that Foreign Exchange Risk has an insignificant effect on profitability. The finding, however, contradicts those of John (2018) and Muriithi *et al* (2016) who observed that Foreign Exchange Risk has a significant effect on profitability.

Summary of Findings

The findings of this study are summarized as follows:

| Hypothesis | Statement | Result |
|-----------------|---|----------|
| Ho ₁ | Non-Performing Loan Risk has no significant effect on Return on Asset | Rejected |
| Ho ₂ | Foreign Exchange Risk has no significant effect on Return on Asset | Accepted |

Source: Researcher’s Compilation, 2020.

CONCLUSION AND RECOMMENDATIONS

From the results of this study, increase in the amount of Non-Performing Loans a bank grants to customer will lead to a significant reduction in profitability as shown by its negative significance because there will be an increase in the provisions for bad debts which will deplete profits. Foreign Exchange Risk has shown an insignificant but positive effect on return on assets (profitability) which depicts that foreign exchange fluctuations most times benefit the banks to the disadvantage of customers who wants these foreign currencies because banks will pass the bulk to customers.

Based on the findings of this study, the following recommendations are made:

- i) Managers of deposit money banks should ensure that the profile and business potential of customers are well studied before granting loan facilities to them so as to minimize the incidence of loan defaults as it will lead to huge provision for bad debts and thereby adversely affect profits.
- ii) Deposit money banks should maintain a moderate reserve of foreign currencies for customers who must transact business in those currencies as this has the potential of increasing their profits from the differences between the prices they buy and sell.

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