
EFFECT OF FINANCIAL RATIOS ON PERFORMANCE OF BANKS IN NIGERIA

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Abstract

The impact of financial ratios on bank performance in Nigeria was investigated in this study. Data was gathered from the financial statements of the banks listed on the Nigeria Stock Exchange using an ex-post facto research design. With the help of SPSS Version 22, a regression statistical technique was used. The results reveal that the Loan to Deposit Ratio has a big impact on the Net Interest Margin of Nigerian banks, and the Current Ratio has a significant impact on the Net Interest Margin of Nigerian banks. As a result, it was advised, among other things, that banks in Nigeria must finance their assets with either FMBN capital or debt; a solid capital structure gives them the power to weather financial crises and provides depositors with a better safety net in times of bankruptcy and distressed macroeconomic conditions. This will help relieve shareholder pressure to grow their equity.

Keywords: Financial ratios, Performance and Current Ratio

Introduction

The ease with which banks' asset funding can be raised and financial commitments satisfied is measured by bank liquidity. Banks become vulnerable to idiosyncratic and market-wide liquidity risk when they convert deposits into loans (Lungile, Hlatshwayo, Janine and Frednard, 2013). The biggest source of liquidity risk in a banking organization is credit risk, which derives from loan default. The possibility that a borrower would fail to satisfy financial commitments according to agreed-upon terms is referred to as credit risk (Bank for International Settlements, 2008). When banks agree to lend money to a borrower, even if they have a solid credit history, the danger of losing the principal is always present, accrued interest or both. Banks cannot possibly ensure that all loans given out are fully paid with accrued interests, and on time. They endeavor to secure loans and control risks, but they can't guarantee that every coin lent out is returned. Banks that can effectively and efficiently manage and master the technique of making loans with low nonperforming loans/rates generate the most money and have a greater chance of long-term survival (European Central Bank, 2016).

Liquidity risk emerges when mortgage banks fail to meet deposit withdrawal commitments or when banks want to take advantage of advantageous opportunities that are incompatible with their current liability base (Shahbaz, Tabassum, Muhammad, Mansoor, Hafiz and Yasir, 2012). Liquidity risk affects banks since they convert liquid deposits (liabilities) into illiquid loans (assets) in their daily operations. These are the bank's most important operations, and liquidity risk management's job is to keep them running smoothly. Furthermore, the liquidity position is linked to stakeholders' trust. Kargi (2011) claims that banks can enhance their profit and achieve their goal by offering massive quantities of loans. However, if the loans are not paid back, profitability will suffer. According to a variety of empirical studies, liquidity and profitability are negatively connected, meaning that when one increases, the other falls. Increased risk, on the other hand, leads to higher profit, and the two are directly related; when risk is high, profit is also high (Haneef, Riaz, Ramzan, Rana, Ishaq, and Karim, 2012; Pracoyo and Imani, 2018).

According to Sanusi (2003), the mortgage industry plays a key role in a country's welfare, and it has not received due respect in Nigeria, despite the fact that it has a direct impact on not just the citizens' well-being, but also the performance of other sectors of the economy. As a result, there is a severe housing scarcity. The housing shortfall in Nigeria is expected to be around 16 million units, and it will cost more than N56 trillion to deliver those 16 million units at a conservation cost of N3.5 million per unit in the country (World Bank, 2013). This will necessitate the involvement of mortgage financial institutions, each of which has its own set of flaws.

Because most mortgage financing is unsecured, liquidity risk is of significant concern to mortgage financial institutions (Churchill and Coster 2001). People who really required mortgages were individuals who couldn't get credit from banks or other financial organizations because they couldn't provide a guarantee or security for the money borrowed to fund a housing project. Due to the significant risk of default or credit risk for repayment of interest and, in some situations, the principal amount itself, many banks refuse to give credit to customers who do not have constant cashflow. As a result, these organizations (mortgage banks) must implement appropriate credit management that entails the identification of existing and potential risks inherent in lending activities (Nduta, 2013). The inaccuracy and inefficient handling of liquidity risk was a defining feature of the financial crisis. High default rates result in diminished cash flows, lower liquidity levels, and financial difficulty, hence early detection of possible loan default is critical. Lower credit exposure, on the other

hand, signifies an appropriate debtors' level, with fewer chances of bad debts, nonperforming loans, and hence financial soundness.

We noticed that none of the studies conducted by various experts focused on the impact of liquidity risk on the profitability of Nigerian mortgage banks. Despite, there are many studies carried out on similar financial institutions but most of these studies are focused on the other Nations like Kenya, Ghana, Europe, Spain, Indonesia, Pakistan etc. Therefore, based on the gaps identified above, this study therefore fills the research gaps by the effect of liquidity risk on the performance of banks in Nigeria using appropriate research apparatus..

Review of Related Literature

Liquidity and Profitability

A small number of studies have been conducted expressly to assess the influence of liquidity risk on mortgage bank profitability. Surprisingly, the majority of these few studies focused on commercial and microfinance institutions. As a result, the majority of the studies analyzed in this study were primarily focused on determining factors of bank profitability, with liquidity being one of such determinants. Some writers discovered a positive relationship, while others discovered a negative relationship, while others discovered both, and a few discovered no association at all. The dispute continues to rage. Garca-Teruel and Solano (2007) investigated the impact of working capital management on a company's return on assets (ROA). They looked at 8872 businesses and discovered that decreasing the cash conversion cycle had a significant impact on company profitability. Bordeleau and Graham (2010) claim in their study that banks with a higher level of liquid assets are more profitable. They propose that banks' illiquidity and financing costs are reduced by having more liquid assets.

Saleem and Rehman present the relationship between liquidity and profitability (2011). The findings revealed that only the liquid ratio has a significant impact on ROA, but not on ROE or ROI; the findings also revealed that the three ratios of current ratio, quick ratio, and liquid ratio have no significant impact on ROE, but current ratios, quick ratios, and liquid ratio have a significant impact on ROI. The study's major findings revealed that each ratio (variable) has a substantial impact on the financial circumstances of businesses of various sizes, with liquidity ratios being the most important. Profitability ratios are also significant in determining a company's financial position.

Current Ratio (CuR)

The current ratio is a liquidity ratio that assesses a company's ability to pay short-term or one-year obligations. It explains to investors and analysts how a firm might use current assets on its balance sheet to pay off current debt and other obligations. The size of the short current assets in terms of the current liabilities is used by Vieira (2010) to calculate the current ratio. Both of these numbers can be found on the balance sheet in yearly reports.

The current ratio establishes the relationship between short-term assets and liabilities. In general, a high current ratio indicates that a company's ability to repay its short-term obligations is strong, whereas a low current ratio indicates that the company's ability to repay its long-term obligations is weak.

Net Interest Income (NIM)

The net interest margin (NIM) is a metric that compares a financial firm's net interest income from credit products like loans and mortgages to the interest it pays on savings accounts and certificates of deposit (CDs). This practice of receiving deposits and lending comes at a cost to both the depositor and the borrower in the shape of interest. The difference between the

interest given to depositors and the interest charged to borrowers is known as the interest margin. Ideally, banks should pay lower interest to depositors and charge greater interest to borrowers. In this context, net interest margin refers to the difference between interest earned and interest paid. A study of interest margins is important because banks are dominant players in any economy and particularly, in developing/emerging countries, as banks are the main suppliers of finance. Bank net interest margin is also used as one of the prime indicators of competitiveness in the financial system (Murray Review 2014)

Return on Asset (ROA)

One of the profitability ratios is Return on Assets (ROA). This ratio is frequently highlighted in financial statement analysis since it can reflect a company's ability to generate profits. ROA can be used to forecast future earnings by measuring a company's capacity to make profits in the past. The assets in question are the general properties of the company, which are derived either from the capital itself or from foreign capital that has been turned into company assets for corporate sustainability. Return on asset (ROA) is computed by comparing available net profit for common shareholders to total assets, according to Brigham and Houston (2001).

Empirical studies

Ahmed (2002) used Dhaka, Bangladesh as a case study to investigate the role of microcredit in poverty alleviation in the economy. The data collection process employed in the study involves both secondary and primary sources. To establish trends and relationships between the variables, the data was evaluated using Correlation Coefficient, Pearson Product Moment Correlation, and other statistical methods. Additionally, graphs were employed to interpret the data acquired. Micro finance institutions, according to the report, are one of the key saving mobilization routes that supply liquidity for nations, which invariably affects economics and social impact on income, food security, and other factors. Ezenyilimba, Ezejiolor, and Afodigbueokwu (2019) investigated the impact of Total Quality Management on deposit money bank organizational performance in Nigeria. The data was obtained through questionnaires and presented in a tabular format, with the t-test performed using the Statistical Package for Social Science (SPSS) version 20.0. The findings show that total quality management practices affect customer satisfaction in Nigerian deposit money banks; that total quality management practices affect customer loyalty in Nigerian deposit money banks; and that total quality management practices affect customer satisfaction in Nigerian deposit money banks. The relationship between financial risks and profitability of conventional and Islamic banks in Malaysia was investigated by Fanziah, Zarinah, Ahmed, and Mohdazmi (2018). They employed panel data sources from 2006 to 2011 and used Generalized Least Squares panel data regression analysis. The independent variables in the study were proxy liquidity risk, credit risk, interest rate risk, interaction between credit risk and interest rate risk, off balance sheet activities, bank size, bank capital, lag of ROA or ROE, and GDP growth, whereas the dependent variables were proxy liquidity risk, credit risk, interest rate risk, interaction between credit risk and interest rate risk, off balance sheet activities, bank size, bank capital, lag of ROA or ROE, and GDP growth. The study's findings revealed that credit risk has a significant impact. Okoye and Ezejiolor (2014) examined the impact of the International Financial Reporting Standards (IFRS) on bank stock market performance in order to determine whether investors' expectations are met. The population consists of fourteen Nigerian Stock Exchange-listed banks. The Stratified Random Sampling approach was used, and the annual accounts of these banks were examined for seven years (2006-2012), covering both SAS and IFRS. Findings revealed that, under IFRS, most banks were unable to generate sufficient interest earnings to cover their interest obligations, leaving

investors unsatisfied. As a result, the evaluation of bank stock market performance can be used to determine whether investors' expectations are being met. Kutsienyo (2011) investigated the elements that influence the profitability of commercial banks in Ghana. A panel data set of 26 commercial banks in Ghana was investigated from 2000 to 2009, with fixed effect regression models estimated using a generalized least squares technique. The Return on Average Asset (ROA) and Return on Average Equity (ROAE) were two main profitability measures (dependent variables) examined in this study (ROE). Capital adequacy, operational expense, liquidity, asset quality, and bank size were all factors that were included in the regression models. In addition, the regression models included macroeconomic and financial structure elements such as inflation. Ezejiofor (2018) examined how value relevance of financial information in Nigerian manufacturing firms has improved after the implementation of International Financial Reporting Standards (IFRS). Ex-post facto research design was adopted for the study. A sample of 54 manufacturing companies was randomly selected from manufacturing companies quoted on the Nigerian Stock Exchange for the periods of 2008-2015. Annual reports and accounts of the sampled companies were used to extract data for the study. A modified price model for detecting value relevance of accounting data for two different periods was employed. Regression Analysis and Chow test statistical tools were used to analyze and validate the data with aid of SPSS version 20.0. The study found that the adoption of IFRS has improved the book value per share, market share price, Earnings Per Share and cash flow of manufacturing companies in Nigeria. The implication of findings is that the value relevance of accounting information of manufacturing companies is more sensitive during Post-IFRS era than the Pre-IFRS era. Bordeleau and Graham (2010) looked at how liquid asset holdings affected bank profitability for a group of significant US and Canadian banks. The findings imply that banks with some liquid assets have higher profitability; but, all other factors being equal, there is a point at which keeping more liquid assets reduces a bank's profitability. Furthermore, empirical research indicates that this relationship fluctuates based on the business style of a bank and the state of the economy. These findings are especially important as authorities work to develop new rules for determining a bank's optimal level of liquidity. The research is related to a researcher's work on bank profitability. Using performance indicators such as profitability ratios, dividend coverage ratios, debt-equity ratios, and efficiency ratios, Ezejiofor, Olise, and John-Akamelu (2017) determined the investment value of a telecommunication corporation in order to see if it is equivalent to commercial banks in Nigeria. The study used an ex-post-facto research design. The Profitability, Dividend Cover, Long-Term Solvency, and Operating Efficiency ratios were computed using data from seven years of annual reports and accounts from telecommunication companies and commercial banks. Financial ratios were utilized to assess the data, and the t-test statistic was employed to see if there were any significant changes in mean of Telecommunication firms as against their commercial banks counterpart. Findings show that there is a significant difference between the profitability of telecommunication firms with that of commercial banks in Nigeria; that there is a significant difference between the coverage ratios of telecommunication firms with that of commercial banks in Nigeria. Zaphaniah (2013) conducted research on the association between liquidity risk and commercial bank financial performance in Kenya. Between 2008 and 2012, data was extracted from the balance sheets, income statements, and notes of 33 Kenyan banks using a correlation research design. To determine the influence of liquidity risk on bank profitability, multiple regressions were used. According to the study's results, the profitability of Kenya's commercial banks is being harmed as the liquidity gap and leverage widen. Ojeka (2012) investigated the impact of loan policy on the liquidity of Nigerian manufacturing firms. The study focused on the effects of each of the separate components of credit policy on an organization's liquidity, including credit standards, credit period, cash

discount, and collection period. It also aims to determine what kind of implications a company's credit policy has on its liquidity. The hypothesis was tested using analysis of variance (ANOVA) and regression analysis. Finally, the data demonstrated that when a company's credit policy is favorable, liquidity is at a desirable level. The effect of mortgage finance on housing delivery in Nigeria was investigated by Anidiobu, Okolie, and Ugwuanyi (2018). One of the main objectives of PMIs is to stimulate investment and housing growth in Nigeria's 36 states and the Federal Capital Territory. In order to analyze a modified financial model, the researchers used the ordinary least square (OLS) estimate method. According to the findings of the OLS, mortgage deposit had a positive and significant impact on housing delivery in Nigeria, but mortgage loan had a negative and non-significant impact.

We noticed that none of the studies conducted by various experts focused on the impact of liquidity risk on the profitability of Nigerian mortgage banks. Despite the fact that many studies on similar financial institutions have been conducted, the majority of these studies have been focused on other countries such as Kenya, Ghana, Europe, Spain, Indonesia, Pakistan, and so on. As a result of the research gaps described above, this study uses appropriate research apparatus to fill the research gaps by examining the influence of liquidity risk on bank profitability in Nigeria. As a result, the researcher determined that these areas were worthy of further investigation in order to close the gap.

Methodology

This study adopted an ex-post facto research design based on the fact that the study seeks to review the effect of past factor(s) on the present happening or event, and its strengths. It is the most appropriate design to use when it is not always possible to select, control and manipulate all or any of the independent variables. The data collected was presented, analyzed and interpreted in chapter 4 by the use of tables.

The purposive sampling approach was used to determine the size of the sample for the investigation. This is appropriate due to the lack of availability and incompleteness of some population statistics for the study period. This method was chosen due to the incompleteness of certain of the population's data, as some of the listed institutions have yet to file their financial statements with the Nigerian Stock Exchange. Five (5) quoted banks were purposefully chosen out of 16 listed banks in Nigeria due to the availability and completeness of their financial data. This accounted for 77.7 percent of the population sample.

Data Collection Techniques

Secondary data sources are used to acquire information that is relevant to the study's goals. The study uses data from published yearly reports on bank websites, the Nigerian Stock Exchange (NSE) fact book, the Central Bank of Nigeria (CBN) database, and the Nigerian Bureau of Statistics (NBS) website for a period of eight years, from 2012 to 2019.

Model Specification

The study considered bank's profitability as the dependent variable (NIM, and ROA) while Loan to Deposit (LTD), Cash Ratio (CaR) and Current Ratio (CuR) variables represent independent variables. Each individual profitability variables are regressed against both the control variables per time. The functional form of the model is as follows.

Profit = f (FRit, Contit)

Where Profit indicates the profitability variables,

$$\text{NIM} = \beta_0 + \beta_1 \text{CuR} + \dots \dots \dots \text{£}$$

$$\text{ROA} = \beta_0 + \beta_1 \text{LTD} + \dots \dots \dots \text{£}$$

A regression statistical tool is utilized for the analysis of the hypotheses formulated in this research work to establish the effect of liquidity risk on the profitability of banks in Nigeria. Linear regression analysis is used as data analysis technique with the aid of Statistical Package for Social Science (SPSS Version 22.00).

Data analysis

Test of Hypothesis one

Ho: Current Ratio has no significant effect on Net Interest Margin of banks in Nigeria.

Table 1. Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .344 ^a | .119 | .099 | 2.27172 |

a. Predictors: (Constant), CuR

Source: Data analysis from SPSS 22

From the table 1 above, which is model summary, there are two pieces of essential information which are R and R². Coefficient R is the measure of relationship between dependent variable and independent variable. In this case the R = 0.344 this shows weak relationship while the R² is 9.9%. The model summary is used to know or determine whether relationships exist or not.

Table 2. ANOVA^a

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1 | Regression | 31.942 | 1 | 31.942 | 6.190 | .017 ^b |
| | Residual | 237.392 | 46 | 5.161 | | |
| | Total | 269.335 | 47 | | | |

a. Dependent Variable: NIM

b. Predictors: (Constant), CuR

Source: Data analysis from SPSS 22

The above table which is called ANOVA table is used to find out if the model is statistically significant or not.

This is because R² is not a test of statistical significance, it only measures and explains variation in Y from a predictor. The F- ratio is used to test whether or not the R² occurred by chance alone. The F- ratio found in the ANOVA Table measures the probability of chance from a straight line.

From the ANOVA Table above, we could see that the overall equation to be statistically significant (F=6.190)

Table 3. Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 5.740 | .570 | | 10.078 | .000 |
| | CuR | -.005 | .002 | -.344 | -2.488 | .017 |

a. Dependent Variable: NIM

Source: Data analysis from SPSS 22

Decision

The regression study performed to see if the Current Ratio has any effect on the Net Interest

Margin of Nigerian mortgage banks is given in the table above. -0.344 is the value of (which is negative). The T-value is -.344 (smaller than the usual value of 2.00) and the P-value, or significance level, is 0.017 (which is less than 0.05). As a result, we reject the null hypothesis and accept the alternative hypothesis that the current ratio has a large impact on mortgage banks' net interest margins in Nigeria.

Test of Hypothesis Two

Ho: Loan to Deposit has no significant effect on Return on Asset of banks in Nigeria.

Table 4 Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .286 ^a | .082 | .062 | 3.17308 |

a. Predictors: (Constant), LTD

Source: Data analysis from SPSS 22

From the table 4 above, which is model summary, there are two pieces of essential information which are R and R². Coefficient R is the measure of relationship between dependent variable and independent variable. In this case the R = 0.286 this shows positive relationship while the R² is 6.2%. The model summary is used to know or determine whether relationships exist or not.

Table 5. ANOVA^a

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1 | Regression | 41.268 | 1 | 41.268 | 4.099 | .049 ^b |
| | Residual | 463.149 | 46 | 10.068 | | |
| | Total | 504.417 | 47 | | | |

a. Dependent Variable: ROA

b. Predictors: (Constant), LTD

Source: Data analysis from SPSS 22

The ANOVA table (above) is used to determine whether or not the model is statistically significant.

This is because R² is a measure and explanation of variation in Y from a predictor, not a test of statistical significance. The F-ratio is used to determine if the R² was generated by chance alone. The F-ratio, which can be found in the ANOVA Table, calculates the probability of a straight line occurring by chance.

We can observe from the ANOVA Table that the total equation is statistically significant (F=4.099).

Table 6 Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.561 | .816 | | -.688 | .495 |
| | LTD | .009 | .005 | .286 | 2.025 | .049 |

a. Dependent Variable: ROA

Source: Data analysis from SPSS 22

Decision

The above table shows the results of a regression analysis conducted to determine whether Loan to Deposit has no significant impact on banks' Return on Asset in Nigeria. 0.286 is the value of which is positive). The T-value is 2.025 (which is higher than the industry standard of 2.00) and the P-value, or significance level, is 0.049 (which is lesser than 0.05). As a result, we reject the null hypothesis and adopt the alternative hypothesis, according to which the Loan to Deposit Ratio has a significant impact on banks' Return on Asset in Nigeria.

Discussion of findings

According to the research, the current ratio has a considerable impact on banks' net interest margins in Nigeria. A lower current ratio than the industry norm could imply a higher risk of financial hardship. Similarly, if a company's current ratio is unusually high relative to its peers, it suggests that management isn't making the best use of its assets.

The causal impact of liquidity management on bank profitability in Pakistan: an empirical analysis, by Bagh (2017), backed the conclusion of findings. They used descriptive and inferential statistics to analyze secondary data from 2006 to 2016. Return on assets (ROA) and Return on equity (ROE) were employed as profitability indicators, while liquidity management was represented by the Current Ratio (CR), advances to deposit ratio (ADR), Cash deposit ratio (CDR), and Deposit Assets Ratio (DAR). According to their findings, CR, ADR, CDR, and DAR all have a favorable and significant impact on ROE. Based on key findings, all financial markets should have a set of comprehensively approved liquidity management procedures, practices, policies, and mechanisms that are specifically tailored for their financial institutions, and management should be in charge of putting these policies and strategies into action on a priority basis.

The findings also revealed that the Loan to Deposit Ratio has a substantial impact on the Return on Asset of Nigerian mortgage banks. This is due to the fact that mortgage loans and client deposits are a substantial source of revenue for Nigerian mortgage banks, and they are an asset to the bank. This also revealed that maintaining a proper balance of mortgage loan and deposit management improves mortgage bank performance and the higher the mortgage loan given out by mortgage banks, the higher the rate of return, as interest on mortgage loans accounts for a significant portion of the bank's revenue. In Nigeria the Central Bank's policy on Loan to Deposit Ratio (LDR) has resulted in a significant growth in credit to various sectors from N15. 57 trillion to N19. 33 trillion between end of May 2019 and the end of August 2020, an increase of N3. 77 trillion

Olawunmi, Deji and Yimka, (2016) investigate "Loans Default and Return on Assets (Roa) In the Nigerian Banking System," by employing the data of five banks for a period of five years (2010-2014), using the ordinary least squares (OLS) regression techniques to check the relationship between problem loans and returns on assets (ROA). The findings show that a positive and significant relationship at 5% level of significance exist between problem loans and returns on assets, and a negative and significant relationship at 10% level of significance exists between loans and advances and returns on assets in Nigerian banks. This is in line with the above findings. A major suggestion is that banks in Nigeria should enhance their capacity in credit analysis and loan administration, while the regulatory authority should pay more attention to banks' compliance to relevant provisions of Bank and other Financial Institutions Act (1991) and prudential guidelines. Other researchers also did similar work such as Akindutire, (2014); Alawiye-Adams and Olaoye (2017).

Recommendations

The study makes the following recommendations based on its findings:

1. Banks in Nigeria must finance their assets with either FMBN capital or debt; a strong capital structure gives them the strength to withstand financial crises and provides depositors with a better safety net in times of bankruptcy and distressed macroeconomic conditions. This will help relieve shareholder pressure to grow their equity.
2. The CBN and FMBN should take a keen interest in how Nigerian mortgage banks manage their loan portfolios to maximize returns. For the purposes of disbursing mortgage loans and advances, the FMBN should use stable sources of funds and a well-diversified portfolio.

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