Credit Management and Financial Performance: Evidence from Deposit Money Banks in Nigeria

Chukwuma C. Ugwu
Department of Accounting, Federal University Wukari, Nigeria
Email: ucollins98(at)yahoo(dot)com
&
Aloysius E. Agada
Department of Business Administration, Cosmopolitan International Business School, Abuja, Nigeria
Email: aloy.agada62(at)gmail(dot)com

Corresponding author: ucollins98@yahoo.com

ABSTRACT:

This research evaluated the effect of credit management practices on the financial performance of deposit money banks listed on the Nigerian Exchange Group (NGX) between 2014 and 2023. The study utilized correlation and ex-post facto research methodologies. Data analysis involved descriptive statistics and multiple regressions. Secondary data were sourced from the Central Bank of Nigeria's statistical bulletin and the Audited Annual Reports of the listed deposit money banks in Nigeria. The study used net interest margin (NIM) as a measure of bank performance, while credit risk, liquidity risk, and asset quality served as the independent variables. Firm size was also included as a control variable. The research findings indicate that credit risk has a non-significant negative correlation with financial performance. Additionally, liquidity risk shows a significant negative correlation with financial performance, whereas asset quality demonstrates a non-significant negative correlation with the financial performance of listed deposit money banks in Nigeria. Based on these results, the study recommends that deposit money banks should enhance their capabilities in credit management analysis. Moreover, banks should strive to maintain a well-balanced portfolio of liquid assets that can be quickly converted into cash without significant loss in value. Lastly, banks are advised to conduct thorough asset quality audits to ensure effective management and compliance with all relevant standards and regulations.

KEYWORDS:

Financial performance, banks, Credit risk, Liquidity risk, Asset quality.

Background to the Study

Banks hold significant global importance within the financial sector, exerting substantial influence on both macroeconomic and microeconomic dynamics. According to Abidin (2017), banks typically dominate the market share of the overall financial system. Operating in a dynamic and uncertain environment, the banking industry faces various risks including credit risk, market risk, liquidity risk, operational risk, and regulatory risk (Fali et al., 2020). Failure to effectively manage these risks can severely impact the financial stability and health of banks.Given the critical role that banks play in the Nigerian economy, decision-makers must conduct thorough performance evaluations. Financial performance is a subjective measure of how effectively a firm utilizes its assets in its core business activities to generate revenues (Abdulkadir, 2017).He also observed that financial performance serves as a comprehensive gauge of a firm's overall financial status during a specific timeframe and facilitates comparisons between similar firms within the same industry. Deposit money banks (DMBs) operate with the primary objectives of earning profit, maximizing shareholder wealth, and are assessed for their effectiveness based on profitability and asset quality (Nyaiiet, 2017). Various metrics such as Net Interest Margin (NIM), Return on Investment (ROI), Return on Equity (ROE), among others, are utilized to assess the financial performance of DMBs, which are interconnected with risk and performance indicators (Afolabi et al., 2020).

Net Interest Margin (NIM) serves as a metric for evaluating a bank's ability to generate interest income, reflecting how effectively the bank manages its lending operations. The operational income of banks largely hinges on the interest spread between loans disbursed and interest earned. A higher NIM indicates greater interest income derived from earning assets managed by the bank, thereby enhancing overall profitability. Financial intermediation remains the fundamental objective of financial institutions (Suyanto, 2021), with credit provision being a primary source of credit risk alongside liquidity risk, asset quality, and capital adequacy (Nguyen, 2022).Ineffective credit management poses significant risks to a bank's performance and diminishes returns for equity investors, potentially leading to the collapse of deposit money banks in cases where there is a high prevalence of defaulters (Uwalomwa et al., 2015).

Credit risk represents one of the primary challenges for deposit money banks (DMBs) in Nigeria. This risk arises when borrowers fail to repay their loans, leading to financial losses for the bank. Various elements can contribute to credit risk, including economic recessions, fluctuations in interest rates, and borrower-specific issues like financial instability or fraud (Ejoh&Iwara, 2014). High levels of credit losses can significantly diminish a bank's profitability and deplete its capital reserves, making it harder for the bank to extend new loans and invest in its operations.In extreme scenarios, credit losses can result in bank failure. Poorly managed loans pose the highest level of credit risk for banks and are classified as non-performing loans. To minimize risk-related losses, financial institutions must implement effective management practices, which can be achieved through comprehensive risk management policies and procedures (John et al., 2021). Credit risk management encompasses various activities undertaken by businesses to ensure the minimization of all types of credit risks.

Another crucial aspect of bank credit management is asset quality, which involves evaluating a bank's assets to measure the level and magnitude of credit risk associated with its operations. Asset quality serves as a micro-prudential determinant of the soundness and profitability of deposit money banks (DMBs). Generally, asset quality is indicated by the presence of non-performing loans within

DMBs (Okpara, 2017). In Nigeria, the BOFIA Act (2004) regulates bank operations and limits lending practices to prevent non-performing loans and ensure asset quality. Despite these regulations, several banking sector crises over the years have been attributed to poor asset quality.

Banks are central to the financial system, with credit risk being their primary challenge (Eno and Iniabasi, 2022). Credit facilities, such as loans, expose banks to significant risk. According to Yinka et al. (2015), the collapse of many Nigerian banks in the late 1990s and earlier was largely due to poor management of these facilities, evidenced by high levels of non-performing loans. Recently, deposit money banks (DMBs) in Nigeria have faced heightened exposure to credit risk. The Nigerian economy has encountered various difficulties in recent years, including the COVID-19 pandemic, which has exacerbated loan defaults and credit losses for DMBs.

As a result, banks are contending with significant risks that impact both their operations and performance. With rising interest rates, unstable exchange rates, and liquidity constraints, managing credit facilities has become increasingly challenging, thereby adversely affecting their financial performance.Numerous researchers in the likes of:Mboto*et al* (2022), Ogunmakinju (2022), Otitolaiye (2020), Omorokunwa and Ogbeide (2020), Okoh. *et al* (2019), Hailu and Sankar (2019), Adegbola et al (2019), Nwanna*et al,* (2017), Ajayi (2017), Otieno*et al,* (2016), Ozurumba (2016), Uwalomwa and Oyewo (2015) and Yinka*et al*, (2015) haveexamined credit management and performance from various perspectives, utilizing return on assets, return on equity, and profit after tax as performance indicators. However, these studies have yielded contradictory results, complicating the establishment of a clear link between credit management and financial performance. Addressing this gap, this study aims to investigate the impact of credit management on financial performance, focusing on deposit money banks (DMBs) in Nigeria from 2013 to 2022, with net interest margin serving as the performance proxy.

Conceptual Framework:

Concept of Financial Performance

Financial performance is an evaluative measure of how effectively an organization's policies achieve its financial objectives in monetary terms. For banks, financial performance reflects trends in metrics such as return on assets, return on equity, liquidity, profitability, economic value added, solvency, riskiness, the speed of processing loan requests, and the management of loan facilities, including maintaining low levels of non-performing loans (Arroyave et al., 2018). It essentially gauges how well a firm utilizes its assets to generate revenue (Makokha et al., 2018). Similarly, Kariuki (2017) posited that assessing a business's financial performance allows managers and decision-makers to objectively measure the outcomes of business strategies and activities. Financial performance can be quantified using indicators such as net interest margin (NIM), return on assets (ROA), and return on equity (ROE).

Net interest margin (NIM) measures the difference between the interest income generated by banks and the interest paid to their lenders, relative to the amount of interest-earning assets. Return on assets (ROA) indicates the level of net income produced by the bank, showing how effectively the bank's assets generate profit over time. Return on equity (ROE), the ratio of net income to total equity, reflects the returns to shareholders based on the book value of their investment. According to Asmar (2018), NIM is calculated by dividing the difference between interest earned and interest expense by total assets. Interest rate margins are a critical factor in gauging the financial performance of banks;

wide interest margins can have either a positive or negative impact on financial institutions, depending on the circumstances.

Credit Management

Deposit money banks not only accept deposits but also provide credit facilities, making them inherently exposed to credit management risks. In financial terms, credit involves issuing loans and creating debt. According to Tetteh (2012), sound credit-giving practices are crucial for strengthening the financial stability of institutions. Credit management involves strategies for collecting and controlling payments from clients. Myers and Berkley (2013) describe these practices as methods organizations use to maintain and effectively manage an acceptable level of credit. Nelson (2012) defines credit management as the practices organizations employ to manage sales made on credit. It is a vital practice for any organization involved in credit transactions, with some achieving exceptional results by managing their credit to the point of having zero credit issues.

Credit Risk

Financial institutions act as intermediaries by facilitating the transfer of funds from surplus units to deficit units. In performing this crucial role, they encounter risks that are extensively studied in current financial research, attracting significant attention from scholars and professionals alike. Among these risks, credit risk stands out as the most significant challenge faced by banks, and the success of their operations hinges on effectively managing this risk. Sound credit risk management is a critical factor determining the success of any banking institution. Credit risk arises from uncertainties surrounding a counterparty's ability or willingness to fulfill the terms and conditions of a credit agreement (Fatemi&Foolad, 2006). In simpler terms, it stems from uncertainty about whether the counterparty will meet their contractual obligations. Similarly, Naomi (2011) contends that credit risk represents the potential income fluctuation due to non-payment or delayed payment of credit facilities extended to customers.

Liquidity Risk

Liquidity within the banking sector pertains to the availability of cash and other liquid assets that a company can readily deploy to settle its immediate or near-term financial obligations (Okpala, 2017). Sufficient liquidity denotes an entity's capability to meet its liabilities promptly as they come due. A firm's liquidity position is considered robust if it holds cash reserves or can quickly convert assets such as government securities into cash. Optimal liquidity is achieved when borrowers repay their debts punctually, supported by effective policies aimed at minimizing or avoiding bad debts.To mitigate liquidity challenges, banks should establish a robust liquidity risk management framework. Effective liquidity management is crucial as it safeguards a bank's ability to fulfill its cash flow commitments (Wuave et al., 2020).

Asset Quality

Asset quality refers to the level of credit risk associated with assets that necessitate interest payments, including investment and loan portfolios (Ogboru, 2019). Banks primarily use asset quality to assess the financial riskiness of their assets and to determine the appropriate allowance for potential losses. For deposit money banks, asset quality is primarily evaluated based on their ability to promptly collect outstanding loans and advances, often measured by the ratio of bad debts to total gross loans issued.

Theoretical Framework:

Transactions Costs Theory

Schwartz (1974) originally proposed this theory, which posits that suppliers may possess an advantage over traditional lenders in assessing the true financial circumstances and creditworthiness of their customers. The theory highlights the buyer's advantage in using trade credit as a form of financing and the seller's cost-saving strategy, as supported by transaction costs theory. Rather than paying invoices immediately upon receipt of goods, customers using trade credit accumulate obligations and settle them at agreed intervals—typically weekly, monthly, or quarterly. Suppliers also benefit from better capabilities to monitor and enforce repayment of credit. Petersen and Rajan (1995) categorized three sources of cost advantage in this context: acquiring information, controlling the buyer, and extracting value from existing assets. The initial source of cost advantage stems from sellers' ability to quickly and inexpensively gather information about buyers as part of their routine business operations. For instance, the frequency and volume of a buyer's orders can give suppliers insights into the buyer's current situation. Additionally, a buyer's refusal of early payment discounts might signal to the supplier a decline in the buyer's creditworthiness. Moreover, sellers typically interact with customers more frequently than financial institutions do.

Anticipated Income Theory

This theory, developed by Prokhanov in 1944, is based on the practice of term lending by U.S. commercial banks. It posits that the bank plans to recover the term loan from the borrower's anticipated income, regardless of the borrower's business type. A term loan, with a maturity period between one and five years, is secured by collateral such as machinery, stock, or real estate. When issuing the loan, the bank limits the borrower's financial activities, taking into account both the collateral and the borrower's expected income at the time of the loan approval. Consequently, the bank repays the loan from the borrower's future income in installments rather than as a lump sum at maturity.

This theory is relevant to this study because it suggests that banks, when providing loans to customers, anticipate that the businesses receiving the loans will be sufficiently viable to generate enough income to cover both the interest and the principal. Once the bank is assured of the customer's expected income and their ability to meet these obligations, the loan can be approved.

Empirical Review:

Relevant empirical literatures to this study have been reviewed, among which are:

Natufe and Evbayiro-Osagie (2023) investigated credit risk management and return on equity (ROE) of Nigerian deposit money banks (DMBs) over a twelve-year period (2010–2021), following the Central Bank of Nigeria's (CBN) 2009 mandate for a unified accounting year end. The study used capital adequacy ratio (CAR), liquidity ratio (LQR), loan-to-deposit ratio (LDR), risk asset ratio (RAR), non-performing loans ratio (NPLR), loan loss provision ratio (LLP), and firm size (FSZ) as independent variables, with ROE as the dependent variable. Employing panel data regression analysis, the study found that CAR, RAR, NPLR, and FSZ are significant determinants of ROE. The study also discovered that Nigerian DMBs increasingly depend on offshore borrowings in Eurobonds to create risk assets, as a way to circumvent the CBN's restrictions on using local depositors' funds for this purpose. Additionally, it found that shareholders of DMBs with international banking licenses in Nigeria during the study period were not significantly better compensated for their risk exposure

compared to investors in risk-free assets like treasury bills. Consequently, the study recommends that the CBN continue to strengthen its regulatory functions with regular reviews to enhance the DMBs' credit risk management systems, thereby mitigating potential failures in the credit life cycle of granted loans.

Mboto et al. (2022) conducted an empirical investigation into credit management administration and the performance of selected microfinance banks (MFBs) in Cross River State. Utilizing an ex-post facto research design, they collected historical data from the annual reports and accounts of the sampled banks for the period 2015 to 2019. The data were analyzed using descriptive statistics and multiple regression techniques. The study used return on assets (ROA) as a proxy for performance, and loan loss provision (LLP), performing loans, and non-performing loan ratio as proxies for credit management practices. The findings revealed that loan loss provision and non-performing loan ratio had a significant negative impact on the return on assets of MFBs in Cross River State, indicating that increases in these variables led to a significant reduction in MFB performance. Conversely, performing loans had a significant positive impact on MFB profitability, suggesting that higher levels of performing loans lead to greater profitability for MFBs.

Otitolaiye (2020) investigated the relationship between credit risk and financial performance of Nigerian DMBs from 2006 to 2018. The study used return on capital employed (ROCE) and dividends paid (DPRS) as proxies for financial performance, while non-performing loans, capital adequacy ratio, loan loss provisions, and loan-to-deposit ratio were used as proxies for credit risk management. Bank size was included as a control variable. The research employed an ex-post facto design along with descriptive and inferential statistics for data analysis. The findings indicated that credit management significantly impacts the performance of DMBs. Specifically; non-performing loans had a significant negative effect on financial performance as measured by ROCE and DPRS, while the capital adequacy ratio had a significant positive effect on ROCE.

Omorokunwa and Ogbeide (2020) explored the impact of credit risk management on the profitability of Nigerian listed deposit money banks. Using panel regression analysis, they assessed data from 2006 to 2018. The study used return on assets as a measure of bank performance (dependent variable), while the non-performing loans ratio to deposit ratio and bank leverage served as independent variables. The findings revealed a significant positive correlation between credit management and bank performance. Conversely, the non-performing loan ratio had a significantly negative effect on performance, while bank leverage showed no impact on the performance of banks in Nigeria.

Okoh et al. (2019) investigated the impact of non-performing loans on the financial performance of Nigerian deposit money banks from 1985 to 2016. They collected data from the Central Bank of Nigeria, statistical bulletins, and Nigerian Deposit Insurance Corporation (NDIC) publications for various years. The study used return on assets (ROA) as a proxy for financial performance and employed the non-performing loans ratio (NPLR) and cash reserve ratio (CRR) as proxies for credit management. Utilizing an ex post facto research design and multiple regression analysis, the study found that both the non-performing loans to total loans ratio (NPL/TLR) and the cash reserve ratio had a significantly negative relationship with ROA. This indicates that a decrease in non-performing loans leads to a reduction in return on assets, thereby negatively affecting performance.

Hailu and Sankar (2019) examined the impact of non-performing assets on the financial performance of commercial banks in Ethiopia. Their study focused on five commercial banks: Ahadu Bank, Goh Betoch Bank SC, Tsedey Bank, Tsehay Bank, and Gadaa Bank SC. Data was sourced from the National Bank of Ethiopia's annual reports from 2007 to 2016. The researchers measured financial performance using return on assets (ROA) and evaluated credit management with the non-performing loans ratio (NPLR) and capital adequacy ratio (CAR). Through multiple regression analysis, they found that the non-performing loan ratio negatively and significantly affected ROA, indicating that a higher non-performing loan ratio leads to lower profitability. In contrast, the capital adequacy ratio had a positive and significant effect on ROA.

Adegbola et al. (2019) investigated the performance and liquidity management of selected deposit money banks in Nigeria. The study utilized secondary data from the published financial statements of 15 out of 17 deposit money banks listed on the Nigeria Exchange Group over a six-year period from 2012 to 2017. Employing a descriptive research design, the data was analyzed using the ordinary least squares regression technique. Liquidity management was assessed through capital ratio, cash ratio, and current ratio, while performance was measured by return on assets. The study found that effective liquidity management positively impacts the financial performance of deposit money banks in Nigeria.

Nwanna et al. (2017) investigated the relationship between credit management and the profitability of deposit money banks (DMBs) in Nigeria from 2006 to 2015. They used return on assets (ROA) and return on equity (ROE) as indicators of financial performance, while loans and advances, non-performing loans, and loan loss provisions were used to assess the impact of credit management on profitability. The study employed a historical research design and a quantitative approach to measure these variables. The results indicated that loans and advances positively affect profitability (ROA), suggesting that effective management of loans and advances boosts profitability. Conversely, non-performing loans have a negative and significant impact on profitability, indicating that an increase in non-performing loans harms the profitability of DMBs (ROA).

Ajayi (2017) analyzed the impact of credit risk management on the performance of deposit money banks in Nigeria from 2001 to 2015. The study used profit after tax as an indicator of bank performance and assessed credit risk management using the non-performing loan ratio, loan loss provision ratio, and cost per loan ratio. Panel regression analysis and the Hausmantest were employed for the analysis. The findings revealed that the non-performing loan ratio, loan loss provision ratio, and cost per loan ratio negatively affect the banks' profitability.

Otieno et al. (2016) assessed the relationship between credit risk management and the financial performance of microfinance banks in Kenya from 2011 to 2015. The study used return on assets (ROA) and return on equity (ROE) to measure financial performance, while portfolio at risk and loan loss provision coverage ratio served as indicators for credit management. Descriptive statistics were employed to illustrate the trend in microfinance banks' risk exposure and performance. Pearson correlation was used to determine the strength and association among variables, and multiple regression was applied to test the significance of the relationship between risk management and financial performance. The results showed that credit management, indicated by portfolio at risk

(PAR) and loan loss provision coverage ratio (LLPCR), had a strong negative correlation with both ROA and ROE, indicating a significant negative impact on financial performance.

Uwalomwa and Oyewo (2015) investigated the impact of credit management on the performance of banks in Nigeria by analyzing the audited corporate annual financial statements of listed banks from 2007 to 2011. The study measured performance using profit after tax (PAT) and assessed credit management through the ratios of non-performing loans to total loans, secured loans to unsecured loans, and bad debt. Descriptive statistics and panel linear regression were utilized for data analysis. The findings indicated that non-performing loans and bad debt significantly negatively affect performance, meaning that an increase in bad debt reduces net profit and overall bank performance, leading to lower dividends for shareholders and reduced retention capacity. Conversely, the ratio of secured to unsecured loans did not show a significant relationship with bank performance.

It remains unclear the reasons these empirical studies often yield conflicting results. These conflicting results reveal that the effect of credit management on financial performance is not concluded. The inconclusive results have made the issue of credit management and company financial performance amenable to further empirical studies. This study has become part of the series of studies to analyze the effect of credit management on firm's financial performance of deposit money banks in Nigeria so as to provide clue on contending issues and fill some research gap.

Methodology

The research design utilized for this study combines correlational and ex-post facto designs. This approach is suitable as it helps in assessing the impact of credit management on the financial performance of deposit money banks (DMBs) in Nigeria. The overall objective of this correlational and ex-post facto design is to gain insights and generate new ideas. The ex-post facto design was chosen because the events had already occurred and the variables were not manipulated. Additionally, the multiple regression technique was adopted for analysis, as it is the most appropriate method for the study due to its capability to use multiple independent variables to estimate their effect on a single dependent variable. The Ordinary Least Squares (OLS) method utilized in this study is a parametric statistical test that relies on several assumptions, the violation of which could impact the reliability of the findings. The regression model was selected because it assumes linearity and normality, allowing it to determine the influence of independent variables on the dependent variable. Yearly data spanning a ten-year period (2014-2023) were derived from annual reports published by the selected Deposit Money Banks listed on the NGX.

The model is therefore specified as:
$$NIM_{it} = \beta_0 + \beta_1 CRR_{it} + \beta_2 LQR_{it} + \beta_3 ASQ_{it} + \beta_4 FSZ_{it} + e_{it} \ldots\ldots\ldots\ldots 1$$
Where;
NIM = Net Interest margin; measured as Net Interest income to Total assets.
CRR = Credit Risk; measured as Ratio of non- performing loans to total loans of banks.
LQR = Liquidity Risk;measured as Ratio of current assets to current liabilities
ASQ = Asset Quality; measured as Ratio of loan impairment charges to specific assets
FSZ = Firm Size; proxied by total asset (Control)
β_0= the constant term or intercept for firm i in the year t.
$\beta_1, \beta_2, \beta_3$ and β_4 are linear regression coefficients to be estimated.
it = time for intercepts

ε_{it}= the disturbance or error term for firm i in the year t.

i: Firm 1 to 10

t: Year 1 to 10

Results:

Table 1: Descriptive Statistics

Variables	Obs.	Mean	Std. Deviation	Min.	Max.
NIM	120	0.0480765	0.0294835	0.0132881	0.3269946
CRR	120	0.0686083	0.1303004	0	0.97
LQR	120	0.9855833	0 3258287	0.08	1.7
ASQ	120	0.0234167	0.0466075	0	0.36
FSZ	120	21.37108	0.915726	18.87	23.25

Source: STATA Output

The table above summarizes the descriptive statistics for the study. According to the table, the mean net interest margin (NIM) is around 5%, indicating the average level of net interest income among the banks sampled during the period. The minimum NIM, which is 0.0133, suggests that the least profitable banks earn only 1% of their total assets as net interest income. On the other hand, the maximum NIM is 0.326, indicating that the most profitable banks earn a substantial 33% of their net interest income relative to their total assets.

In conclusion, the significant 32% difference between the maximum and minimum NIM values highlights a wide variation in observed NIM values among the banks in the study.

Secondly, the analysis reveals that the credit risk was approximately 7%. This suggests that the banks assumed a relatively low credit risk, which may have a minimal impact on their overall performance. This situation could potentially enhance access to loans for small businesses, thereby fostering economic growth and development in the country. The standard deviation of the credit risk is 0.1303004, with a range from a minimum of 0 to a maximum of 0.97, indicating significant variability in credit risk over time.

Additionally, the analysis shows that the current assets to current liabilities ratio averaged 98.56% during the period, indicating that the sampled banks were able to easily meet their short-term debts. The standard deviation for this ratio is 0.3258287, with values ranging from a minimum of 0.08 to a maximum of 1.7.

Furthermore, the findings reveal that asset quality, indicated by the ratio of loan impairment charges to total assets, had a mean of approximately 2%. This low ratio suggests that the sampled banks maintain higher asset quality, which is expected to contribute to better returns in terms of net interest margin. The standard deviation for asset quality is 0.0466075, and it ranges from a minimum of 0 to a maximum of 0.36, indicating some variability in this measure among the banks.

The average bank size is 21.37108, with a standard deviation of 0.915726, indicating significant variation among the firms. The minimum and maximum values for bank size are approximately 19 and 23, respectively, with a total of 120 observations.

Table 2: Correlation Analysis

	NIM	CRR	LQR	ASQ	FSZ
NIM	1.0000				
CRR	0.0201	1.0000			
LQR	-0.3712	-0.0206	1.0000		
ASQ	0.0044	0.0661	-0.2095	1.0000	
SFZ	-0.3927	-0.0498	0.1341	0.1219	1.0000

Source: STATA Output

Table 2 presents the correlation between the independent variables and the dependent variable. A larger absolute value of the correlation coefficient indicates a stronger relationship. The diagonal of the table shows correlation coefficients of 1.000 for all variables, indicating a perfect and positive linear relationship of each variable with itself.Specifically, the analysis of credit risk revealed a correlation coefficient of 0.0201 with net interest margin, suggesting a weak positive relationship that explains approximately 2% of their correlation. This indicates that the banks assumed a relatively low credit risk, which might have minimal impact on bank performance. Consequently, small businesses could potentially access loans for expansion, thereby positively influencing the country's economic growth and development.

The analysis of liquidity risk indicates a negative correlation of 37.1% with the net interest margin of listed deposit money banks in Nigeria. This suggests a weak relationship between net interest margin and liquidity risk, revealing that an increase in bank liquidity is associated with a decrease in net interest income.

Additionally, the correlation coefficient between asset quality and net interest margin for listed deposit money banks is 0.0044, indicating a strong correlation of 4%. This implies that higher asset quality is associated with higher net interest margin. Therefore, a decrease in bank asset quality would likely lead to a decrease in their net interest margin.

Furthermore, the analysis shows a positive correlation coefficient of 0.0201 between CRR (Cash Reserve Ratio) and asset quality (ASQ), indicating a positive relationship between these variables. Conversely, there is a negative correlation of -0.3712 between CRR and liquidity risk (LQR), indicating an inverse relationship between these variables.

Table 3: Multicollinearity Test:

Variables	Tolerance Value	VIF
CRR	0.992	1.01
LQR	0.930	1.07
ASQ	0.928	1.08
FSZ	0.955	1.05
Mean VIF		**1.05**

Source: STATA Output

This was assessed using the Tolerance Value and the Variance Inflation Factor (VIF) displayed in the table above. The results indicate that the VIF for the independent variables varies, with all values being less than ten. Similarly, the tolerance values are either lower than one or significantly higher than 0.1. These findings suggest strong evidence that there is no significant

multicollinearity among the independent variables in the study. Thus, the model fits the data appropriately.

Table 4: Regression Results

NIM	Coefficients	Std. Err	T-Value	P-Value
CONST	0.3158478	0.0558009	5.66	0.000
CRR	-0.0005492	0.0182466	-0.03	0.976
LQR	-0.0298167	0.0075361	-3.96	0.000
ASQ	-0.0140899	0.0527358	-0.27	0.790
FSZ	-0.0111373	0.0026461	-4.21	0.000
R^2 = 0.2580				
Adj R^2 = 0.2322				
F-statistic = 10.00				
Prob> F = 0.000				

Source: STATA Output

The regression results in Table 4 indicate that all independent variables in the study have negative coefficients. Specifically, credit risk is reported with a coefficient of -0.0005492 and a p-value of 0.970, suggesting a negative and statistically insignificant relationship with the net interest margin of the banks sampled in the study. This implies that an increase in credit risk could potentially lead to a decrease in net interest margin, thus negatively impacting the financial performance of the sampled banks.

The results further indicate that liquidity risk has a coefficient of -0.0298167 with a significant p-value of 0.000, suggesting a negative and statistically significant relationship with the net interest margin of the banks sampled in the study. This implies that an increase in liquidity risk decreases the net interest margin, thereby negatively impacting the financial performance of the banks.

Another variable examined in the study is asset quality, which shows a coefficient of -0.0140899 with a p-value of 0.790, indicating a negative and statistically insignificant relationship with the net interest margin of the sampled banks. This suggests that higher asset quality does not significantly influence the net interest margin of the banks in the study.

Lastly, the regression analysis indicates that firm size has a coefficient of -0.0111373 with a significant p-value of 0.000. This suggests a negative and statistically significant relationship between firm size and the net interest margin of the banks included in the study. Therefore, an increase in firm size is associated with a decrease in the net interest margin of the bank.

The results also indicate that a one-unit increase or decrease in an independent variable leads to a corresponding unit increase or decrease in the dependent variable, holding other variables constant. This reveals a negative linear relationship between credit management and net interest margin as they vary in opposite directions. For instance, a one-unit decrease in credit risk and asset quality results in a decrease in net interest margin by -0.0005492 and -0.0140899, respectively. Similarly, a one-unit increase in liquidity risk leads to a decrease in net interest margin by 0.0111373.

The coefficient of determination R^2, which assesses the goodness of fit of the model, is reported as 0.232 in the table above. This indicates that approximately 23% of the variation in the dependent variable is explained by the explanatory variables included in the model. The remaining 77% of the variations in the net interest margin of the sampled banks are attributed to factors not accounted for by the model, such as error terms or other unspecified variables.

Discussion:

Credit Risk and Net Interest Margin

The results of this study differ from those of Omorokunwa and Ogbeide (2020), who argued that there is a positive relationship between credit management, product promotion, and increased sales. They cautioned that ineffective control could potentially harm profitability and overall financial performance. Similarly, the findings diverge from those of Oyadonghan and Bingilar (2014), who indicated that a favorable credit policy helps maintain desirable levels of liquidity.

In contrast, this study agrees with the findings of Kaitibi et al. (2018), who emphasized the importance of sound credit policies in enhancing bank profitability. Additionally, it is consistent with the conclusions drawn by Ofoegbu et al. (2016) and Nwanna and Oguezue (2017), which also support the idea that effective credit policies have a positive impact on financial outcomes.

Liquidity Risk and Net Interest Margin

The analysis also revealed a negative correlation of -0.0298167 between bank liquidity and net interest margin. This indicates that an increase in bank liquidity is linked to a decrease in net interest margin, albeit with a modest yet significant correlation. This finding contrasts with Ogunmakinju's (2022) report, which suggested a positive relationship between banks' liquidity and financial performance. However, the results of this analysis align with the findings of Ezejiofor et al. (2015).

Asset Quality and Net Interest Margin

The impact of asset quality, measured by the ratio of loan impairment charges to total assets, on profitability was negative and not statistically significant. This result aligns with various studies conducted globally, such as Altunbas et al. (2010), which similarly found a negative and insignificant relationship between the ratio of loan impairment charges to total assets and bank profitability.

Conclusion:

The study investigated the impact of credit management practices on the financial performance of listed Deposit Money Banks in Nigeria. Specifically, it analyzed how credit risk, liquidity risk, and asset quality influence the financial performance, measured by net interest margin, of these banks. The findings indicated that credit risk has a negative and statistically insignificant effect on the financial performance of listed deposit money banks in Nigeria. Furthermore, there is a significant negative relationship between liquidity risk and the financial performance of these banks. On the other hand, asset quality was found to have a negative and statistically insignificant effect on the financial performance of listed deposit money banks in Nigeria.

Based on the study's findings, it is recommended that deposit money banks should enhance their capabilities in credit management analysis. Banks should also maintain a diversified portfolio of liquid assets that can be quickly converted into cash with minimal loss in value. Additionally, it is advisable for banks to regularly conduct audits of asset quality to ensure effective management and compliance with all relevant standards and regulations.

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