

CREDIT APPRAISAL, CREDIT TERM AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NIGERIA

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Abstract

This study aims to evaluate the impact of credit appraisal and credit terms on the financial performance of commercial banks in Nigeria. Utilizing a descriptive and ex post facto research design, panel data was collected from annual financial reports of 12 purposefully selected Nigerian commercial banks from 2013 to 2022. The study used a Random Effect Model (REM) for regression analysis, as indicated by the Hausman test. The results demonstrate a significant positive relationship between credit terms (Average Loan Maturity, ALM) and financial performance (Return on Assets, ROA), and a significant negative relationship between credit appraisal (Non-Performing Loans ratio, NPL) and ROA. Firm size and liquidity also positively influence ROA. In conclusion, credit terms with longer maturities enhance the financial performance of banks, while higher non-performing loans negatively impact performance. The study recommends that banks should consider extending loan maturities to improve profitability and strengthen credit appraisal processes to minimize non-performing loans, thereby enhancing overall financial performance.

Keywords: Average Loan Maturity (ALM), Credit appraisal, Credit term, Financial Performance, Non-Performing Loans ratio (NPL), Return on Assets (ROA)

Introduction

A high-performance banking sector plays a crucial role in driving economic growth by efficiently allocating capital, facilitating investments, and promoting financial stability. Notwithstanding, in Nigeria, there is no doubt that it is becoming increasingly challenging for banks in Nigeria to recover their funds from debtors (Offiong & Egbuka, 2017). The challenges faced by banks in Nigeria with recovering their funds from debtors have historical roots in weak credit standards and inadequate risk management, leading to bank losses and failures (Orok et al., 2023). This trend has resulted in significant repercussions, such as bank mergers, as seen in the case of Access Bank and Diamond Bank in 2018. Similarly, the acquisition of Skye Bank by Polaris Bank also faced challenges attributed to losses from loans granted without proper collateral (Ojedokun, 2024). These instances underscore the critical importance of effective debt recovery policies in mitigating credit risk and ensuring financial stability within the banking sector.

Credit management recovery policy is a very important part of the general credit risk management method among commercial banks (Yego and Gishure, 2020). Effective debt

recovery policies are crucial for ensuring the financial stability and viability of commercial banks in Nigeria. Implementing a robust credit appraisal policy in commercial banks in Nigeria ensures that loans are extended to creditworthy borrowers, minimizing the risk of defaults. By thoroughly assessing the creditworthiness of potential borrowers, banks can avoid granting loans to individuals or businesses with a higher likelihood of default, thus reducing non-performing loans and preserving the bank's assets (Karanja et al., 2022). Furthermore, setting appropriate credit terms, such as favorable interest rates and repayment schedules, can attract quality borrowers while ensuring timely loan repayments (Enoch et al., 2021; Widyastuti et al., 2023).

Despite extensive research on the effects of non-performing loans (NPL) on bank profitability, there is a notable gap in examining the combined impact of credit appraisal and credit terms on financial performance. Studies by Nwosu et al. (2020), Gabriel et al. (2019), and Budiarto (2021) primarily focus on NPLs, while Niroula et al. (2024) and Singh et al. (2021) explore broader macroeconomic variables. These studies lack an integrated approach that simultaneously considers both NPLs and average loan maturity (ALM) in assessing bank performance. This study addresses this gap by investigating the dual impact of credit appraisal and credit terms on Nigerian commercial banks.

Literature Review

This section provides a comprehensive analysis of existing literature relevant to the study. It includes a conceptual review to define key concepts, a theoretical review to explore underlying theories, and an empirical review coupled with hypotheses development to establish the study's framework based on previous findings.

Financial performance is a crucial aspect for companies as it reflects their ability to manage and control their resources. It is measured through various indicators such as liquidity, solvency, efficiency, leverage, and profitability (Fatihudin, 2018). Financial performance relates to the evaluation of an entity's overall financial health and success. Financial performance proxies and measurements are essential for evaluating the effectiveness and efficiency of organizations (Achema et. al. 2022).

Various authors have proposed different proxies and measurements to assess financial performance. Proxies commonly used include Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). For instance, Alobari et al. (2018) utilized ROA and ROE to assess the financial performance of commercial banks in Nigeria. Additionally, Mbah (2022) employed ROA and NPM to evaluate financial performance in the context of debt recovery policies. Other measures such as Earnings per Share (EPS), Price-to-Earnings (P/E) ratio, and Market Value added (MVA) are also used to gauge financial performance. For instance, Obafemi et al. (2021) employed EPS and P/E ratio to assess financial performance in Nigeria's banking sector. Furthermore, authors like Enoch et al. (2021) used MVA as a measure of financial performance. Overall, this study used ROA as a proxy for measuring financial performance

Credit appraisal, as defined by various authors, refers to the systematic evaluation process conducted by financial institutions to assess the creditworthiness of prospective borrowers before extending credit facilities (Ndero & Wepukhulu, 2019). Bogatsu (2019) describes it as the procedures followed by credit providers to determine the suitability of a borrower for working capital finance, particularly in agricultural small and medium enterprises. Gichuki (2023) views credit appraisal as a thorough screening process aimed at ensuring the willingness, commitment, and ability of potential borrowers to promptly repay the loan advanced to them. Overall, these definitions underscore the importance of rigorous assessment methods in mitigating credit risk and ensuring the soundness of lending decisions.

One such method is the use of balanced scorecard in credit appraisal, which provides a holistic view of the risk, repayment capacity, and future prospects of the borrower (Srivastava, 2019). Another type of credit appraisal policy is credit scoring, which has been widely investigated and used in different areas, particularly in finance and banking (Ubarhande & Chandani, 2021). Different statistical techniques are employed in credit scoring models, but there is no overall best technique for all circumstances (Hu & Su, 2022). These policies aim to enhance the efficiency and accuracy of credit appraisal in order to manage credit risk effectively. Non-performing loans (NPLs) are a robust proxy for credit appraisal, as they reflect the effectiveness of a bank's credit risk management practices. Muriungi and Maina (2021) show that rigorous credit appraisal guidelines significantly influence NPL levels in deposit-taking SACCOs. Therefore, high NPL ratios indicate poor credit appraisal processes, underscoring their suitability as a proxy.

Credit terms encompass the contractual agreements and conditions governing the extension of credit from one party to another, and researchers have provided diverse perspectives on its definition. Credit terms are defined as the specific conditions and requirements set by lenders when providing credit to borrowers. These terms include aspects such as interest rates, maturity schedules, recovery mechanisms, and collateral requirements (Wilson & Summers, 2002). Dary and James Jr. (2020) characterize credit terms as encompassing a range of policies related to payment timing, discounts, methods of payment, and penalties for late payments.

Literature on the proxies and measurements of credit terms reveals a variety of approaches used by researchers to understand and analyze this aspect of financial transactions. Proxies for credit terms often include variables related to payment timing, discounts, penalties, and the ownership of goods. Authors such as Dary and James Jr. (2020) and Makoha (2019) have employed these proxies to assess credit terms in different contexts, ranging from general commercial transactions to microfinance lending. Regarding measurements, researchers typically quantify credit terms in terms of the credit period, interest rates, and payment conditions. This study used Average Loan Maturity (ALM) as a proxy for credit terms as it captures the duration over which loans are repaid, impacting financial performance. Edwin and Omagwa (2018) and Elizabeth et al. (2019) found that loan maturity, representing credit terms, significantly influences loan

performance, highlighting its importance in credit management practices. Elizabeth et al. (2019) further support this, showing that both cost of loan and loan maturity are critical proxies for understanding credit terms' effects on loan performance.

This study used credit market theory as the underpinning theory. The credit market theory was developed in 1966 by Karl Brunner according to Yego and Gishure, (2020). The theory posits that, assuming collateral and relevant constraints remain constant, it is the lending rate that primarily dictates the extent of credit dispensed by the banking sector. This implies that additional risk associated with a project funded by a bank should be factored into the lending rate, resulting in a risk premium that corresponds to the elevated risk of default. In simpler terms, the riskier the borrower's prospects of repayment, the higher the interest premium they must bear.

The credit market theory is underpinned by several key assumptions, as noted by Ślqzak (2011). One assumption highlights the presence of credit rationing, arising from the lack of screening mechanisms that enable banks to selectively assess borrowers based on their risk profiles. A number of empirical studies on credit risk management have used different theories underpinning their research. Among those who used credit market theory include Yego and Gishure (2020) on the effects of credit management recovery policy on performance of commercial banks in Kitale (Kenya), found that credit management recovery policy affects bank's performance significantly and positively.

The credit market theory, pioneered by Karl Brunner and further elucidated by Gishure (2020), serves as a foundational framework for understanding the dynamics of credit appraisal and credit terms in commercial banking. It posits that lending rates should reflect the risk associated with borrower repayment prospects, thereby incorporating a risk premium based on the perceived default risk. This theory underscores the importance of rigorous credit appraisal processes to mitigate default risks, which directly influence financial performance. By applying this theory, the study on Nigerian commercial banks explores how effective credit appraisal practices and appropriate credit terms can enhance financial stability and profitability, aligning with the theoretical principles of risk assessment and loan pricing in credit markets.

The following empirical review examines various studies that investigate the impact of non-performing loans (NPL) and credit terms on the financial performance of commercial banks in different countries. Each study provides insights into how these factors influence bank profitability and financial stability, utilizing different methodologies and periods of analysis.

Nwosu et al (2020) aimed to investigate the impact of non-performing loans (NPL) on the profitability of Nigerian commercial banks, providing insights for mitigating their adverse effects. The study analyzed data from 18 commercial banks from Q1 2014 to Q4 2018 using panel fixed effect and auto-regressive distributed lag models. The findings revealed

that non-performing loans significantly and negatively affect bank profitability. Additionally, liquidity ratio and inflation were negatively associated with profitability, while bank size and capital adequacy ratio had a positive effect.

Gabriel et al (2019) examined the effect of non-performing loans on the financial performance of Nigerian commercial banks over the period from 1985 to 2016. Utilizing multiple regression techniques, the study analyzed data sourced from the Central Bank of Nigeria and the Nigeria Deposit Insurance Corporation. The results indicated that the Non-Performing Loans to Total Loans ratio (NPL/TLR) and Cash Reserve Ratio (CRR) had a significantly negative impact on Return on Assets (ROA).

Budiarto (2021) investigated the effect of non-performing loans (NPL) on the financial performance of BPR in Central Java, proposing an empathy credit risk model to mitigate NPL issues. The study involved 150 leaders from 260 BPRs using purposive sampling. Data analysis was conducted using SEM AMOS. Findings showed that business prospects, debtor performance, and ability to pay significantly influenced NPLs, which in turn had a negative significant effect on financial performance. The empathy credit risk model was found to moderate the impact of business prospects, debtor performance, and ability to pay on NPLs, suggesting an innovative approach to managing credit risk.

Niroula et al (2024) explored the effects of non-performing loans (NPL) on the financial performance of Nepalese commercial banks. The study used both macroeconomic and bank-specific variables over a five-year period (2015/16-2019/20) with data from 20 banks. Employing correlation and multiple regression analyses, the results indicated that bank size and inflation positively influenced ROA, while CRR and CAR had a negative impact on both ROA and ROE.

Singh et al (2021) aimed to determine the effect of non-performing loans (NPL) on the profitability of Nepalese commercial banks from 2015 to 2019. Using multiple regression analysis on secondary data from annual reports and World Bank databases, the study found that ROA, bank size, GDP growth, and inflation significantly affected NPLs, while CAR did not. The positive relationship between GDP growth and NPLs was notable, indicating that economic growth leads to higher NPLs, contrary to common expectations.

Ikhsan et al (2022) investigated the effects of non-performing loans (NPL), independent commissioners (KMI), and capital adequacy ratio (CAR) on firm value (PBV) mediated by return on assets (ROA) among Indonesian banking companies from 2016 to 2020. Using path analysis with panel data regression on Eviews 10, the study sampled 22 banks through purposive random sampling. Results showed that NPL negatively affected ROA and PBV, KMI positively influenced ROA and PBV, and CAR had a positive effect on PBV. ROA fully mediated the NPL-PBV relationship, indicating the importance of managing NPLs to enhance firm value.

Sulaiman and Shanak (2021) analyzed the impact of working capital management indicators on the financial performance of industrial companies listed on the Palestine Stock

Exchange from 2012 to 2018. Using data from 13 companies, the study employed descriptive analysis to examine the effects of average collection period, average storage period, and average repayment period. Findings revealed that while average collection period had no significant impact, average storage and repayment periods significantly influenced financial performance.

Altawalbeh (2020) examined the impact of working capital management on the financial performance of 33 industrial companies listed on the Amman Stock Exchange from 2013 to 2017. Using panel data methodology and multiple regression analysis, the study assessed variables such as average collection period, average age of inventory, average payable period, and cash conversion cycle. Results indicated that average collection period and inventory age negatively affected profitability, measured by return on assets and net profit margin.

Balios et al (2024) investigated the relationship between working capital and profitability for commercial companies listed on the Athens Stock Exchange during the economic crisis period of 2014-2018. Using multiple regression analysis, the study found that inventory conversion cycle, average collection period, and cash conversion cycle negatively impacted profitability. Conversely, average repayment period, liquidity measures, company size, and growth positively influenced profitability.

Quartey et al (2019) assessed the determinants of financial sustainability of rural banks in Ghana using a cross-sectional survey. Data was collected from 150 customers of three rural banks through snowball sampling. Multiple regression analysis revealed that loan disbursement significantly impacted profitability (ROA), whereas other variables such as loan maturity, interest, repayment amount, and customer deposits were not statistically significant.

Edwin and Omagwa (2018) explored the relationship between credit management practices and financial performance of microfinance institutions (MFIs) in Nairobi, Kenya. Using a descriptive survey design, data was collected from 158 staff members of MFIs through questionnaires. Multiple regression analysis showed that credit risk control, client appraisal, collection policy, and credit terms proxied with loan maturity significantly influenced financial performance.

Based on the conceptual, theoretical and empirical review, this study developed the following null hypotheses

Ho₁: Credit appraisal policy has a significant effect on the financial performance of Commercial banks in Nigeria?

Ho₃: Credit terms have a significant effect on the financial performance of Commercial banks in Nigeria

Methodology

The study shall utilize a descriptive research design and ex post facto that would empirically study the necessary information to pursue its objectives. Panel data shall be collected from the annual financial reports of commercial banks in Nigeria from 2013 to 2022. In this study a purposeful sampling was used whereby 12 banks out of the 26 commercial banks in Nigeria as taken for the sample size as shown in the Table 1.

Table 1: Selected Sample of Banks

Source: Central Bank of Nigeria Statistical Bulletin, 2024.

SN	Name	Date Licensed
1	Access Bank Plc	5th Feb, 2001 (previously licensed Dec. 19, 1988)
2	Ecobank Nigeria Plc	3rd January, 2006 (previously licensed Dec. 16, 1988)
3	Fidelity Bank Plc	3rd January, 2006 (previously licensed July 16, 1999)
4	First Bank Nigeria Limited	3rd January, 2006 (previously licensed 15/08/1979)
5	First City Monument Bank Plc	3rd January, 2006 (previously August 11, 1983)
6	Guaranty Trust Bank Plc	3rd January, 2006 (previously licensed Aug 1, 1990)
7	Heritage Banking Company Ltd.	3rd April 2013
8	Stanbic IBTC Bank Plc	3rd January, 2006 (previously December 13, 1983)
9	Sterling Bank Plc	3rd January, 2006
10	Union Bank of Nigeria Plc	2006 (licensed November 12, 1969)
11	United Bank For Africa Plc	3rd January, 2006 (previously licensed May 17, 1961)
12	Zenith Bank Plc	3rd January 2006 (previously licensed June 20, 1990)

The selection of 12 banks from the population of 26 for this study on the effect of credit appraisal and credit term on financial performance of commercial banks in Nigeria was based on the criteria to achieve a tier representation and geographical coverage. First, a balanced representation from the three tiers of banks (large, medium, and small) was ensured by selecting an equal number of banks from each tier, specifically four banks from each tier. Secondly, banks with significant market share and geographical coverage were selected to ensure the sample included institutions with substantial influence on the Nigerian banking sector.

Depending on the characteristics of the data collected, one of two models can be used for panel data analysis: (1) The Fixed Effect Model (FEM) accounts for differences between banks and assumes a correlation between the residuals and the independent variables; (2) The Random Effect Model (REM) assumes no correlation between the residuals and the independent variables, while still accounting for differences between banks. The Hausman test is used to choose between the Fixed and Random Effect models. If the selected model meets the required assumptions and does not suffer from issues such as autocorrelation or heteroskedasticity, it can reliably estimate the effect of credit appraisal and credit terms on the financial performance of commercial banks in Nigeria. Consequently, collected data was coded and imputed into Eviews software version 10 for calculation and analysis.

The model specification for this study as shown below is adapted from prior research. The independent variables include two aspects: credit appraisal, represented by the Non-Performing Loans ratio (NPL), and credit term, represented by Average Loan Maturity (ALM). The dependent variable, financial performance, is measured by return on assets (ROA). Additionally, the study incorporates control variables such as fixed assets and liquidity into the model. Table 2 provides detailed measurements of the variables used in the research model.

$$ROA_t = B_0 + B_1NPL_t + B_2ALM_t + B_3TA_t + B_4LQTR_t + e_t$$

ROA = Return on Asset (financial performance)

B₀ = intercept

NPL = non-performing loans ratio (credit appraisal)

ALM = Average loan maturity (credit term)

LQTR = Liquidity

TA = Fixed Assets

B₁, B₂, B₃, and B₄ = coefficients of the independent variable

"t" = time

E = error

Table 2: Variables Definition and Measurements

Type OF THE VARIABLE	VARIABLE	PROXIES	DEFINITIONS	SOURCES
Independent variable	Credit appraisal	Non-performing loans ratio (NPL)	Credit appraisal: this denotes an evaluation of the proposal for loan to determine the repayment capacity of the borrower.	Isenberg et al (2022)
Independent variable	Credit term	Average loan maturity (ALM)	Credit terms refer to the content of agreement drawn from the loan granting contract stating the obligation of borrower towards the lender - in this case the banks.	Ramnaud (2013)
Control Variable	Firm Size	Natural log of Total Assets	Firm size refers to the magnitude or scale of a business entity, typically measured by factors such as total assets.	(Achema et. al. 2022)
Control Variable	Liquidity	Current Assets/Current Liability	Liquidity refers to the ability of a company to meet its short-term financial obligations with readily available cash or assets	Mutuku (2016)

Result And Discussion

This chapter presents the analysis of the data collected for the study. The section is structured as follows: Section 4.1 provides descriptive statistics to summarize the key characteristics of the data. Section 4.2 discusses the diagnostic tests conducted, including the Normality Test, Heteroscedasticity Test, Augmented Dickey-Fuller (ADF) Test, Variance Inflation Factors (VIF), Correlation Analysis, and Hausman Test, to ensure the robustness and reliability of the model. Finally, Section 4.3 presents the regression analysis results, highlighting the effect of credit appraisal and credit term on financial performance of commercial banks in Nigeria.

Table 3 presents the descriptive statistics for the key variables used in the study: Return on Assets (ROA), Non-Performing Loans ratio (NPL), Average Loan Maturity (ALM), Total Assets (TA), and Liquidity (LQTR). The statistics include mean, median, maximum, minimum, standard deviation, skewness, kurtosis, and Jarque-Bera test results.

Table 3: Descriptive Statistics

	ROA	NPL	ALM	TA	LQTR
Mean	0.041	0.040	4.067	9.233	1.573
Median	0.040	0.041	4.000	9.229	1.511
Maximum	0.056	0.060	6.000	10.069	3.213
Minimum	0.032	0.014	2.000	8.195	0.620
Std. Dev.	0.005	0.010	1.488	0.418	0.358
Skewness	0.877	-0.557	-0.007	-0.199	1.886
Kurtosis	3.694	2.826	1.586	2.399	9.626
Jarque-Bera	7.506	6.361	9.991	2.593	290.712
Probability	0.023	0.042	0.007	0.273	0.000
Observations	120	120	120	120	120

Table 3 revealed that the mean ROA is 0.041, indicating that on average, the banks in the study generate a return of 4.1% on their assets. The standard deviation of 0.006 suggests low variability in ROA across the sample, with the maximum and minimum values being 0.056 and 0.032, respectively, indicating a range of 0.034. The skewness of 0.877 indicates a positive skew, meaning the distribution has a longer right tail. Kurtosis is 3.383, which is slightly above 3, indicating a distribution with heavier tails than the normal distribution. The Jarque-Bera test statistic is 16.107 with a probability of 0.000, suggesting that the ROA distribution deviates from normality. To address this deviation, a log transformation will be performed to normalize the data for further analysis.

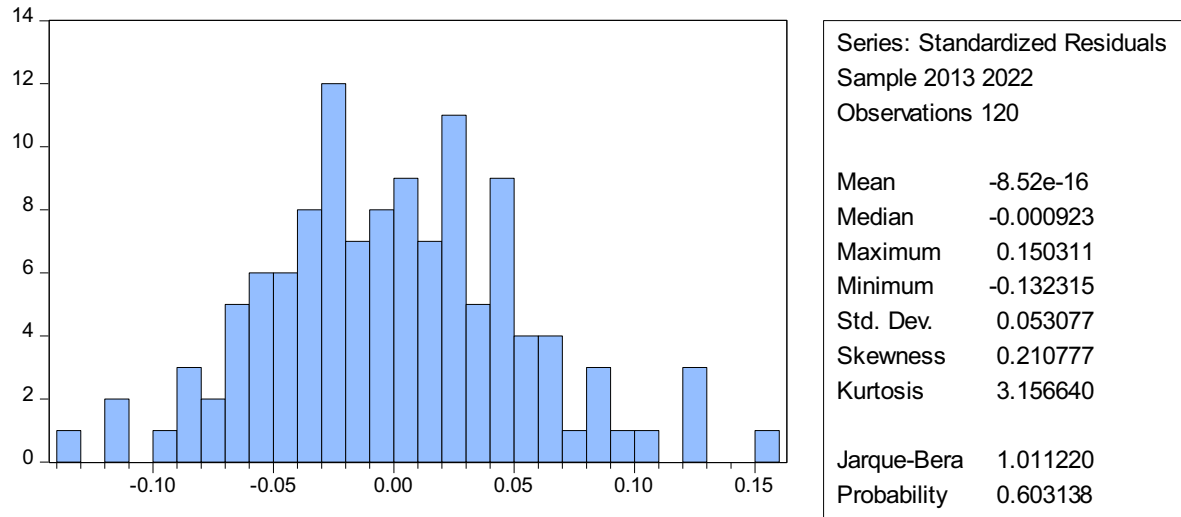
Table 3 revealed that the mean NPL is 0.040, reflecting that 4% of the total loans are non-performing on average. The standard deviation is 0.010, indicating some variation among the banks. The maximum and minimum NPL values are 0.060 and 0.014, respectively. The skewness is -0.557, suggesting a slight negative skew, meaning the distribution has a longer left tail. Kurtosis is 2.826, close to 3, indicating a distribution similar to the normal distribution. The Jarque-Bera test statistic is 6.361 with a probability of 0.042, indicating some deviation from normality. To correct this, a log transformation will be performed to normalize the NPL data for further analysis.

Table 3 revealed that the mean ALM is 4.067, indicating an average loan maturity period of about 4 years. The standard deviation is 1.488, reflecting considerable variability in loan maturities. The maximum and minimum ALM values are 6.000 and 2.000, respectively. The skewness is -0.007, indicating a nearly symmetric distribution. Kurtosis is 1.586, which is below 3, suggesting a distribution with lighter tails than the normal distribution. The Jarque-Bera test statistic is 9.991 with a probability of 0.007, indicating a significant deviation from normality. To address this, a log transformation will be applied to normalize the ALM data for further analysis.

Table 3 revealed that the mean TA is 9.233, representing the average size of the banks' total assets. The standard deviation is 0.418, indicating low variability in total assets. The maximum and minimum TA values are 10.069 and 8.195, respectively. The skewness is -0.199, suggesting a slight negative skew. Kurtosis is 2.399, which is below 3, indicating a distribution with lighter tails than the normal distribution. The Jarque-Bera test statistic is 2.593 with a probability of 0.273, indicating that the TA distribution does not significantly deviate from normality.

Table 3 revealed that the mean liquidity ratio is 1.573, indicating that on average, banks have 1.573 units of liquid assets for every unit of liability. The standard deviation is 0.358, reflecting moderate variability in liquidity. The maximum and minimum liquidity values are 3.213 and 0.620, respectively. The skewness is 1.886, indicating a highly positive skew. Kurtosis is 9.626, which is well above 3, suggesting a distribution with very heavy tails. The Jarque-Bera test statistic is 290.712 with a probability of 0.000, indicating a significant deviation from normality. To address this significant deviation, a log transformation will be performed to normalize the liquidity data for further analysis.

To ensure the robustness and reliability of the regression model, several diagnostic tests were conducted. The normality test assesses whether the residuals follow a normal distribution, crucial for accurate inference. Heteroscedasticity tests, such as the Breusch-Pagan test, examine the constancy of error variances, addressing potential issues in variance stability. Variance Inflation Factors (VIF) identify multicollinearity among predictors, ensuring independent variable integrity. Correlation analysis determines the strength and direction of relationships between variables. Lastly, the Hausman test distinguishes between fixed and random effects models, guiding model specification.



The Jarque-Bera test statistic in Figure 1 is 1.011220 with a probability of 0.603138, which is not statistically significant, suggesting that the residuals do not significantly deviate from normality. This supports the assumption of normality in the regression analysis.

Panel Cross-section Heteroskedasticity LR Test

Null hypothesis: Residuals are homoskedastic

Equation: UNTITLED

Specification: LOG(ROA) C LOG(NPL) LOG(ALM) LOG(TA) LOG(LQTR) Panel

	Value	df	Probability
Likelihood ratio	38.92186	12	0.0001

The heteroscedasticity test results in Table 4 indicate that the null hypothesis of homoscedastic residuals is rejected, as evidenced by a likelihood ratio of 38.92186 with a probability of 0.0001. This suggests the presence of heteroscedasticity in the model, implying that the error variances are not constant across observations, and remedial measures, such as generalized least squares (GLS), is used to ensure reliable statistical inferences from the regression analysis.

Table 5: Variance Inflation Factors (VIF)

Variable	Centered VIF
C	NA
LOG(NPL)	1.382709
LOG(ALM)	1.025579
LOG(TA)	1.407366
LOG(LQTR)	1.052078

The Variance Inflation Factors (VIF) test results in Table 5 show that all variables—LOG(NPL), LOG(ALM), LOG(TA), and LOG(LQTR)—have VIF values well below the threshold of 10, indicating no significant multicollinearity. LOG(NPL) has a VIF of 1.382709, LOG(ALM) is 1.025579, LOG(TA) is 1.407366, and LOG(LQTR) is 1.052078, confirming the independence of the predictor variables in the model.

Table 6: Correlation Analysis

	ROA	NPL	ALM	TA	LQTR
ROA	1				
NPL	-0.889	1			
ALM	0.256	-0.143	1		
TA	0.496	-0.547	0.104	1	
LQTR	0.087	0.034	0.004	0.107	1

The correlation analysis in Table 6 shows that ROA (financial performance) is negatively correlated with NPL (credit appraisal) at -0.889, indicating that higher non-performing loans are associated with lower financial performance. Conversely, ROA is positively correlated with ALM (credit term) at 0.256, suggesting that longer average loan maturities are linked to better financial performance. These relationships highlight the impact of credit appraisal and credit term on bank performance.

Table 7: Hausman Test

Test Summary	Chi -Sq. Statistic	Chi -Sq. d.f.	Prob.
Cross -section random	8.600	4	0.072

The Hausman test results in Table 7 show a Chi-Sq. statistic of 8.600 with a probability of 0.072. Since the p-value is greater than 0.05, we fail to reject the null hypothesis, indicating that the Random Effect model is preferred.

Table 4.7 presents the results of a random effect regression model examining the impact of credit appraisal and credit term on financial performance of commercial banks in Nigeria. The model includes control variables for firm size (log of total assets, TA) and liquidity (current assets divided by current liability, LQTR).

Table 8: Regression Analysis (Random Model)

Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistics	Probability
Constant	-4.749	0.337	-14.091	0.000
Credit appraisal (NPL)	-0.245	0.027	-9.077	0.000
Credit term (ALM)	0.028	0.010	2.901	0.005
Firm Size	0.308	0.154	1.998	0.048
Liquidity	0.044	0.020	2.159	0.033
R-Squared	0.482			
Adjusted R -squared	0.464			
F-Statistics	26.708			
Prob (F -statistics)	0.000			
Durbin -Watson Stat	1.599			

The regression results in Table 8 indicate that the model explains a significant portion of the variance in ROA, with an R-squared of 0.482 and an adjusted R-squared of 0.464, suggesting that approximately 46.4% of the variability in financial performance is explained by the predictors. The coefficient for credit appraisal (NPL) is -0.245, indicating a significant negative relationship with ROA ($p=0.000$), where a 1% increase in NPL results in a 24.5% decrease in ROA when firm size and liquidity are controlled. Credit term (ALM) has a positive coefficient of 0.028 ($p=0.005$), implying a 1% increase in ALM leads to a 2.8% increase in ROA when firm size and liquidity are controlled. The F-statistic of 26.708 ($p=0.000$) confirms the model's overall significance, and the Durbin-Watson statistic of 1.599 suggests no severe autocorrelation in the residuals.

1. Discussion

The first objective of this study was to ascertain effect of credit appraisal on the financial performance of Commercial banks in Nigeria. The result revealed that there is a significant negative relationship between credit appraisal (non-performing loans (NPL)) and financial performance (ROA) of Commercial banks in Nigeria. The significant negative relationship between credit appraisal, measured by non-performing loans (NPL), and financial performance (ROA) of commercial banks in Nigeria can be attributed to the critical role of effective credit appraisal processes in mitigating credit risk. In the Nigerian context, high NPL ratios indicate poor credit appraisal practices, where banks fail to adequately assess the creditworthiness of borrowers. This leads to higher default rates, increasing the financial burden on banks due to provisioning for loan losses and reduced interest income from non-performing assets. Consequently, the profitability, as reflected by ROA, diminishes. Effective credit appraisal ensures that only creditworthy customers are granted loans, reducing the likelihood of defaults and enhancing the financial performance of

banks by maintaining a healthy loan portfolio and optimizing income from performing loans. Based on empirical evidence from previous studies, including Nwosu et al. (2020), Gabriel et al. (2019), Budiarto (2021), and Singh et al. (2021), there is consistent support for the finding that non-performing loans (NPL) negatively impact the financial performance (ROA) of commercial banks. For example, Ugwaunyi et al.'s (2023) study aligns with the finding of this study that non-performing loans (NPL) have a significant negative relationship with financial performance (ROA) of commercial banks in Nigeria. They also found a negative relationship between NPL and return on capital employed (ROCE), albeit insignificant. These studies collectively demonstrate that higher levels of NPL, used as a proxy for weaker credit appraisal practices, lead to diminished profitability across different banking contexts, including Nigeria, Indonesia, and Nepal. This negative relationship underscores the critical importance of effective credit appraisal strategies in maintaining bank profitability and stability

The second objective of this study was to determine the effect of credit terms on the financial performance of Commercial banks in Nigeria. The finding of a positive and statistically significant relationship between credit terms (Average Loan Maturity, (ALM) and financial performance (ROA) of commercial banks in Nigeria suggests that longer loan maturities are beneficial for banks' profitability. This can be justified by the notion that longer loan maturities may enable borrowers to manage their cash flows more effectively, reducing default risks and enhancing loan performance. Additionally, longer maturities allow banks to earn interest over extended periods, improving their revenue streams. The implication for bank management is to consider extending loan maturities as a strategic approach to enhance financial performance, while also maintaining a robust risk assessment process to mitigate potential risks associated with longer loan terms. Based on the studies by Quartey et al. (2019) and Edwin and Omagwa (2018), there is an agreement with the finding that longer loan maturities (credit terms) positively influence financial performance. Quartey et al. (2019) found that loan disbursement significantly affects profitability in rural banks, which indirectly supports the idea that credit terms (like loan maturity) can impact financial outcomes positively. Similarly, Edwin and Omagwa (2018) highlighted that terms of credit (including loan maturity) were statistically significant in explaining financial performance in microfinance institutions. These findings collectively suggest that longer credit terms could indeed enhance financial performance, aligning with the positive relationship found in the context of Nigerian commercial banks. Similarly, Yego and Gichure (2020) reported a significant positive relationship between credit terms and financial performance, which agrees with the current study's positive but insignificant findings. On the other hand, Suryanto and Imronudin (2024) found that credit terms had no significant effect on financial performance, which is more aligned with the current study's finding of an insignificant relationship

Conclusion and Recommendation

The study on the impact of credit appraisal and credit term on financial performance of commercial banks in Nigeria concludes that effective credit management is crucial for enhancing bank profitability. A significant negative relationship between credit appraisal

measured in terms of non-performing loans (NPL) and return on assets (ROA) indicates that high NPLs diminish financial performance (ROA). However, the study concludes that credit term measured in terms of average loan maturity (ALM) is an important positive factor in improving financial performance (ROA).

Based on the finding that there is a significant negative relationship between non-performing loans (NPL) and return on assets (ROA), it is recommended that Nigerian commercial banks implement more stringent credit appraisal and monitoring processes. This could include rigorous borrower assessments, regular loan reviews, and early intervention strategies for delinquent accounts. By reducing the incidence of NPLs, banks can improve their asset quality and enhance profitability, thus contributing to the overall stability of the financial sector. Furthermore, The positive significant relationship between average loan maturity (ALM) and ROA, suggests that Nigerian banks should consider aligning loan maturities with their liquidity and funding strategies. By doing so, banks can better manage interest rate risks and enhance their ability to meet short-term obligations. This strategic alignment can lead to a more stable and efficient banking operation, even if its direct impact on profitability is not pronounced.

Limitation and future research

Despite the insightful findings, this study on the impact of credit appraisal and credit terms on the financial performance of commercial banks in Nigeria has several limitations. Firstly, the analysis is based on historical data from 2013 to 2022, which may not fully capture the dynamic and evolving nature of the banking industry. Secondly, the study primarily focuses on quantitative measures and may overlook qualitative factors such as management practices and regulatory changes that can also influence financial performance. Additionally, the sample size of 120 observations might limit the generalizability of the results to all Nigerian banks. Future research could expand the dataset to include a broader range of banks and a longer time horizon to enhance the robustness of the findings. It would also be beneficial to incorporate qualitative assessments and explore the impact of external macroeconomic variables. Lastly, comparative studies across different regions or countries could provide a more comprehensive understanding of the relationship between credit appraisal, credit terms, and financial performance.

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