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The Effect of Credit Risk Management on Financial Performance in the Banking Industry Listed on the Indonesia Stock Exchange

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ABSTRACT

This study aims to empirically test credit risk management on financial performance measured by return on assets and return on equity at commercial banks listed on the Indonesian stock exchange in 2020-2022. The data was collected from 44 banks and examined by applying standard descriptive statistics and the random effect model for hypothesis testing. It is concluded from the regression outcomes that only loan to deposit ratio which has not a significant impact to return on asset but only loan to deposit ratio, risk asset ratio, and size are have a significant impact to return on equity. Based on these findings, it is suggested that bank companies must watch carefully the loans' performance and analyze thoroughly the clients' credit history an ability to pay back their debts prior to any approval of loan applications. The researchers recommend that future studies on credit risk management influence on banks' financial performance should consider more independent variables and longer periods of study such as twenty or thirty years to have more accuracy and generalized results.

Keywords: *financial performance, credit risk management, bank's performance, Return On Assets (ROA), Return on Equity (ROE)*

INTRODUCTION

Credit is the main activity in the banking industry in generating income, but banks need to implement Credit Risk Management practices in order to reduce the risk of default on the part of borrowers. According to Areghan et al. (2021) Credit risk is one of the biggest risks faced by the banking industry. Good credit risk management can lead to increased stability, profitability and optimal allocation of funds (Ali & Dhiman, 2019). The efficient and effective performance of the banking sector is aligned in supporting the country's financial stability (Ali & Dhiman, 2019).

To prevent the risk of default, there are several steps that banks can use in mitigating the possibility of high credit risk (Ali & Dhiman, 2019). Banks can measure credit risk which can be calculated through several ratios such as capital adequacy ratio (CAR), liquidity ratio (LQR), loan-to-deposit ratio (LDR), risk asset ratio (RAR), non-performing loans ratio (NPLR), loan loss provision (LLP), and size (SZ) (Natufe & Evbayiro-Osagie, 2023).

Through these mitigation measures, banks can implement good credit risk management so that they can maintain financial performance in the future (Natufe & Evbayiro-Osagie, 2023). Banks that do not have the ability to manage their credit activities can have an impact on large company losses. Thus, poor credit risk management is the main reason behind the failure of bank companies (Al Zaidanin & Al Zaidanin, 2021). This is evidence that there is a relationship between Credit Risk Management and company profitability, which can lead to improved company financial performance (Al Zaidanin & Al Zaidanin, 2021).

Financial Performance of a company can be reflected in return on assets (ROA) and return on equity (ROE) (Fadun & Silwimba, 2023). ROA describes how well a company's management uses a company's investments to generate profits. While ROE shows how effectively a company uses shareholder funds to maximize its net income. The higher the ROA and ROE, the better the managerial efficiency of the company. Conversely, the lower the ROA and ROE, the less efficient the company's managerial efficiency (Fadun & Silwimba, 2023).

This study explores the impact of Credit Risk Management on ROE and the ROA variable, highlighting the importance of adequate asset management in achieving satisfactory financial performance and generating maximum profit. It analyzes Loan to Deposit Ratio, Loan Loss Provision, Liquidity Ratio, Non-Performing Loan Ratio, Risk Asset Ratio, and Size on financial performance. The research aims to inform banking sector managers on improving financial performance and mitigating losses caused by debtor default.

METHOD

The research design used to facilitate the process of reviewing research results is using hypothesis testing. Hypothesis testing is used to examine the effect between independent variables of Credit Risk Management consisting of several indicators, namely Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Loan Loss Provision (LLP), Liquidity Ratio (LQR), Non-Performing Loan Ratio (NPLR), Risk Asset Ratio (RAR), and Size (SZ) on the dependent variable, namely financial performance or Financial Performance as seen from Return on Equity (ROE) and Return on Asset (ROA).

The data used in this study is panel data (pooling), which is a combination of cross sectional and time series data on banking sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2020 – 2022. In this study, it consists of 2 (two) variables, namely independent variables or independent variables and dependent variables or dependent variables.

The data collection method in this study used secondary data collection techniques. Secondary data is data obtained indirectly. The source of data in this study was obtained from the website of the Indonesia Stock Exchange (www.idx.co.id) and the websites of all companies that were the object of research. This research data consists of data on banking industry sector companies listed on the Indonesia Stock Exchange (IDX) in the period 2020 - 2022.

The sampling method carried out is by using purposive sampling, where the population used as a sample in this study is banking issuers that meet certain criteria. Purposive sampling is a sampling technique with certain considerations (Sugiyono, 2022). Some of the criteria used as sample criteria in this study are as follows:

1) Banking companies that have gone public and listed on the Indonesia Stock Exchange (IDX) for the period 2020 – 2022.
2) The banking company has published its annual report and financial report, namely from 2020 – 2022 and has not been delisted for a certain period.
3) The company has a record of information disclosure from the period 2020 – 2022.
4) Financial statements are denominated in rupiah (Rp).

The data analysis method used in this study is the panel data regression method. The method aims to analyze and test the effect of Capital Adequacy Ratio (CAR), Loan to Deposit

Ratio (LDR), Loan Loss Provision (LLP), Liquidity Ratio (LQR), Non-Performing Loan Ratio (NPLR), Risk Asset Ratio (RAR), and Size (SZ) on financial performance with Return on Assets (ROA) and Return on Equity (ROE) as indicators on companies in the banking sector listed on the Indonesia Stock Exchange (IDX). Panel data models contained in panel data regression, namely Common Effects Model, Fixed Effects Model, and Random Effects Model. The available data is then processed and tested using EViews 12 software.

RESULTS AND DISCUSSION

This statistical test t is used to determine how much influence the independent variable has in explaining the dependent variable. To test the statistical hypothesis is done by looking at the probability value in the analysis results using Eviews 9. Hypothesis testing can also be done based on the significance level value of 0.05 (α = 5%). Acceptance or rejection of the hypothesis is carried out by the criterion that is, if the probability value > 0.05, then the hypothesis is rejected (the regression coefficient is insignificant). This means that partially the independent variable does not have a significant influence on the dependent variable. If the probability value $\leq$ 0.05 then the hypothesis is accepted (the regression coefficient is significant). This means that partially the independent variable has a significant influence on the dependent variable.

Table 1. Partial Test Results (Test t) - Model 1

Model 1 Fixed Effects Model **Variabel Dependent: Return on Assets**				
Variables	***Coefficient***	***Prob.***	***Hypothesis***	***Conclusion***
C	-0.391217	0.0000		
Capital Adequacy Ratio	0.000310	0.0000	Ha Accepted	Significant Effect
Loan to Deposit Ratio	-0.000937	0.4808	Ha Rejected	No Effect
Loan Loss Provision	1.04E-06	0.0000	Ha Accepted	Significant Effect
Liquidity Ratio	-0.020616	0.0178	Ha Accepted	Significant Effect
Non-Performing Loan	0.169734	0.0000	Ha Accepted	Significant Effect
Risk Assets Ratio	0.051270	0.0000	Ha Accepted	Significant Effect
Size	0.047671	0.0000	Ha Accepted	Significant Effect

Source: Output EViews 12

Based on Table 1 regarding Partial Test Results (Test t) - Model 1, several test results can be known as follows:

H1 : Capital Adequacy Ratio has a significant effect on Return on Assets Variable

Capital Adequacy Ratio has a Prob. value of 0.0000 < 0.05, then Capital Adequacy Ratio has a significant effect on Return on Assets. Ha accepted.

H2 : Loan to Deposit Ratio has a significant effect on Return on Assets Variable

Loan to Deposit Ratio has a Prob. value of 0.4808 > 0.05, then the Loan to Deposit Ratio has no effect on Return on Assets. Ha was rejected.

H3 : Loan Loss Provision has a significant effect on Return on Assets

Variable Loan Loss Provision has a Prob. value of 0.0000 < 0.05, so the Loan Loss Provision has a significant effect on Return on Assets. Ha accepted.

H4 : Liquidity Ratio has a significant effect on Return on Assets

Variable Liquidity Ratio has a value of Prob. by 0.0178 < 0.05, then Liquidity has a significant effect on Return on Assets. Ha accepted.

H5 : Non-Performing Loan has a significant effect on Return on Assets

Variable Non-Performing Loan has a value of Prob. of 0.0000 < 0.05, then Non-Performing Loan has a significant effect on Return on Assets. Ha accepted.

H6 : Risk Assets Ratio has a significant effect on Return on Assets

Variable Risk Assets Ratio has a value of Prob. of 0.0000 < 0.05, the Risk Assets Ratio has a significant effect on Return on Assets. Ha accepted.

H7 : Size has a significant effect on Return on Assets

Variable Size has a value of Prob. by 0.0003 < 0.05, then Size has a significant effect on Return on Assets. Ha accepted.

Table 2. Partial Test Results (Test t) - Model 2

Model 2 Random Effects Model **Variabel Dependent: Return on Equity**				
Variables	***Coefficient***	***Prob.***	***Hypothesis***	***Conclusion***
C	-0.885998	0.0000		
Capital Adequacy Ratio	0.003518	0.1271	Ha Rejected	No Effect
Loan to Deposit Ratio	0.045355	0.0302	Ha Accepted	Significant Effect
Loan Loss Provision	-2.25E-06	0.7443	Ha Rejected	No Effect
Liquidity Ratio	0.127567	0.3469	Ha Rejected	No Effect
Non-Performing Loan	0.505354	0.2148	Ha Rejected	No Effect
Risk Assets Ratio	0.197505	0.0352	Ha Accepted	Significant Effect
Size	0.097918	0.0000	Ha Accepted	Significant Effect

Source: Output EViews 12

Based on table 2 regarding Partial Test Results (Test t) - Model 2, several test results can be known as follows:

H1 : Capital Adequacy Ratio has a significant effect on Return on Equity

Variable Capital Adequacy Ratio has a Prob. value of 0.1271 > 0.05, so the Capital Adequacy Ratio has no effect on Return on Equity. Ha was rejected.

H2 : Loan to Deposit Ratio has a significant effect on Return on Equity

Variable Loan to Deposit Ratio has a Prob. value of 0.0302 < 0.05, then the Loan to Deposit Ratio has a significant effect on Return on Equity. Ha accepted.

H3 : Loan Loss Provision has a significant effect on Return on Equity

Variable Loan Loss Provision has a Prob. value of 0.7443 > 0.05, so the Loan Loss Provision has no effect on Return on Equity. Ha was rejected.

H4 : Liquidity Ratio has a significant effect on Return on Equity

Variable Liquidity Ratio has a Prob. value of 0.3469 > 0.05, so the Liquidity Ratio has no effect on Return on Equity. Ha was rejected.

H5 : Non-Performing Loan has a significant effect on Return on Equity

Variable Non-Performing Loan has a Prob. value of 0.2148 > 0.05, so Non-Performing Loan has no effect on Return on Equity. Ha was rejected.

H6 : Risk Assets Ratio has a significant effect on Return on Equity

Variable Risk Assets Ratio has a Prob. value of 0.0352 < 0.05, so the Risk Assets Ratio has a significant effect on Return on Equity. Ha accepted.

H7 : Size has a significant effect on Return on Equity

Variable Size has a Prob. value of 0.0000 < 0.05, so Size has a significant effect on Return on Equity. Ha accepted.

Discussion of Research Results

H1 : There is an effect of Capital Adequacy Ratio on Financial Performance

Based on Table 1 and Table 2, the analysis results show that there is a significant influence between the Capital Adequacy Ratio variable and the Return on Asset (ROA) variable with a probability value of 0.0000 and a coefficient value of 0.0003, but the Capital Adequacy Ratio variable has no effect on the Return on Equity variable (ROE) with a probability value of 0.1271 and a coefficient value of 0.0035. The results of Alshatti's research (2015) stated that the Capital Adequacy Ratio has no effect on the company's financial performance as measured through Return on Assets (ROA) and Return on Equity (ROE).

The results of this study do not match the research of Shahid et al. (2019) which reveals that the Capital Adequacy Ratio has no effect on Return on Assets (ROA) but has a significant negative influence on Return on Equity (ROE), as higher levels of equity result in lower returns, keeping all other factors constant. However, in the research of Nyabaga and Wepukhulu (2020) and Islam et al. (2019) shows that the Capital Adequacy Ratio has a significant positive effect on both Return on Assets (ROA) and Return on Equity (ROE) because high Capital Adequacy is important to ensure that banks are able to absorb losses stemming from economic shocks that are beyond the bank's control.

H2 : There is an effect of Loan to Deposit Ratio on Financial Performance

Based on the tests that have been done, the results of the analysis show that the Loan to Deposit Ratio does not have a significant effect on the variable Return on Asset (ROA) with a probability value of 0.4808 and a coefficient value of -0.000937 while there is a significant influence between the variable Loan to Deposit Ratio and the variable Return on Equity (ROE) with a probability value of 0.0302 and a coefficient value of 0.045355. This is in accordance with the results of research by Zaidanin and Zaidanin (2021) and Kwashie et al. (2022) Loan to Deposit Ratio has no significant effect on Return on Assets (ROA) which indicates a high loan indicates the bank's ability to obtain sufficient funds to convert its assets into cash quickly. The results of this study are in accordance with the results of research by Islam et al. (2019) shows that the Loan to Deposit Ratio has a positive effect on Return on Equity (ROE). From the results of Saiful and Ayu's (2019) research, the Loan to Deposit Ratio has a significant negative influence on Return on Equity (ROE).

H3 : There is an effect of Loan Loss Provision on Financial Performance

Based on the tests that have been done, the results of the analysis show that there is a significant influence between the variable Loan Loss Provision and the variable Return on Asset (ROA) with a probability value of 0.0000 and a coefficient value of -0.000937. Meanwhile, model 2 testing shows that Loan Loss Provision has no effect on Return on Equity (ROE) with a probability value of 0.7443 and a coefficient value of -2.25E-06. These findings are consistent with research conducted by Islam et al. (2019) shows that Loan Loss Provision has a negative effect on Return on Asset (ROA) and from the results of Majani's research (2022) Loan Loss Provision does not have a significant effect on Return on Equity (ROE). However, from the results of St-Hilaire and Boisselier (2018) research shows that Loan Loss Provision does not have a significant effect on Return on Assets (ROA) but has a significant effect on Return on Equity (ROE) and shows that based on the results of the tests applied, it can be concluded that banks need to know the current loan status in order to provide further loans. The bank's decision-making in terms of loan policy is legitimately influenced by LLP factors that give positive signals to shareholders.

Loan Loss Provision based on the results of Natufe and Evbayiro-Osagie's (2023) research shows a significant negative influence on Return on Equity (ROE). From the results of Hidayat et al.'s research (2021) shows that Loan Loss Provision has a significant negative effect on Return on Asset (ROA) and Return on Equity (ROE).

H4 : There is an influence of Liquidity Ratio on Financial Performance

Based on the tests that have been done, the results of the analysis show that there is a significant influence between the Liquidity Ratio variable and the Return on Asset (ROA) variable with a probability value of 0.0178 and a coefficient value of -0.020616. Meanwhile, model 2 testing shows that the Liquidity Ratio has no effect on Return on Equity (ROE) with a probability value of 0.3469 and a coefficient value of 0.127567, this is in line with the results of Ali and Dhiman's (2019) research which shows that the Liquidity Ratio has a negative effect on Return on Assets (ROA) and the results of Abubakar et al.'s (2018) research Liquidity Ratio does not have a significant effect on Return on Equity (ROE) and banks need to reduce positions their liquidity and investing the excess in more profitable and rewarding ventures that will increase income.

Liquidity Ratio based on the results of Natufe and Evbayiro-Osagie (2023) research shows a significant negative influence on Return on Equity (ROE). From the results of Zaidanin and Zaidanin's research (2021), the Liquidity Ratio does not have a significant effect on Return on Assets (ROA). From the results of research by Javid et al. (2020) which shows that the Liquidity Ratio has a negative insignificant effect on Return on Assets (ROA) but a positive effect is not significant on Return on Equity (ROE).

H5: There is an influence of Non-Performing Loan Ratio on Financial Performance

Based on Table 1 and Table 2, the analysis results show that there is a significant influence between the Non-Performing Loan Ratio variable and the Return on Asset (ROA) variable with a probability value of 0.0000 and a coefficient value of 0.169734, but the Non-Performing Loan Ratio variable has no effect on the Return on Equity (ROE) variable with a probability value of 0.2148 and a coefficient value of 0.505354.

From the results of Nwude and Okeke's (2018) research which shows that the Non-Performing Loan Ratio has a positive insignificant effect on Return on Asset (ROA) and Return on Equity (ROE). The results of research by Abubakar et al. (2018) show that Non-Performing Loans have no effect on Return on Equity (ROE) and found that bank deposits in Nigeria's Non-Performing Loan Ratio, can drain and weaken shareholder wealth as measured by ROE.

From the results of research by Kwashie et al. (2022) Non-Performing Loans have a negative influence on Return on Assets (ROA). From the results of Saiful and Ayu's (2019) research, Non-Performing Loans have a significant negative influence on Return on Assets (ROA).

H6: There is an influence of Risk Asset Ratio on Financial Performance

Based on Table 1 and Table 2, the analysis results show that there is a significant influence between the Risk Asset Ratio variable and the Return on Asset (ROA) variable with a probability value of 0.0000 and a coefficient value of 0.051270 as well as the Risk Asset Ratio variable which affects the Return on Equity variable(ROE) with a probability value of 0.0352 and a coefficient value of 0.197505. In line with the results of Tegene and Venkataram (2023) research which shows that the Risk Asset Ratio has a significant negative effect on Return on Asset (ROA) and shows that one unit increases the ratio of loans to deposits decreases bank profitability and the results of Majani's (2022) research which shows that the Risk Asset Ratio has a significant positive effect on Return on Equity (ROE).

H7: There is an effect of Size on Financial Performance

Based on Table 1 and Table 2 the results of the analysis show that there is a significant influence between the Size variable and the Return on Asset (ROA) variable with a probability value of 0.0000 and a coefficient value of 0.047671 as well as the Size variable which affects the Return on Equity (ROE) variable with a probability value of 0.0352 and a coefficient value of 0.097918, this is in accordance with the results of Javid et al. (2020) Bank Size has a positive influence to Return on Assets (ROA) and Return on Equity (ROE) and explains that fundamentally, the size of a bank reflects economies of scale and diseconomies in the banking industry. Positive associations indicate that as the size of the bank increases, the profitability of the bank also increases. From the results of Nyabaga andd Wepukhulu (2020) research, Bank Size has a significant positive influence on Return on Asset (ROA) and Return on Equity (ROE), this study concludes that bank size has a significant positive influence on performance and banks must strive to increase the size of their assets. From the results of Nwude and Okeke (2018) research where Bank Size has a significant influence on Return on Asset (ROA) and Return on Equity (ROE).

CONCLUSION

The research reveals that Capital Adequacy Ratio (CAR) significantly impacts Return on Assets (ROA) but not Return on Equity (ROE). Loan to Deposit Ratio (LDR) has no effect on ROA but has a significant effect on ROE. Loan Loss Provision (LLP) and Liquidity Ratio (LQR) also affect ROA but not ROE. Non-Performing Loan (NPL) and Risk Assets Ratio (RAR) also impact ROA and ROE. The study recommends that the Banking Industry monitors loan and cash advance applications to reduce non-performing loans and improve risk

management performance. Proper Credit Risk Management can attract investors and increase bank capacity, but strict internal controls are necessary.

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