

The Influence of Credit Risk Management on the Profitability of Banks Listed on the Indonesian Stock Exchange

*Credit Risk
Management on the
Profitability of Banks*

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Submitted:
1 OCTOBER 2023

Accepted:
21 NOVEMBER 2023

ABSTRACT

In general, every company strives to make as much profit as possible from its business activities. Financial performance is a measure of the company's success so that goals can be achieved as expected by the company. The purpose of this study is to see how the capital adequacy ratio (CAR), non-performing loans (NPL), loan loss provision (LLP), loan to deposit ratio (LDR) have an impact on bank profitability, in this study the profitability ratio used is return on assets (ROA). Conventional commercial bank companies listed on the Indonesia Stock Exchange (IDX) from 2017 to 2022 are the samples used in this study. The data were tested using panel data regression analysis techniques. The results showed that (1) CAR has a positive impact on ROA, (2) NPL has a negative impact on ROA, (3) LLPR has no impact on ROA, and (4) LDR has no impact on ROA.

Keywords: *Capital Adequacy Ratio, Non-performing Loan, Loan Loss Provision, Loan to Deposit Ratio, Return on Asset*

ABSTRAK

: Secara umum, setiap perusahaan berusaha untuk memperoleh keuntungan atau profit sebanyak mungkin dari kegiatan bisnisnya. Kinerja keuangan menjadi tolak ukur keberhasilan perusahaan agar tujuan dapat tercapai sesuai yang diharapkan oleh perusahaan. Tujuan dari penelitian ini adalah untuk melihat bagaimana capital adequacy ratio (CAR), non-performing loan (NPL), loan loss provision (LLP), loan to deposit ratio (LDR) berdampak pada profitabilitas bank, dalam penelitian ini rasio profitabilitas yang digunakan adalah return on assets (ROA). Perusahaan bank umum konvensional yang terdaftar di Bursa Efek Indonesia (BEI) dari 2017 hingga 2022 adalah sample yang digunakan dalam penelitian ini. Data diuji menggunakan teknik analisis regresi data panel. Hasil penelitian menunjukkan bahwa (1) CAR berdampak positif pada ROA, (2) NPL berdampak negatif pada ROA, (3) LLPR tidak berdampak pada ROA, dan (4) LDR tidak berdampak pada ROA.

Kata kunci: *Capital Adequacy Ratio, Non-performing Loan, Loan Loss Provision, Loan to Deposit Ratio, Return on Asset*

JIMKES

Jurnal Ilmiah Manajemen
Kesatuan
Vol. 11 No. 3, 2023
pp. 1377-1384
STIE Kesatuan
ISSN 2337 – 7860

INTRODUCTION

Banking companies have an important role in a country's economy. The efficiency and effectiveness of the banking and financial system is very important for the development of the country's economy (Saleh & Paz, 2023). In Law number 10 of 1998, it is written that banking business activities collect funds from the public and redistribute these funds in the form of loans to individuals, companies, or the government. The Financial Services Authority noted that in 2017 to 2019 the financial performance of the banking industry experienced an increase of 0.06% from 2.38% to 2.44%, however in 2020 to 2021 the financial performance of the banking industry experienced a drastic decline of 0.6% to 1.84% which was supported by The increase in loans at risk from 2019 to 2021 from 9.95% from 9.93% to 19.48% will certainly be detrimental to the profitability of the banking industry, so it is a special concern for the banking industry in paying attention to its credit risk management. Since the Covid-19 pandemic, the Indonesian economy has experienced difficulties, causing a decline in the profitability of every company, which has made it difficult for companies/debtors to pay their credit obligations to banks, even causing several companies to go bankrupt/inability to pay their credit obligations to banks (Antony & Suresh, 2023). According to (Singh et al., 2021) Bank profitability can be shown by how efficiently the bank uses its assets and equity to increase profitability. Return on assets (ROA) is one of the main profitability ratios that needs to be paid attention to. Financial managers must think about financial management strategies so that the company obtains profitability to maintain the company's survival.

According to (Saleh & Paz, 2023) Credit risk hinders banks in carrying out their duties and affects the company's ability to achieve company goals. Credit risk management is very important for the existence and sustainability of financial institutions. The research results show that the loan loss provision ratio (LLPR) has a positive influence on profitability (ROA), while the capital adequacy ratio (CAR), non-performing loans (NPL), and loan-to-deposit ratio (LDR) have no influence on profitability (ROA). According to (Inegbedion et al., 2020) CAR has a positive influence on ROA. Banks will not experience high losses if risk management manages credit risk well, if the bank maintains high capital adequacy and good risk management then the bank will not experience large losses. According to (Sazzad et al., 2019) NPL has no influence on ROA. Non-performing loans have no effect on ROA if risk management manages the credit provided well so that debtors who do not meet the bank's evaluation will be rejected and the bank only accepts debtors who are deemed capable of paying their obligations so that the risk of credit failure decreases and increases profitability. According to Research (Annor & Obeng, 2018). LLPR has no positive effect on ROA. Banks that pay attention to credit risk management will produce lower credit loss reserves because they have a lower credit failure/bad credit rate. According to (Aliu & Çollaku, 2021) shows that the loan to deposit ratio has no effect on ROA. A high loan to deposit ratio increases credit risk because it is vulnerable to credit failure/bad credit, especially if there is instability in economic conditions or changes in market conditions.

This research emphasizes the importance of paying attention to effective credit risk management for decision makers in the banking sector. As a result of the problems faced by the financial and banking industry, risk management has become a concern for financial and banking institutions because risk management plays an important role in banking stability. Based on the background of the problem above, this research aims to determine the impact of credit risk faced by companies on profitability in banking companies listed on the Indonesia Stock Exchange.

LITERATURE REVIEW

Profitability

Bank profitability is not enough just to look at earnings per share. It is also important for us to know how efficiently banks use their assets and equity to generate profits. For this reason, the profitability ratio that we use is return on assets (ROA). (Singh et al., 2021). Return on Assets serves as a comprehensive measure that reflects profitability,

operational status, and business efficiency. Specifically, ROA assesses a company's ability to generate profits before including the impact of financial leverage (Bui et al., 2023). This ratio provides an indication of management efficiency in allocating company resources. ROA can also be a guide for investors to assess a company's performance and growth potential.

Capital Adequacy Ratio (CAR)

The capital adequacy ratio is used by banks to measure capital adequacy based on the proportion between the capital value and all risk-weighted assets of a bank. (Singh et al., 2021). Capital adequacy ratio (CAR) is a measure of capital that can be placed by a bank in the form of a percentage of credit exposure that has been assessed based on bank risk (Kafle, 2023). By maintaining optimal CAR, financial institutions can maintain their profitability while facing ongoing challenges and changes in the dynamic financial industry (Saleh & Paz, 2023). In research (Nguyen, 2020), it was found that there is a positive influence between CAR and ROA and ROE. However, in the latest research conducted by (Syafrizal et al., 2023), it was concluded that there is no effect of CAR on profitability.

Non-performing Loan (NPL)

Non-performing loan (NPL) is credit that cannot be repaid, either because the person in debt cannot repay the credit or because of a disaster caused by the creditor. (Rizwinie et al., 2023). According to (Singh et al., 2021) it is likely that a bank will experience a financial crisis when there is a high level of bank credit, and vice versa. In this research, there was also a negative relationship between NPL and company performance and profitability. However, there is evidence that non-performing loans (NPL) have a positive impact on profitability (Syafrizal et al., 2023). The importance of managing and reducing NPLs through effective credit risk management, loan recovery strategies, and proactive actions to protect profitability and maintain the long-term sustainability of an organization (Saleh & Paz, 2023).

Loan Loss Allowance Ratio (LLAR)

According to research (Saleh & Winarso, 2021) loan loss provision ratio (LLPR) is a financial indicator that measures the percentage of loans provided by financial institutions that are allocated as reserves to overcome the risk of credit losses. According to this research, the loan loss provision ratio (LLPR) has a direct influence on the profitability of financial institutions. A high loan loss provision ratio (LLPR) indicates that the credit risk taken by the bank is at a high level (Zheng et al., 2019). Achieving the right balance of provisions helps maintain profitability by accurately reflecting the risk of credit losses and ensuring the financial strength and stability of financial institutions (Saleh & Paz, 2023).

Loan to Deposit Ratio (LDR)

The Loan to Deposit ratio provides an overview of a bank's ability to fund credit provided to customers with money received from customer deposits (Adebayo & Oluwaremi, 2017). In this research, the results of a high loan to deposit ratio indicate that the bank has a strong dependence on savings funds to fund its loans, while a low ratio indicates that the bank is more dependent on other funding sources, such as the capital market or other funding sources.

Size

Bank size refers to the size of a bank's assets or wealth owned by the bank. Bank size is measured as the natural logarithm of total bank assets (Alzoubi & Obeidat, 2020). According to this research, the size of a bank can influence many aspects of its operations and strategy. Banks that are large have a greater capacity to provide a variety of financial services and have a greater impact on the financial sector. However, the larger a bank, the

more complex its operations and the stricter its regulations, especially if the bank is considered important to the stability of the financial system.

Age

Bank age refers to the length of time the bank has been operating since its founding. The age of a bank can affect its financial performance because a long presence in the market helps banks achieve competitive advantages (Gupta & Mahakud, 2020). According to the research, older banks have a longer history of serving customers and have experienced various economic cycles. In contrast, younger banks may still be in the development and growth stages. The age of a bank can influence the level of trust held by customers and investors, as well as reflecting the stability of the bank and the bank's track record in the financial sector.

conceptual framework

In accordance with research (Saleh & Paz, 2023) there are several factors that influence profitability consisting of the variable's capital adequacy ratio, non-performing loans, loan loss provision ratio, and loan to deposit ratio. Research conducted (Mendoza & Rivera, 2017) shows that there is a negative influence between credit risk and profitability. Research (Saleh & Winarso, 2021) found that the capital adequacy ratio (CAR) and non-performing loans (NPL) had a positive effect on profitability, while the loan loss provision ratio (LLPR) had a positive effect on profitability. Based on the results of the presentation explained above, a conceptual framework shows the impact of the variable proportion of capital adequacy ratio, non-performing loans, loan loss provision ratio, loan to deposit ratio on profitability. So, the conceptual framework in this research can be described as follows:

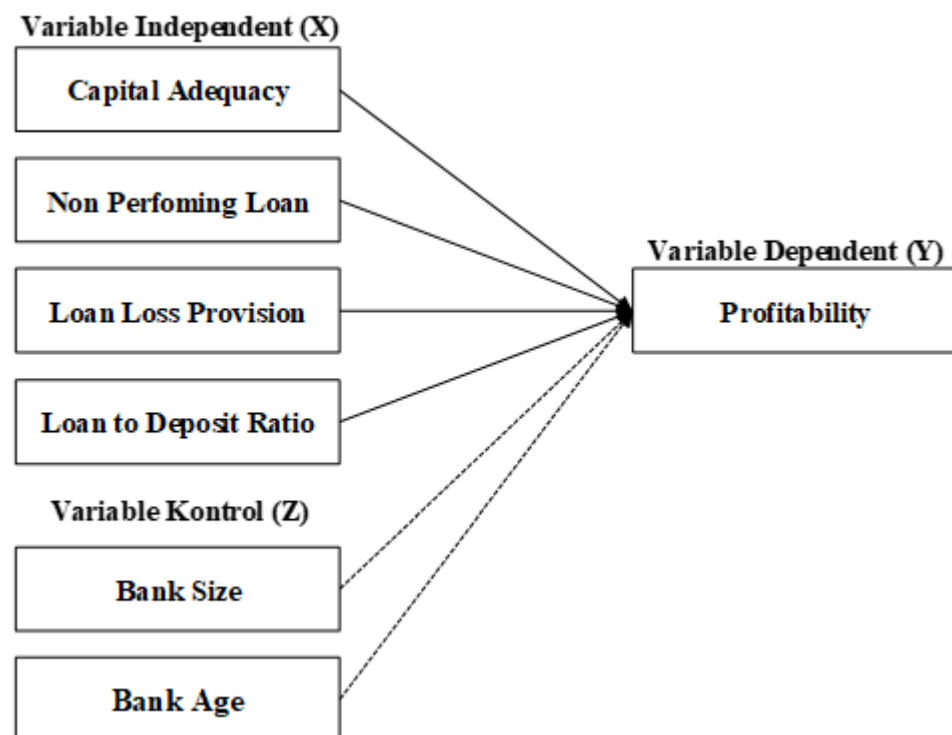


Figure 1. Hypothesis Development

- H1: There is an influence of the capital adequacy ratio on bank profitability
- H2: There is an influence of non-performing loans on bank profitability
- H3: There is an influence of the loan loss provision ratio on bank profitability
- H4: There is an influence of the loan to deposit ratio on bank profitability

METHODS

This research is quantitative research using panel data regression analysis tools, such as the Chow test, Hausman test, and Lagrange multiplier model test. This research is explanatory research. Explanatory research refers to research that explains the causal relationship between several variables through testing. Where this relationship can be explained through correlation or linkage between variables, or to measure the influence of one variable on other variables. This research describes the influence of credit risk management (CAR, NPL, LLPR, LDR) on banking profitability (ROA). Sampling through banking companies listed on the Indonesia Stock Exchange for six years (2017 – 2022 period) 27 Total research sample 27 Total observation data (x 6 years) 162.

Various types of variables to identify the influence of credit risk management on banking profitability. The following are the dependent variable and several independent variables. The dependent variable is return on assets. The independent variables are capital adequacy ratio, non-performing loans, loan loss provision ratio, and loan to deposit ratio. variables used in this research. in detail. This research uses secondary data obtained indirectly through trusted sources and published by third parties. This data was obtained from the annual financial reports of banks listed on the Indonesian Stock Exchange and the Financial Services Authority over a six-year period (2017 - 2022). The data analysis method used in this research is panel data regression analysis to test and analyze how much influence the independent variables (CAR, NPL, LLPR, LDR) have on the dependent variable (ROA) in banks listed on the Indonesia Stock Exchange during the sixth period. year (2017 - 2022). The next stage, the data that has been obtained will be tested using E-views 12. Panel data regression analysis tests the relationship between credit risk management and bank profitability.

RESULTS

Table 1. Chow Test Results

<i>Chow Test</i>			
<i>Effects Test</i>	<i>Model</i>	<i>Prob.</i>	<i>Conclusion</i>
<i>Cross-Section Chi-Square</i>	Model 1 (Return on Assets)	0.0000	H0 rejected

Source: Output Regresi Data Panel Eviews 12.0

Based on the Chow test, it shows that the value of the chi-square cross-section probability of Model 1 (Return on Assets) is $0.0000 \leq 0.05$, so H0 is rejected. So, the conclusion that can be drawn is that the best model selected is the Fixed Effects Model.

Table 2. Hausman Test Results

<i>Hausman Test</i>			
<i>Effects Test</i>	<i>Model</i>	<i>Prob.</i>	<i>Conclusion</i>
<i>Cross-Section Chi-Square</i>	Model 1 (Return on Assets)	0.5037	H0 failed to be rejected

Source: Output Regresi Data Panel Eviews 12.0

Based on the Hausman test, it shows that the value of the cross-section chi-square probability of Model 1 (Return on Assets) is $0.5037 > 0.05$, so H0 fails to be rejected. So, the conclusion that can be drawn is that the best model was the Random Effects Model.

Table 3. Lagrange Multiplier Test Results

<i>Lagrange Multiplier Test</i>			
<i>Effects Test</i>	<i>Model</i>	<i>Prob.</i>	<i>Conclusion</i>
<i>Breusch-Pagan One-Sided</i>	Model 1 (Return on Assets)	0.0000	H0 rejected

Based on the Lagrange Multiplier Test, it shows that the value of the Breusch-Pagan One-Sided Model 1 (Return on Assets) probability is $0.0000 \leq 0.05$, so H_0 is rejected. So, the conclusion that can be drawn is that the best model selected is the Random Effects Model.

Table 4. Goodness of Fit Test Results

Coefficient Determinize		
Testing	Model	Value
Adjusted R-Squared	Model 1 (Return on Assets)	0.3386

Based on the test results above, the Adjusted R-Squared value in Model 1 (Return on Assets) is 0.3386 or 33.86%. It can be concluded that all independent variables are able to explain variations in the dependent variable of 33.86%, the remaining 66.14% is explained by other variables that are not included in this research model.

Table 5. F Test Results

Simulant Test (F-Test)				
Effects Test	Model	Prob.	Hypothesis	Conclusion
Prob. (F-Statistic)	Model 1 (Return on Assets)	0.0000	H_0 rejected	Influential

Based on the results of the F Test, it shows that the value of Prob (F-Statistic) Model 1 (Return on Assets) is $0.0000 \leq 0.05$, so H_0 is rejected. This means that there is at least 1 independent variable that influences the dependent variable so that the model is suitable for use.

Table 6. Descriptive Analysis Test Results

	ROA	CAR	NPL	LLPR	LDR	SIZE	AGE
Mean	0.010313	0.255086	0.029383	0.032417	0.868056	18.05650	53.94444
Median	0.010600	0.227250	0.028000	0.027250	0.847550	18.34770	53.00000
Maximum	0.041400	1.061000	0.102700	0.201400	1.791300	21.34690	127.0000
Minimum	-0.054400	0.111300	0.000100	0.004200	0.296700	14.63270	2.000000
Std. Dev.	0.011536	0.122409	0.016636	0.025174	0.242040	1.623594	26.17292
Skewness	-1.234262	3.162516	1.426638	2.650585	1.005602	-0.062949	0.985671
Kurtosis	9.257722	16.89985	6.787545	15.68675	5.019916	2.248202	4.507564
Jarque-Bera	305.4557	1574.179	151.7851	1276.128	54.84376	3.922096	41.57285
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.140711	0.000000
Sum	1.670700	41.32390	4.760000	5.251500	140.6251	2925.154	8739.000
Sum Sq. Dev.	0.021426	2.412400	0.044557	0.102031	9.431914	424.4053	110288.5
Observations	162	162	162	162	162	162	162

Table 7. T Test Results

Model 1			
Random Effects Model			
Variable Dependent: Return on Assets			
Variables	Coefficient	Prob.	Conclusion
Constanta	-0.0402	0.0167	
Capital Adequacy Ratio	0.0186	0.0022	H_0 rejected
Non-Performing Loan	-0.2713	0.0000	H_0 failed to be rejected

<i>Loan Loss Provision Ratio</i>	-0.0276	0.3863	H0 failed to be rejected
<i>Loan to Deposit Ratio</i>	0.0029	0.4325	H0 failed to be rejected
<i>Bank Size</i>	0.0027	0.0066	H0 rejected
<i>Bank Age</i>	0.000047	0.4504	H0 failed to be rejected

DISCUSSION

Test results from descriptive analysis show information containing the lowest, greatest, mean, and standard deviation values. The least value is the smallest value, the maximum value is the largest value, the mean value is the average value, and the standard deviation is the circulation of examination information that shows homogeneous or heterogeneous variance. Based on the descriptive statistical analysis in table 6, it can be interpreted that Return on Assets has an average of 0.010311 and a standard deviation of 0.011536. The maximum value of 0.041400 is owned by Allo Bank Indonesia Tbk. in 2021 and a minimum value of -0.054400 owned by Allo Bank Indonesia Tbk. in 2018. The Capital Adequacy Ratio has an average of 0.255086 and a standard deviation of 0.122409. The maximum value of 1.061000 is owned by Bank Ganesha Tbk. in 2022 and a minimum value of 0.111300 owned by Bank Mayapada Internasional Tbk. in 2012. Non-Performing Loans have an average of 0.029383 and a standard deviation of 0.016636.

The maximum value of 0.102700 is owned by Bank Sinarmas Tbk. in 2022 and a minimum value of 0.000100 owned by Allo Bank Indonesia Tbk. in 2022. The Loan Loss Provision Ratio has an average of 0.032417 and a standard deviation of 0.025174. The maximum value of 0.201400 is owned by the Java T Regional Development Bank in 2022 and the minimum value is 0.004200 owned by Bank Nationalnobi Tbk. in 2020. Loan to Deposit Ratio has an average of 0.868056 and a standard deviation of 0.242040. The maximum value of 1.791300 is owned by Bank BTPN Tbk. in 2019 and a minimum value of 0.296700 owned by Bank Ina Perdana Tbk. in 2021. Bank Size has an average of 18.05650 and a standard deviation of 1.623594. The maximum value of 21.34690 is owned by Bank Rakyat Indonesia (Persero) Tbk. in 2022 and a minimum value of 14.63270 owned by Allo Bank Indonesia Tbk in 2018. Bank Age has an average of 53.94444 and a standard deviation of 20.03483. The maximum value of 127,0000 is owned by Bank Rakyat Indonesia (Persero) and the minimum value is 2,00000 owned by Bank JTrust Indonesia Tbk. This research uses panel data regression analysis to test and analyze the influence of independent variables, including capital adequacy ratio, non-performing loan, loan loss provision ratio, loan to deposit ratio on the dependent variable, namely return on assets with control variables namely bank size, bank age. The results of this regression equation can be described as follows:

$$ROA = -0.0402 + 0.0186CAR_{it} + -0.2713NPL_{it} + -0.0276LLPR_{it} + 0.0029LDR_{it} + 0.0027SIZE_{it} + 0.000047AGE_{it} + e$$

The T test is carried out in stages to measure whether the independent variables (capital adequacy ratio, non-performing loan, loan loss provision ratio, loan to deposit ratio) have an influence on the dependent variable (return on assets) with the control variables (bank size, bank age). The capital adequacy ratio variable has a value of Prob. is $0.0022 < 0.05$ and the coefficient is 0.018561, then the capital adequacy ratio has an effect on return on assets. H0 is rejected. The variable non-performing loan has a value of Prob. is $0.0000 < 0.05$ and the coefficient is -0.27127, then non-performing loans have a negative influence on return on assets. H0 is rejected. The variable loan loss provision ratio has a value of Prob. is $0.3863 \geq 0.05$ and the coefficient is -0.027577, then the loan loss provision ratio has no effect on return on assets. H0 failed to be rejected. The variable loan to deposit ratio has a value of Prob. is $0.4325 \geq 0.05$ and the coefficient is 0.002898, then the loan to

deposit ratio has no effect on return on assets. H₀ failed to be rejected. The bank size variable has the value Prob. is $0.0066 < 0.05$ and the coefficient is 0.002746 , then bank size has an effect on return on assets. H₀ is rejected. The bank age variable has the value Prob. is $0.4504 \geq 0.05$ and the coefficient is 0.000047 , then bank age has no effect on Return on Assets. H₀ failed to be rejected.

CONCLUSION

The conclusion of this research on the independent variables used in 27 conventional commercial banks listed on the Indonesia Stock Exchange for six years (2017–2022) reached the conclusion, Capital adequacy ratio has a positive effect on profitability, non-performing loans have a negative effect on profitability, Loan loss provision ratio has no effect on profitability, Loan to deposit ratio has no effect on profitability. Based on the results of the regression test, this research shows that the capital adequacy ratio has an influence on ROA. The higher the capital adequacy ratio, the better the bank's ability to cover the decline in assets due to losses due to credit risk. shows that capital adequacy has no positive effect on ROA. Banks with good management pay attention to capital adequacy in bearing the risk of any risky credit/productive assets. Banks will not experience losses if risk management manages credit risk well. If the bank has high capital adequacy and good risk management then the bank will not suffer huge losses. Non-performing loans have no effect or have a negative effect on ROA. The higher the non-performing loan, the greater the risk of credit failure which can result in a decrease in the company's profitability. Non-performing loans have no effect on ROA if risk management manages the credit provided well so that debtors who do not meet the bank's evaluation will be rejected and the bank will only accept assessed debtors. able to pay its obligations so that the risk of credit failure decreases and increases profitability. Loan loss provisions have no influence on ROA.

Banks with good management provide lower provisions for credit losses. Banks that pay attention to credit risk management will produce lower credit loss reserves because they have a lower credit failure/bad credit rate. Loan to deposit ratio has no influence on ROA. The loan to deposit ratio measures how much the bank has used third party funding sources to finance illiquid assets such as credit. A high loan to deposit ratio increases credit risk because it is vulnerable to credit failure/bad credit, especially if there is instability in economic conditions or changes in market conditions. According to research findings, there are several limitations, namely, only 27 conventional commercial banks listed on the Indonesia Stock Exchange for the 6-year period 2017 - 2022 were used as samples for this research, the independent variables used in this research were only capital adequacy ratio, non-performing loans, loan loss provision ratio, loan to deposit ratio.

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