THE EFFECT OF CAR AND NPL ON ROA IN BANKING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE 2019-2022 PERIOD

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DOI: https://doi.org/10.56293/IJMSSSR.2022.4667

IJMSSSR 2023
VOLUME 5
ISSUE 4 JULY – AUGUST **ISSN: 2582 - 0265**

Abstract: The purpose of this study is to analyze the degree of impact of Capital Adequacy Ratio (CAR) and Non Performing Loans (NPL) on the Return on Assets (ROA) of Indonesian Stock Exchange listed banking companies for the period 2029-2022. The research method used in thus study is a quantitative survey with a descriptive approach. Through statistical tests performed using SPSS software, several data test including descriptive test and classical assumption tests consisting of tests for normality, multicollinearity, heteroskedasticity, and autocorrelation are perfor**med**. Executed the analyses used in this study are multiple regression analysis, t-test, F-test, and determinant coefficient test (R2). The study results show that CAR and NPL have no partial effect on ROA. But at the same time, CAR and NPL have a significant positive impact on ROA.

Keywords: Capital Adequacy Ratio (CAR); Non Performing Loan (NPL); Return on Assets (ROA

INTRODUCTION

The financial services industry, especially the banking sector, plays a significant role in a country's economy by providing financial services to the public and contributing to economic growth. The sustainability and success of the banking industry is closely linked to the financial performance of the industry. In this context, factors such as capital and asset quality are of primary concern in measuring the financial performance of the financial industry.

Capital Adequacy Ratio (CAR) describes the indicators used to measure the level of capital adequacy of the banking industry in facing the risks that may occur. CAR is the capital that must be provided by the banking industry to cover potential losses and maintain the trust of customers and shareholders.

At the same time, Non Performing Loan (NPL) is also a crucial factor in the performance of the banking industry. High levels of NPLs may indicate high credit risk, potentially affecting the profitability and stability of the banking industry. In this context, this research aims to examine the effect of CAR and NPL on ROA in the banking industry listed on the Indonesia Stock Exchange for the period 2019-2022.

The results of this research are expected to share valuable knowledge for banking industry management in managing credit risk and maintaining adequate capital levels. This assessment method will involve collecting financial data of banking companies listed on the Indonesia Stock Exchange during the 2019-2022 period. The collected data will be analyzed using statistical methods to test the relationship between CAR and NPL to ROA. In addition, control factors such as firm size, liquidity and operational efficiency will also be considered in this analysis.

In a better understanding of the effect of CAR and NP on ROA in banking companies, it is expected that this study will contribute to the academic literature and can be used as a basis for better decision making in managing risk and improving the financial performance of banking companies. The background of the author taking the title of the effect of CAR and NPL on ROA in banking companies listed on the Indonesia Stock Exchange for the period 2019-2022, among others:

1. That the financial industry, especially the banking sector, plays an important role in maintaining the stability of a country's financial system. Therefore, understanding the effect of capital and non-performing loans on the financial performance of companies in the financial industry can provide insight into the stability of the financial sector as a whole;

2. Financial performance is an important indicator to assess the operational and financial success of a company. In the financial industry, capital and credit risk have a significant role in determining financial performance. Therefore, this study can provide insight into the factors that influence the financial results of companies in this sector;

3. That this study can provide valuable information for regulators and policy makers. The results of this study are used to understand the impact of existing regulations or to formulate policies that are more effective in managing risk and maintaining financial stability in the banking sector;

4. For investors and financial analysis can provide relevant information in the investment decision-making process. Knowledge of the factors that affect the financial performance of companies in the banking industry can help investors to identify financially healthier companies and manage their investment risks better.

Caital Adequacy Ratio (CAR) is a ratio used to measure the capital adequacy of a bank in the face of risk. CAR is one of the main indictors in evaluating the financial health of banks and is a requirement set by the Financial Services Authority to ensure banking sustainability and stability. CAR is calculated by comparing a bank's core capital with its risk assets. Core capital includes share capital, profit reserves and other reliable and stable capital instruments. Risk types include credit, market, operational, liquidity, compliance, legal, reputation and strategic risks faced by the bank.

The general formula for calculating CAR is:

CAR = (Tier 1 Capital/ATMR) x 100%

Where:

- Core Capital is the amount of capital that is the company's resources that can withstand losses and serves as the main buffer in dealing with risks.
- Risk Weighted Assets is the total amount of the company's assets weighted by risk factors, where various types of assets are given different risk weights with the associated risk level.

CAR requirements set by supervisory authorities may vary from country to country. Generally, the supervisory authority has a minimum CAR requirement that must be met by banks. The minimum requirement aims to ensure that the bank has sufficient capital to bear the risks that may arise from its operational activities. A high CAR indicates that the bank has strong and adequate capital to bear risks. This gives confidence to customers, shareholders and supervisory authorities in the stability and sustainability of the bank. Conversely, low CAR can be a sign of financial risk and capital inadequacy that can affect the financial health and operational viability of the bank. Supervisory authorities generally conduct regular monitoring of a bank's CAR and may impose corrective actions if a bank's CAR falls below the minimum requirements. Banks are also expected to manage their capital prudently to meet CAR requirements and maintain banking financial stability.

Non Performing Loan (NPL) is a loan that the debtor cannot repay to the lender on time. NPLs occur when the debtor fails or is late in paying the principal and interest installments of the loan according to the payment schedule agreed upon at the beginning. NPL is an important indicator in the banking industry because it can reflect the quality of bank assets and the credit risk faced. The higher the NPL ratio, the greater the risk faced by the bank in terms of the possibility of losses that can arise due to defaulted loans. NPLs can affect bank profitability, liquidity and capitalization, and can affect the reputation and trust of customers in the bank.

In general, banks will make efforts to reduce the level of NPLs, either through active collection of defaulting debtors, loan restructuring, debt sales or through legal settlements if necessary. Effective credit risk prevention and management efforts are also important to reduce the level of NPLs, including careful credit evaluation, monitoring the quality of the loan portfolio and risk diversification through lending to various sectors and customers.

The general formula for bad debts is:

NPL = (Total Non-Productive Loans / Total Loans Provided) x 100%

Where:

- NPL rate is the amount of unproductive debt
- Total credit provided is the total amount of loans disbursed to borrowers.

Return on Assets (ROA) is a financial measure used to measure the profitability or efficiency of using the company's assets to generate profits. ROA presents the percentage of net income generated by the company from each unit of assets owned. The higher the ROA, the more efficient the company is in utilizing its assets to generate profits. Conversely, a low ROA indicates low asset utilization efficiency and can identify customer problems in operational management or high risks faced by the company.

The general formula for calculating return on investment (ROA) is:

ROA = (Net Income / Total Assets) x 100%

Where:

- Net income refers to the profit earned by a company after deducting all costs and expenses, including taxes to be paid.
- Total assets are the total assets of the company, including assets that can be easily disbursed (current assets) and assets that have a long term (fixed assets).

RESEARCH METHODS

The author uses a form of quantitative research in conducting his research. According to Soegiono (2011: 8) is an approach that uses scientific methods to measure phenomena or study variables by collecting data that can be measured and analyzed statistically. When conducting research on many populations or samples, we use data collection tools and conduct quantitative or statistical data analysis to test predetermined hypotheses. The survey was conducted on the Indonesia Stock Exchange (IDX) on banking companies for the 2019-2022 period. The IDX was chosen as the place of study and the data is complete and well organized. The research schedule is for 3 months from March to May 2023. The sample according to Soegiono (2011) is the size and characteristics of the population. The population has a specific purpose when collecting samples, because not all samples meet the criteria set by the researcher. Examples of the following categories were used in this study: 1) Banking companies listed on the Indonesia Stock Exchange for the period 2019-2022. 2) Conventional banking companies that publish quarterly financial reports publication position December. 3) Conventional banking companies that use the Rupiah currency in their financial statements. 4) Conventional banking companies that have positive CAR, NPL, and ROA ratios during the 2019-2022 period.

Based on the characteristics of the sample selection according to the researcher's criteria, a sample of 30 banking companies listed on the Indonesia Stock Exchange for the 2019-2022 period was obtained, so that the total company data for research for 4 years was 4 x 30 = 120 data.

The following is a list of company names that meet the following criteria:

Table 1. Companies that became the research sample

NO	KODE	CAR				NPL				ROA			
		2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022
1	AGRO	22,55	20,61	25,28	23,30	1,04	0,80	0,70	0,73	3,50	1,98	2,72	3,76
2	BABP	15,16	15,75	24,31	23,62	3,57	3,63	2,81	2,21	0,27	0,15	0,18	1,04
3	BACA	12,67	18,11	40,52	53,77	1,80	0,00	0,00	0,00	0,13	0,44	0,22	0,18
4	BBCA	23,80	25,83	25,66	25,77	0,47	0,74	0,78	0,59	4,02	3,32	3,41	3,91
5	BBMD	38,60	47,29	48,12	44,24	0,63	0,75	0,34	0,54	2,72	3,17	4,31	3,97
6	BBNI	19,73	16,78	19,74	19,27	1,25	0,95	0,73	0,49	2,42	0,54	1,43	2,46
7	BBRI	22,55	20,38	25,28	23,30	1,04	0,78	0,70	0,73	3,50	2,07	2,72	3,76
8	BBTN	17,32	19,34	19,14	20,17	2,96	2,06	1,20	1,32	0,13	0,69	0,81	1,02
9	BDMN	24,18	24,98	26,82	26,34	2,00	0,94	0,44	0,23	3,01	1,04	1,18	2,28
10	BGTG	32,84	35,70	67,15	106,10	1,06	2,86	0,68	0,87	0,32	0,10	0,23	0,60
11	BINA	37,41	40,08	53,14	31,12	3,10	0,20	1,64	0,55	0,23	0,51	0,44	1,09
12	BJBR	17,71	17,31	17,78	19,19	0,81	0,41	0,41	0,46	1,68	1,66	1,73	1,75
13	BJTM	21,23	21,64	23,52	24,74	0,71	0,89	0,96	1,01	2,73	1,95	2,05	1,95
14	BMAS	20,19	16,53	13,69	31,55	2,27	1,68	1,40	0,97	1,13	1,09	0,79	1,06
15	BMRI	21,39	19,90	19,60	19,46	0,84	0,43	0,41	0,26	3,03	1,64	2,53	3,30
16	BNBA	23,55	25,80	41,87	59,27	0,70	1,81	2,15	3,23	0,96	0,69	0,74	0,59
17	BNGA	21,47	21,92	22,68	22,19	1,30	1,40	1,17	0,75	1,86	1,06	1,82	2,16
18	BNII	21,42	24,25	26,58	25,66	2,11	2,52	2,82	2,59	1,09	0,82	1,02	0,79
19	BNLI	19,89	35,68	34,94	34,19	1,34	1,04	0,39	0,36	1,30	0,97	0,73	1,10
20	BSIM	17,32	17,29	29,12	24,49	4,33	1,39	1,18	2,49	0,23	0,30	0,34	0,54
21	BTPN	23,51	25,19	24,96	25,94	0,45	0,53	0,39	0,45	1,29	1,01	1,41	1,52
22	BTPS	44,57	49,44	58,10	52,05	1,36	0,02	0,18	0,34	13,58	7,16	10,72	11,36
23	MASB	16,45	19,90	26,42	28,52	2,94	1,90	0,51	1,05	1,28	0,83	1,19	1,86
24	MAYA	16,18	15,45	14,37	11,13	1,63	1,60	2,17	3,36	0,78	0,12	0,07	0,04
25	MCOR	17,40	35,28	37,96	32,73	1,64	1,92	2,45	0,93	0,71	0,29	0,41	0,69
26	MEGA	22,79	31,04	27,30	25,41	1,27	1,07	0,81	0,91	2,47	3,64	4,22	4,00
27	NISP	19,10	21,98	22,94	21,39	0,78	0,79	0,91	0,96	2,22	1,47	1,55	1,86
28	NOBU	21,56	22,02	20,91	18,54	2,07	0,17	0,38	0,33	0,52	0,57	0,54	0,64
29	PNBN	24,07	29,58	29,86	30,07	0,97	0,66	0,95	0,92	2,09	1,91	1,35	1,91
30	SDRA	20,02	19,99	24,48	23,66	1,18	0,55	0,56	0,74	1,18	1,84	2,00	2,33

The type of quantitative data used in the study is secondary data taken from quarterly published financial reports for the 2019-2022 period published on the website of banking companies and already listed on the Indonesia Stock Exchange. Banking company samples were obtained from the Indonesia Stock Exchange www.idx.co.id. The technique used to analyze the effect of the relationship between the dependent and independent variables. Data processing using the SPSS version 25 program.

RESULTS AND DISCUSSION

Table 2. Descriptive Statistical Analysis Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CAR	120	11.13	106.10	27.1004	12.72880
NPL	120	.00	4,33	1.1892	.89181
ROA	120	.04	13.58	1.8316	2.03819
Valid N (listwise)	120				

Based on table 2, 120 data were analyzed with descriptive statistics. The CAR variable has an average of 27.1004 and a standard deviation of 12.72880. Banks with the code BNII have a minimum value of 11.13 in 2022 and a maximum value of 106.10 at Banks with the code BGTG in 2022. The NPL variable has an average of 1.1892 and a standard deviation of 0.89181. Banks with the code BACA have a minimum value of 0.00 for 2020-2022 and a maximum value of 4.33 for Banks with the code BSIM in 2019. The ROA variable has an average of 1.18316 and a standard deviation of 2.03819. Banks with the MAYA code have a minimum value of 0.04 in 2022 and a maximum value of 13.58 for Banks with the BTPS code in 2019.

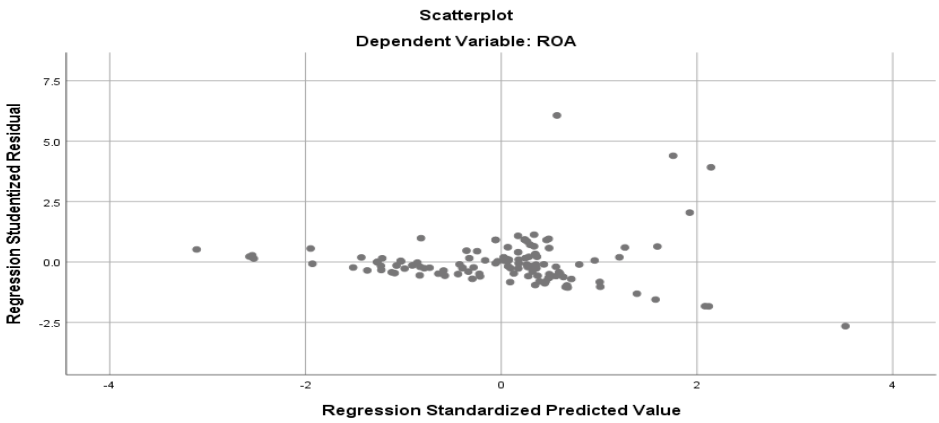
Table 3. Normality Test Results One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		120
Normal Paramaters[a,b]	Mean Std. Deviaton	.0000000 1.87015350
Most Extreme Differences	Absolute Positive Negative	.181 .181 -.115
Test Statistic		.181
Asymp.Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

The results of the One sample Kolmogorov Smirnov normality test using non-normalized residual values from the table above show the Asymp sign value (two tails)> 0.05 (significant at α = 0.05). Therefore it can be concluded that the data passes the normality test, this indicates that the sample data used in this study is normally distributed.

Table 4. Hetersokedasticity Test Resul



The heteroscedasticity test results show that there is no clear pattern to the dots. This indicates that the regression model has no symptoms of heteroscedasticity. This means that there is no real interference in the regression model.

The heteroscedasticity test results show that there is no clear pattern to the dots. This indicates that the regression model has no symptoms of heteroscedasticity. This means that there is no pattern that converges on one particular point.

Table 5. F Test Results

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	78.154	2	39.077	10.985	.000[b]
	Residual	416.199	117	3.557		
	Total	494.353	119			

a. Dependent Variable

b. Predictors: (Constant), NPL, CAR

Based on the results of the statistical test, the F test obtained an fcount value of 10.985, while ftabel with a positive significance of 0.95, df = 2, fcount> ftabel and a significance of 0.03 <0.05 so that H3 is accepted, with the conclusion that the significance level is less than 0.05. This shows that the NPL and CAR variables have a positive and significant effect on ROA.

Table 6. Multicollinearity Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistic	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.762	.503		3.503	.001		
	CAR	.033	.014	.208	2.413	.017	.972	1.029
	NPL	-.699	.197	-.306	-3.557	0.001	.972	1.029

a. Dependent Variable: RO

Based on table 6 above, it shows that VIF for all variables is less than 10 and tolerance is greater than 0.10 so there is no evidence of multicollinearity. The CAR variable shows a beta coefficient of 0.033 with a significance value of 0.017 <0.05. From this it can be concluded that CAR has no effect on ROA. Beta coefficient of NPL variable is -0.699 with a significance value of 0.001 <0.05. Thus, it is concluded that NPL does not affect ROA.

CONCLUSIONS

A total of 120 sample data were declared valid according to descriptive statistical tests. Based on the multicollinearity test, it is proven that there are no multicollinearity symptoms in all variables. The t test results of CAR and NPL variables have no effect on ROA. The F test results show that the CAR and NPL variables have a significant positive effect on ROA. The heteroscedasticity test results show that there is no clear pattern for the dots. This indicates that the regression model does not have symptoms of heteroscedasticity. This means that there is no real interference in the regression model. The KoImogorov-Smirnov one-sample T-test results show that the data passed the normality test. This means that the sample data used in this study is normally distributed.

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