ANALYSIS OF THE EFFECT OF CAPITAL ADEQUACY RATIO AND NON-PERFORMING LOANS ON RETURN ON ASSETS IN 4 STATE-OWNED BANKS LISTED ON THE IDX FOR THE 2017-2021 PERIOD

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Abstract: One indicator of banking financial performance can be seen through Return on Assets (ROA). This is because ROA is used to measure the effectiveness of a company in generating profits by utilizing its assets. Financial ratios such as Capital Adequacy Ratio (CAR) and Non Performing Loans (NPL) help industrial banking to evaluate and assess the soundness of a bank. This study aims to analyze the effect of Capital Adequacy Ratio (CAR) and Non-Performing Loan (NPL) on Return on Assets (ROA) in 4 state-owned banks listed on the Indonesia Stock Exchange for the period 2017-2021. The type of data used in this study is secondary data obtained from the annual financial statements of banks published on the Indonesia Stock Exchange for the period 2017-2021. The sampling technique in this study used purposive sampling with 3 criteria and the sample in this study amounted to 4 banks. The analytical method used is quantitative, processed using SPSS 25. The results show that partially the Capital Adequacy Ratio (CAR) variable has a significant positive effect on Return on Assets (ROA), while the Non-Performing Loan (NPL) variable has no significant effect to Return on Assets (ROA).

Keywords: Capital Adequacy Ratio; Non-Performing Loan; Return on Assets

INTRODUCTION

Nowadays banking in Indonesia is developing very rapidly. The number of banks listed on the IDX is 46 banks, including state-owned banks. The existence of a state-owned bank in Indonesia plays an important role in the modern economic system, especially in the economy of Indonesia. According to the Law of the Republic of Indonesia No. 19 of 2003, a state-owned bank is a banking business entity whose entire or most of its capital is owned by the state through direct participation derived from segregated state assets. Being a government-owned bank, it is finally very easy to form a perspective in the community that state-owned banks are a safe enough place to carry out financial transactions because they involve the government in them.

One of the indicators of banking financial work can be seen through the Return on Asset (ROA). This is because ROA is used to measure the effectiveness of a company in making a profit by utilizing its assets. The greater the ROA of a bank, the greater the level of profit achieved by the bank, on the other hand, if the ROA of a bank is low, it shows that bank management is not necessarily efficient in managing bank assets to make a profit (Hayes, 2020).

There is generally a level of banking health referring to several variables that are promulgated in various banking financial ratios. Financial ratios such as Capital Adequacy Ratio (CAR) and Non-Performing Loan (NPL) help the banking industry evaluate and assess the level of health of banks. CAR, which is a capital adequacy ratio that functions to accommodate the risk of loss that is likely to be faced by banks, where the higher the CAR, the better the bank's ability to bear the risks of any risky productive loans/assets (Abdurrohman et al., 2020). Meanwhile, NPL, which is one of the measurements of the bank's business risk ratio, shows the magnitude of the risk of non-performing loans in a bank. The problem is caused by the inefficiency of direct payment

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of the principal and interest which can degrade the bank's performance and cause the bank to be inefficient. (Bioshop, 2018).

The high level of complexity can not only affect the performance of a bank but also increase the risks faced by the bank. Rupiah depreciation and an increase in the SBI interest rate may also lead to an increase in non-performing loans in the banking industry. Weak internal bank conditions such as insufficient or even inadequate management capabilities, credit provisions that do not meet the stipulated conditions, and capital that cannot cover the overall risks that must be faced by the bank can also cause the bank's performance to decline (Cahyaningtyas & Sasanti, 2019).

The bank's work is also reflected in its level of profitability which continues to increase over time, as well as the reduction of non-performing loans so that the bank can carry out its overall functions properly. However, this condition has not occurred in state-owned banks listed on the Indonesia Stock Exchange in the last five years as of 2017-2021. This is because in that period CAR, NPL, and ROA have a fairly volatile r value or in other words the company's unstable condition in maintaining health as a bank SOEs as illustrated in Table 1. Moreover, the Covid-19 pandemic that hit is also alleged to have contributed to worsening the condition of banking performance around the world.

Table 1. ROA, CAR, and NPL values of state-owned banks

Year	ROA (%)	CAR (%)	NPL (%)
2017	2,71	20,49	2,61
2018	2,74	19,72	2,41
2019	2,27	20,24	2,92
2020	1,21	19,05	3,71
2021	1,80	20,93	3,43

Source: Processed data (2022)

Current banking companies, especially state-owned banks, are in great demand by investors due to the large ownership of assets owned by state-owned banks even though current banking companies are also experiencing many risks in the management of publicly owned funds that will be turned back in the form of credit or investment, causing significant fluctuations in financial statements. Therefore, this research becomes very interesting to be studied to find out the performance of SOE banks in terms of the ROA value and the variables that affect it including CAR and NPL there are STATE-OWNED Banks Listed on the IDX for the 2017-2021 Period.

METHODS

This research method uses a descriptive and verificative method with a quantitative approach to determine the effect of return on assets and the ratio of debt to capital to company value. Quantitative research according to Sugiyono (2017) is a research method based on the philosophy of positivism, as a scientific or scientific method because it has fulfilled scientific principles concretely or empirically, objectively, measurably, rationally, and systematically. The quantitative approach used in this study is descriptive and verificative data analysis using classical assumptions including normality, autocorrelation, multicollinearity, heteroskedasticity, and hypothesis testing with multiple linear regression analyses. Data processing of this study using SPPS 25.

This study used secondary data in the form of company financial statements. The secondary source used is the financial statements of SOEs that have been registered on the IDX for the 2017-2021 period. The population of this study is state-owned enterprise banks that have been listed on the Indonesia Stock Exchange which have been listed since the date of IPO –20 21, with a total population of 4 companies and a sample of 20

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pieces. The samples in this study were taken by purposive sampling, meaning that the samples were taken with certain criteria as follows: (1) State-owned banking companies that have been registered on the IDX for the 2017-2021 period; (2) Mhas complete and mainly necessary data in the financial statements; (3) The published Financial Statements have been audited.

The methods used in this study are descriptive and verifiable methods with quantifiable methods. Using this research method, a significant relationship will be known between the variables studied so that the conclusions that will clarify the picture of the object under study will be known. The variables in this study consist of two independent variables (X) and one dependent variable (Y). The independent variables in this study are Capital Adequacy Ratio (X_1) and Non-Performing Loan (X_2). While the dependent variable is Return on Asset (Y).

RESULTS AND DISCUSSION

Table 2. Descriptive Test Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CAR	20	16,80	25,28	20,0865	2,02555
NPL	20	,41	2,96	1,0880	,61594
ROA	20	,13	3,69	2,1570	1,08487
Valid N (listwise)	20				

Source: Processed data (2022)

Table 2 above shows 20 financial data from 4 state-owned banks that were sampled for 4 periods, namely 2017-2021 which were listed on the Indonesia Stock Exchange. The average value of Return on Assets (ROA) was 2.1570 while Capital Adequacy Ratio (CAR) was 20.0865 and Non-Performing Loan (NPL) was 1.0880.
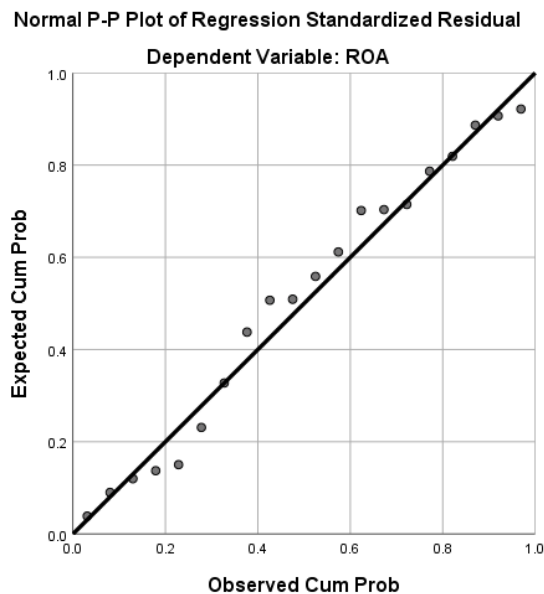

Figure 1. Normality Test Results
Source: Processed data (2022)

From the results of the normality test using the Normal P-Plot of Regression Standardized seen in Figure 1 above, it is known that the points spread out and follow diagonal lines so that it can be concluded that the regression model meets the assumption of normality.
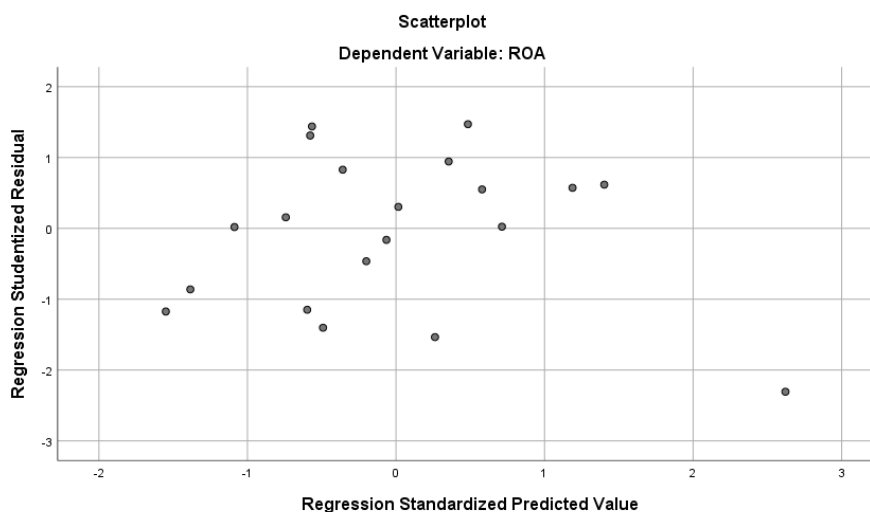

Figure 2. Heteroscedasticity Test Results
Source: Processed data (2022)

From the results of the heteroskedasticity test using the scatterplot seen in Figure 2, it is known that scatterplots form points that spread randomly not forming a specific pattern, and are above and below point 0 on the Y axis so that the regression model does not contain heteroskedasticity.

Table 3. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.704[a]	.496	.437	.81430	.496	8.362	2	17	.003	1.313

a. Predictors: (Constant), CAR, NPL

b. Dependent Variable: ROA

Source: Processed data (2022)

Based on the results of the autocorrelation test using the Durbin-Watson test as shown in Table 3. it is known that the Durbin-Watson value obtained was 1,313 with the sum of data n=20 and the number of independent variables k=2. Dw value is between the value of -2 to 2, so in the decision-making, on the Durbin-Watson test, there are no problems or symptoms of autocorrelation in the VARIABLES CAR, NPL, and ROA.

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Table 4. Multicollinearity Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-5.977	2.092		-2.857	.011		
	NPL	.002	.003	.133	.702	.492	.831	1.203
	CAR	.401	.101	.748	3.962	.001	.831	1.203
	Dependent Variable: ROA							

Source: Processed data (2022)

Based on the results of the multicollinearity test seen in Table 4. it is known that the magnitude of the tolerance value of the independent variable CAR and NPL is 0.831, while the value of the variance Influence Factor (VIF) independent car and NPL is 1.203. This is in accordance with the established provisions, which means that the model used in the study is free from multicollinearity so that variables can be used in the study.

Table 5. Multiple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-3,061	1,984		-1,542	,141
	CAR	,294	,091	,549	3,238	,005
	NPL	-,634	,299	-,360	-2,123	,049
a. Dependent Variable: ROA						

Source: Processed data (2022)

Based on the results of multiple linear regression tests in Table 5. an equation is obtained that explains the presence or absence of relationships between independent variables and dependent variables as follows:

ROA = -3.061 + 0.294 CAR - 0.634 NPL + e

Based on the equation above, a constant coefficient value of -3,061 is obtained, meaning that if the variables CAR (X_1) and NPL (X_2) are constant or the value is zero (0) then the ROA (Y) value will decrease by -3,061. From the test results, the coefficient of the variable CAR (X_1) has a value of 0.294 which means that CAR (X_1) and ROA (Y) have a positive relationship. This value means that with every increase in the CAR variable (X_1) by 1%, then the ROA (Y) of the bank will increase by 0. 294. While the variable NPL coefficient (X_2) has a value of -0.634. The value means that the relationship between NPL (X_2) and ROA (Y) is negative. If there is an increase in the variable NPL (X_2) by 1%, the ROA (Y) of the banking industry will decrease by -0.634.

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Table 6. Partial Determination Coefficient Test Results

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Correlations		
	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1 (Constant)	-3,061	1,984		-1,542	,141			
CAR	,294	,091	,549	3,238	,005	,694	,618	,503
NPL	-,634	,299	-,360	-2,123	,049	-,581	-,458	-,330
a. Dependent Variable: ROA								

Source: Processed data (2022)

The results of the partial coefficient of determination test produce the coefficient values for the VARIABLES CAR and NPL as follows:

KD = 0.549 x 0.694 x 100% = 38.10%
KD = -0.360 x -0.581 x 100% = 20.91%

Based on table 6 above, the value of the coefficient of determination (KD) for the CAR variable is obtained from the Beta value of 0.549 multiplied by the zero-order value of 0.459 and then multiplied by 100% so that the result is 38.10%. Meanwhile, the value of the coefficient of determination (KD) for the NPL variable is obtained from the Beta value of -0.360 multiplied by the zero-order value of -0.5 81 and then multiplied by 100% so that the result is 20.91%.

Table 7. The Results of the Analysis of the Coefficient of Determination (R^2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	,768[a]	,590	,542	,73437	,590	12,232	2	17	,001

a. Predictors: (Constant), NPL, CAR
b. Dependent Variable: ROA

Source: Processed data (2022)

Based on table 7 above, the value of determination (R^2) is indicated in the column R Square, and the coefficient of determination is 0.542. This explains that the Return On Assets (ROA) variable can be influenced by Non-Performing Loan (NPL) and Capital Adequacy Ratio (CAR) of 54.2% while the remaining 45.8% are influenced by other factors that are not included in this study. Return on Assets itself is one of the ratios used to determine the rate of return to investors by comparing net profit and total assets owned by the company (Charisma et al., 2021)

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Table 8. Partial T-Test Results

Coefficients[a]

Model	B	Std. Error	Beta	t	Sig.
		Unstandardized Coefficients	Standardized Coefficients		
1 (Constant)	-3,061	1,984		-1,542	,141
CAR	,294	,091	,549	3,238	,005
NPL	-,634	,299	-,360	-2,123	,049
a. Dependent Variable: ROA					

Source: Processed data (2022)

Based on Table 8. from the results of the t-test, it is obtained that the Capital Adequacy Ratio has a calculated t of 3.238 with a significance value of 0.005 and Non-Performing Loan has a calculated t of -2,123 with a significance value of 0.0 49. The value will be compared with the table's t value with alpha ($\alpha = 0.05$). The T-value of the table n-k = 20 – 3 = 17 so the value of t_{table} i.e., 2,110.

The value of t calculates the variable CAR 3. 238 is greater than the table t-value of 2.110 (3.238 > 2.110), with a significant value of 0.005 smaller than 0.05 (0.001 < 0.05) meaning that the Capital Adequacy Ratio (CAR) is partially significantly influential on Return on Assets (ROA). Thus, H_0 is rejected and Hα is accepted.

The calculated t-value of the NPL variable -2.123 is smaller than the table t-value of 2.110 (-2.123 < 2.110), with a significant value of 0. 049 is less than 0.05 (0. 049 > 0.05) means that Non-Performing Loan (NPL) are partially significantly non-beneficial to Return on Assets (ROA). Thus, $H_{0\ is}$ accepted and Hα is rejected.

Table 9. F Test Results of CAR and NPL against ROA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13,194	2	6,597	12,232	,001[b]
	Residual	9,168	17	,539		
	Total	22,362	19			
a. Dependent Variable: ROA						
b. Predictors: (Constant), NPL, CAR						

Source: Processed data (2022)

Based on table 9 above, it is known that F calculates 12,232 > F_{table} 3.59 with the significance level of Capital Adequacy Ratio (CAR) and Non-Performing Loan (NPL) of 0.001 < 0.05, it can be concluded that H_0 is rejected and Hα is accepted meaning Capital Adequacy Ratio (CAR) and Non-Performing Loan (NPL) simultaneously, fish f affects the Return On Assets (ROA). This is in line with the theory proposed by Hayes (2020) that the factors that affect financial performance are five aspects of assessment, namely CAMEL. (Capital, Asset, Management, Earning, Liquidity). The results of this study also support previous research conducted by Cipta et al. (2020) which stated that CAR and NPL had a significant effect on ROA.

Capital Adequacy Ratio (CAR)

Based on the results of the study, the maximum value of the Capital Adequacy Ratio (CAR) is 25.28 which was achieved in 2021. Nilai CAR is owned by PT. Bank Rakyat Indonesia, despite the constraints of the pandemic, BRI is still able to anticipate

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the risk of loss and maintain sustainable growth while the minimum car value is owned by PT. Bank Tabungan Negara of 18. 57 in 2020 due to a decrease in net profit for credit reserves. However, overall, the CAR at state-owned banks in Indonesia for the 2017-2021 period is in accordance with the provisions of Bank Indonesia (BI) regulations which state that a good CAR has a minimum value of 12%.

Non-Performing Loan (NPL)
The maximum non-performing loan (NPL) value of 29.6 is owned by PT. Bank Tabungan Negara in 2019; condition at that time BTN disbursed low-quality loans (loans at risk), especially in the high-risk commercial segment or apartments that had been repeatedly restructured due to slowing apartment sales. The minimum NPL value of 0.7 was owned by PT. Bank Rakyat Indonesia in 2021, where in that year, BRI's credit reserve ability was adequate so that reserves could be recorded into profit, besides that there was a significant decrease in the growth of collectibility in doubt. This indicates that overall NPL at state-owned banks in Indonesia are healthy in the 2017-2021 period and have met the provisions of the Decree of the Board of Directors of Bank Indonesia which has set the NPL value in the range between 0% - 10.53%.

Return On Asset (ROA)
The highest Return on the Asset value of 3.69 is owned by PT. Bank Rakyat Indonesia in 2017, this is because the company's assets and profits grew significantly. The minimum ROA value is owned by PT. Bank Tabungan Negara in 2019 with a value of 0. 13 which resulted from a decrease in profit before tax performance as a result of the imposition of A considerable impairment loss reserve cost (CKPN). However, the overall ROA of state-owned banks in Indonesia is relatively healthy in the 2017-2021 period and has complied with the provisions of the Board of Directors Decree in accordance with the provisions of Bank Indonesia (BI) regulations related to the minimum ROA limit of 1.5%.

CONCLUSION
CAR is a bank performance ratio to measure the adequacy of capital owned by banks to support assets that contain or generate risk. Based on the test results, the car coefficient of determination on ROA has an effect of 38.1 0%. The value of CAR can decrease if the amount of capital owned by the company decreases, and vice versa. NPL is a ratio to measure the ability of bank management to cope with non-performing loans because customers are unable to pay part or all of their obligations. The higher this ratio, the worse the bank's credit quality will cause the number of non-performing loans to be greater, and the greater the probability of a bank being in a problematic condition. Based on the test results, the NPL coefficient of determination on ROA has an effect of 20.91%. ROA is a ratio that measures the ability of bank management to generate profits obtained from assets owned by the bank. Based on the test results, the value of the coefficient of determination (R^2) is 0. 542. This value can be seen that CAR and NPL can influence or explain the ROA variable simultaneously by 54.2% the remaining 45.8% is influenced by other factors that are not available in this study.

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