

## **The Influence of Capital Adequacy Ratio and Non Performing Loan on Return On Asset**

Elsa Thyovani<sup>1)</sup>

[1810631030177@student.unsika.ac.id](mailto:1810631030177@student.unsika.ac.id)

Gusganda Suria Manda<sup>2)</sup>

[gusgandasuria.manda@unsika.ac.id](mailto:gusgandasuria.manda@unsika.ac.id)

<sup>1) 2)</sup> **Fakultas Ekonomi Universitas Singaperbangsa Karawang**

### **ABSTRACT**

Bank performance can be measured using Return On Assets as a measuring tool for a company in achieving profitability in the form of assets owned by the company. This study aims to determine the effect of the ratio of capital adequacy and non-performing loans on return on assets. The population of this study are several banking companies listed on the IDX in the 3 year observation period (2017-2019). This study took samples taken using purposive sampling method. Based on the results of multiple linear regression analysis which shows that the capital adequacy ratio has a positive and significant effect on asset returns, meanwhile non-performing loans have a negative and insignificant effect on asset returns.

Keywords: Capital Adequacy Ratio, Non Performing Loan, Return On Asset

## PRELIMINARY

The banking sector is a major factor in the Indonesian economy because banking is one of the depositing financial institutions that has the role of collecting funds from the public and mobilizing the public by channeling funds back to the public for the purpose of meeting capital needs or investment activities for fund owners. The advantages of banking can be influenced by several factors, including the presence and absence of capita credit distribution, while several factors that hamper banking profits are the public's interest in saving and the distance from the bank's location.

Based on Act No. 10 of 1998 about banking states that a bank is a business substance that gathers assets from people in the form of debits and distributes funds to the public in the form of credit and or other forms in order to improve the standard of living of the community. The optimal role of banking can be achieved if the bank meets health standards as stipulated by Bank Indonesia in Bank Indonesia Regulation No.13 / 1 / PBI / 2011. Chapter III Articles 6 and 7 of Bank Indonesia Regulation No.13 / 1 / PBI / 2011 outlines that an assessment of the soundness of an individual bank includes an assessment of risk profile, Good Corporate Governance (GCG), profitability, and capital.

## LITERATURE REVIEW

Credit risk management has been profoundly examined in Basle II. Basle II has created and conceived suitable techniques to manage risk rising up out of the credit arrangement of the monetary institutions. (Hardanto,2006) credit risk is the risk of loss associated with the opportunity to fail to meet obligations at maturity. In other words, credit risk is the risk because the borrower does not pay.

Credit risk is the dissemination of monetary misfortunes because of a startling change in the credit nature of the counterparty in a monetary arrangement. By evaluating the underlying data approach, a reduced and incomplete form for estimating the probability of co-default and the price of credit sensitive securities. According to Hardanto (2006), credit risk is the risk of loss associated with the opportunity to fail to meet obligations at maturity. In other words, credit risk is the risk because the borrower does not pay.

### **Capital Adequacy Ratio (CAR)**

(Dendawijaya, 2009) CAR is a ratio that shows how much of a bank's assets are contain an element of risk (credit, investment, securities, claims on other banks) which are also financed from the bank's own capital, in addition to obtaining funds from sources. - source outside the bank.

CAR Ratio Formula:

$$CAR = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk Weighted Assets}}$$

### **NPL (Non Performing Loan)**

The Non-Performing Loan ratio is the amount between loans with a collectability level of 3 to 5 and the amount of credit extended by the bank. The higher the NPL level indicates that the bank is less professional in credit management, and is also an indication that the risk of lending to banks is quite high in line with the high NPL in the banking system. This ratio can be formulated as follows. (Dendawijaya 2005) banks in Indonesia generally face the following problems: First, NPL, namely the amount of non-borrowing, for example credit jammed.

NPL Ratio Formula:

$$NPL \text{ Ratio} = \frac{\text{Total NPL}}{\text{Total Kredit}} \times 100\%$$

### **ROA (Return on Asset)**

(Kasmir, 2010) Return on Assets or ROA is a proportion that shows the outcomes (return) on the absolute resources utilized in the organization. This proportion is likewise a proportion of the board adequacy in dealing with its speculation. The more modest (lower) the proportion of ROA, the less great as well as the other way around.

In the banking industry, to determine the achievement of profitability and to assess the health of a bank, the Return on Asset (ROA) indicator can be used. Profitability can be assessed using the financial ratio Return on Assets (ROA).

Assessment of the level of profit using ROA is more effective because it uses a comparison between profit before tax and total assets owned by the bank. If the ROA is greater, the return of the bank in using all its assets will be said to be effective and optimal. Optimal profitability can be achieved by conducting bank activities, namely channeling credit. The economic condition of a country will affect the risk of banks in channeling credit. Changes in macroeconomic conditions can affect the ability of debtors to pay credit installments to banks. The level of competition in an industry that is getting higher due to the era of globalization which is supported by technological advances can also change the position of a company's competitive advantage which in turn will affect the company's ability as a debtor to pay installments at the bank.

ROA Ratio Formula:

$$ROA = \frac{\text{Net Profit}}{\text{Total Activa}} \times 100\%$$

## RESEARCH METHODS AND MATERIALS

### Data

The kind of information utilized in this exploration is quantitative information as quarterly monetary reports banks recorded on the Indonesia Stock Exchange 2017-2019. In view of the source, the information utilized in this review are optional information and the information hotspot for this exploration was gotten from the site [www.idx.co.id](http://www.idx.co.id).

The populace in this review were each of the three banks recorded on the Indonesia Stock Exchange,, namely Bank Mandiri, Bank BRI and Bank BNI. Based on the determined criteria, the number of banking companies that met the criteria as a sample was 3 banking companies with amount of data as many as 36 units in the observation period in 2017-2019.

### Operazionalitaton of Variable

This investigation is handled utilizing the SPSS 26 program with the examination factors utilized in this review there are 2 sorts, to be specific the free factors utilized in this review there are 2 sorts, to be specific the free factors utilized in this research are Non Performing Loan (X1), Capital Adequcy Ration (X2) and autonomous factors estimated by Return On Asset (Y)

## RESULTS AND DISCUSSION

### Descriptive statistical test

The outcomes of the descriptive statistical analysis are shown in Table 1, shows that the amount of data used in this cases as many as 36 units of analysis. The amount represents the total for 3 years of observation n from 2017 to 2019. Results of analysis output descriptive table describes the variables research as a whole.

**Table 1.**

#### The results of descriptive statistical

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
CAR	36	17,46	22,96	20,5214	1,49202
NPL	36	1,75	3,95	2,5986	,57275
ROA	36	2,38	3,69	3,0144	,37479
Valid N (listwise)	36				

Sumber : Hasil Pengolahan Data SPSS 25

### Statistic analysis

#### Normality Test

Normality test is test that is completed fully intent on surveying the dissemination of information in a gathering of information or factors, whether or not the information conveyance is typically appropriated. A relapse model is said to have typical or close to ordinary information n if the coefficient of Asymp.sig (2-tailed) is more noteworthy than  $= 0.05$ . The consequences of the normality test with the Kolmogorov Smirnov test acquired is 0.200. In this way, that the information to be examined is regularly circulated.

**Table 1.**  
**Normality Test**

**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		36
Normal Parameters <sup>a,b</sup>	Mean	,0000000
	Std. Deviation	,24797396
Most Extreme Differences	Absolute	,110
	Positive	,075
	Negative	-,110
Test Statistic		,110
Asymp. Sig. (2-tailed)		,200 <sup>c,d</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Sumber : Hasil Pengolahan Data SPSS 25

### Multicollinearity Test

This technique is used to decide if a connection is found between the autonomous factors as seen from the resistance worth and fluctuation expansion factor (VIF) with the condition that the VIF esteem is not exactly the number 10 and the resilience number is more than 0.1. In light of the information computations above shows that the autonomous variable is a resilience esteem is 0.864 and a VIF is 1,158, it very well may be reasoned that there is no multicollinearity between independent variables in this regression model.

**Table 3**  
**Multicollinearity Analysis**

Model	Unstandardized Coefficients		Coefficients <sup>a</sup>		t	Sig.	Collinearity Statistics	
	B	Std. Error	Standardized Coefficients	Beta			Tolerance	VIF
	(Constant)	-,130	,596					-,218
CAR	,194	,031	,774		6,246	,000	,864	1,158
NPL	-,325	,081	-,497		-4,013	,000	,864	1,158

a. Dependent Variable: ROA

Sumber : Hasil Pengolahan Data SPSS 25

### Heteroscedacity Test

Heteroscedasticity test is performed to test the regression model which contains the variance inequality of the residuals from one observation to another. One technique that can be utilized to play out the heteroscedasticity test is utilizing the Glejser test. In this technique said that if Asymp. Sig (p value) > 0.05, it very well may be presumed that there is no heteroscedasticity.

Based on the table heteroscedasticity test outcomes show that the significance value of CAR is 0.795 and NPL is 0.923. All independent variables are all above 0.05. So it very well may be presumed that the relapse model doesn't have heteroscedasticity side effects utilized in the research method.

**Table 4.**  
**Heteroscedasticity test**

Model	Coefficients <sup>a</sup>		Standardized Coefficients Beta	t	Sig.
	Unstandardized Coefficients				
	B	Std. Error			
1 (Constant)	,284	,339		,838	,408
CAR	-,005	,018	-,049	-,262	,795
NPL	,005	,046	,018	,098	,923

a. Dependent Variable: RES2

Sumber : Hasil Pengolahan Data SPSS 25

### Autocorrelation Test

The autocorrelation test is performed to detect a correlation between the previous data (t-1) and the data after (t1). A good test model is autocorrelation free. Identification of the presence of autocorrelation in the regression model in this study was conducted by testing the value of the Run Test. This method is used as an alternative if the autocorrelation test results on the Durbin-Watson Test do not lead to definite conclusions.

Considering the table, the consequences of the Runs Test under show that the sig regard is  $0.63 > 0.05$ , which infers that there are no autocorrelation signs in this regression model.

**Table 5.**  
**Autocorrelation test**

### Runs Test

	Unstandardized Residual
Test Value <sup>a</sup>	,05431
Cases < Test Value	18
Cases >= Test Value	18
Total Cases	36
Number of Runs	13
Z	-1,860
Asymp. Sig. (2-tailed)	,063

A . Median



Sumber : Hasil Pengolahan Data SPSS 25

### Multiple Linear Regression Analysis Test

The value of the regression coefficient of the CAR variable is 0.194, which means that each CAR variable increases by 1%, then the ROA will increase by 0.043% during this time in the hope that the various factors are consistent. The value of the relapse coefficient for the NPL variable is -0.325, which means that each NPL variable increases by 1 percent, so the ROA will decrease by 0.325 percent if the other variables are constant.

The model feasibility test was performed with the T test. It is one of the research hypothesis tests to determine whether an independent variable or an independent variable (X) affects a dependent or dependent variable (Y). In determining the T test can be done by comparing the value of t count with the T table.

**Table 6.**  
**Multiple Linear Regression Analysis Test**

Model	Unstandardized Coefficients		Coefficients <sup>a</sup>			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-,130	,596		-,218	,829		
CAR	,194	,031	,774	6,246	,000	,864	1,158
NPL	-,325	,081	-,497	-4,013	,000	,864	1,158

a. Dependent Variable: ROA

Sumber : Hasil Pengolahan Data SPSS 25

Based on the table 6 can be formulated multiple linear regression equation as follows:

$$Y = -130 + 0,194 (X_1) - 0,325 (X_2)$$

### **Hypothesis Testing Results**

Based on the SPSS S output table, we can see that the count value t of the variable CAR is 6.246 > t-table 2.034, so we can conclude that H1 or hypothesis 1 is recognized. This shows that the relationship between the capital adequacy ratio (CAR) positively affects the return on assets (ROA) of bank companies listed on the IDX for the period 2017-2019.

According to the table of SPSS, it tends to see that the t-value of the NPL variable is -4.013 > t table 2.034, so it can be concluded that H2 or the second hypothesis is rejected. This implies that the ratio between Non Performing Loan (NPL) and Capital Asset Ratio (CAR) has a positive and negative direction to Return On Assets (ROA) in banking companies listed on the IDX for the 2017-2019 period.

### **Conclusion**

The ends that can be given dependent on the computations and investigation that have been completed in this study are as follows: Capital Adequacy Ratio (CAR) positively affects Return on Assets (ROA) of banking organizations recorded on the IDX for the 2017-2019 period. The Capital Adequacy Ratio (CAR) shows a high preset, so the higher the profit for banking organizations. Meanwhile, Non Performing loans (NPL) have a negative effect on return on assets (ROA). So it tends to be inferred that the higher the Non Performing Loan (NPL) ratio, the lower the return on assets (ROA) of the banking company, so that to increase the profitability of banking companies, they must reduce the ratio of Net Performing Loans (NPL).

### **Reccomendation**

The suggestions that can be conveyed in this research are based on the calculations and analysis carried out in this study, namely that banking companies must maintain the stability of bank capital levels because this is very important for

banking companies, if the level of capital adequacy (CAR) is high it will have a positive and significant effect on return on assets (ROA) in banking companies. Banking companies need to pay attention to the NPL variable so that it remains at a stable level as determined by Bank Indonesia by managing it properly because the lower the NPL ratio will have an impact on the increase in Return on Assets (ROA). In addition, further researchers are advised to increase the year of observation so that the results obtained can be utilized as a reason for decision making for parties in need.

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