Profitability and Financial Factors on The Indone

by Sri Dewi Anggadini

Profitability and Financial Factors on The Indonesia Stock Exchange (IDX)

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Abstract. This study aims to analyze the influence of Earnings Asset Quality, Non-Performing Loan (NPL), and Capital Adequacy on Return On Assets (ROA) of commercial banks indexed at the Indonesia Stock Exchange (IDX). The method used in this research is the descriptive verification method with a quantitative approach. The type of data used is the annual financial statements of commercial banks for 2019-2021. The results of the study partially show that the variable earnings asset quality and non-performing loans had a significant adverse effect on ROA, which shows that a decrease follows the increasing earnings asset quality and non-performing loans in ROA, the capital adequacy variable has a significant positive effect on ROA means that an increase will follow capital adequacy in ROA. This condition shows that changes in ROA can occur due to factors that influence it, indicated by every increase in the quality of earnings assets will reduce asset returns, every increase in non-performing loans will reduce return on assets and every increase in capital adequacy ratio will increase return on assets. Furthermore, they were expected to solve problems at the level of bank ratios in Return On Assets, Non-Performing Loans, Earnings Asset Quality, and Capital Adequacy. The implications of this research are expected to be complementary to the banking literature in Indonesia. Practitioners and banking regulators are also expected to take advantage of the results of this study to design measures for the management of Non-Performing Loans by paying attention to factors including the management of Asset Quality Earnings, Capital Adequacy Ratio of the impact on bank Profitability.

Keywords: Earnings Asset Quality, Non-Performing Loan, Capital Adequacy Ratio, Return on Asset

1. Introduction

Profitability is the net result of many policies and decisions an organization's management makes. Profitability ratios show how efficiently the company is managed [1]. Besides aiming to determine the company's capacity to generate profits at some point of a selected period, this ratio also goals to degree control effectiveness in running the company [2]. The financial ratio that provides an overview of the business prospects of commercial banks that encourage investors to invest is Return On Assets (ROA). This ratio reflects the effectiveness of asset management of the relevant bank [3,4]. According to [5], profitability can assess the soundness of a bank. The role of banks as financial institutions is never a credit problem.

The amount of credit channeled will determine the bank's profits. If the bank cannot channel credit while the funds collected from deposits are significant, it will cause the bank to lose. Therefore, credit management must be carried out as well as possible, such as controlling bad credit [6]. Of course, an adequate information system is needed in the banking world [7].

If the banks can reduce the ratio of bad loans or Non-Performing Loans (NPL) below 5%, then the potential profit to be obtained will be even more significant because banks will save money used to form reserves Earning Assets Loss. Statement of Indonesian Financial Accounting Standards No. 31 (Revised 2000), non-performing loans are generally credits for payment of principal and interest installments 90 days or more after maturity, or the timely payment of credit is highly doubtful. Earnings assets function to obtain the bank's primary income. There is also considerable risk in this asset as the principal source. Potential losses caused by the poor collectibility of these assets can lead to bank bankruptcy. Therefore, banks are required to establish an allowance for earning assets in the form of available reserves and special reserves to cover the risk of possible losses [8]. In banking, investment can be in the form of investing money in medium and long-term securities. This investment, which is then part of earning assets (productive assets), generally has a maturity of over one year too long, such as; stocks, bonds, and so on [9]. Capital adequacy is an important factor for banks in business development and accommodates the risk of loss as a resource that must be allocated [10]. A high capital adequacy level will also be good when managing operational risks faced during the business development process compared to banks that manage low capital adequacy. Based on Bank Indonesia regulation No.15/12/PBI/2013, when calculating capital, banks are required to refer to Bank Indonesia regulations governing the minimum capital adequacy requirement for commercial banks [11]. A high capital adequacy level will also be good when managing operational risks faced during the business development process compared to banks that manage low capital adequacy. According to Bank Indonesia regulation No. 15/12/PBI/2013, when calculating capital, banks are required to refer to Bank Indonesia regulations governing the minimum capital adequacy requirement for commercial banks [11]. A high capital adequacy level will also be good when managing operational risks faced during the business development process compared to banks that manage low capital adequacy. Based on Bank Indonesia regulation No.15/12/PBI/2013, when calculating capital, banks are required to refer to Bank Indonesia regulations governing the minimum capital adequacy requirement for commercial banks [11].

Productive assets are often also referred to as earning assets or assets that generate because the investment of these funds is to achieve the expected level of income (profit) [12]. In carrying out investment activities, earning assets can describe the bank's performance. Besides that, earning assets also impact the level of Profitability of [13]. The research of [14] states that the earnings asset quality influences return on assets because the earnings asset quality is the primary source of income from banking company activities. Its management is a particular concern of bank management. Likewise research according to [15], productive asset quality has a negative and significant effect on ROA. According to [16], Non-Performing Loans (NPL) are loans in which there are obstacles caused by two elements, namely from the banking side in analyzing and from customers who intentionally or unintentionally in their obligations do not make payments. If the NPL is high, then profitability decreases, and the rate of profit sharing decreases, and if the NPL decreases, then profitability increases, and the rate of profit sharing increases. The best standard for NPL is less than 5%. NPL is the ratio of total non-performing loans to total loans granted by third parties. NPL is a proxy for credit risk contained in published financial statements. Banks can run their operations well if they have an NPL below 5%, then profitability decreases and the rate of profit sharing decreases, and if the NPL decreases, then profitability increases, and the level of profit-sharing increases. The best standard for NPL is less than 5%. NPL is the ratio of total non-performing loans to total loans granted by third parties. NPL is a proxy for credit risk contained in published financial statements.

Banks can run their operations well if they have an NPL below 5%, then profitability decreases and the rate of profit sharing decreases, and if the NPL decreases, then profitability increases, and the level of profit-sharing increases. The best standard for NPL is less than 5%. NPL is the ratio of total non-performing loans to total loans granted by third parties. NPL is a proxy for credit risk contained in published financial statements. Banks can run their operations well with an NPL below 5% [17]. According to Bhattarai (2016), research shows a positive and insignificant effect between NPL on ROA.

Furthermore, [18] state that the Capital Adequacy Ratio (CAR) shows the ability of users in banking institutions to maintain sufficient capital and the ability of bank management to identify, measure, supervise, and control the risks that arise that can affect the amount of bank capital [19]. The greater the CAR, the greater the ROA. The theory put forward by experts is supported by research conducted by several previous researchers, including [20], which shows that the CAR has a significant positive effect on profitability. In contrast to previous studies, this study simultaneously examines the variables of productive asset quality, non-performing loans, and capital adequacy ratio, which affect the return on assets. In addition, the subjects of this research are commercial banks listed on the Indonesia Stock Exchange for the 2019-2021 period, which have never been studied before. Therefore, it is hoped that this research can provide input on the problems that occur in the banking world, especially related to the decline in the value of return on assets, which will impact the sustainability of the banking business in Indonesia. Based on the description above, the researcher assumes that making a quick decision (hypothesis) is as follows:

H_1: Earnings Asset Quality has a negative effect on Profitability
H_2: Non-Performing Loans have a negative effect on Profitability
H_3: Capital Adequacy Ratio has a positive effect on Profitability

2. Method

This study uses descriptive and verification methods because this research is intended to examine the effect of the earnings asset quality, non-performing loans, and capital adequacy ratios on profitability and test the theory by testing a hypothesis whether it is accepted or rejected. In comparison, the approach used in this study is quantitative because the data on the earnings asset quality, non-performing loans, capital adequacy ratios, and profitability obtained from this study are in the form of quantitative data. The data needed is data that follows the existing problems and follows the research objectives so that the data will be collected, processed, analyzed, and further processed following the theories that have been studied so that conclusions can be drawn from the data.

The population in this study are commercial bank companies listed on the Indonesia Stock Exchange 43 publicly traded banking companies listed on IDX with 4-year financial reports from 2019 to 2021. In this study, non-probability sampling was used, using a purposive technique—sampling, which is a sampling technique with specific criteria [21]. The sample in this study is the financial statements of commercial banks listed on the Indonesia Stock Exchange, totaling 18 companies. Each company meets three periods of annual financial statements because the company's IPO date is before the sampling period, so the sample used is 54 periods.

The testing steps in quantitative data begin with the classical assumption test so that the estimated equation can produce a BLUE (Best Linear Unbiased Estimator) estimator to ensure that the model used is robust. Deviations that occur from various classical assumptions make estimates of the expected variables less precise. Classical assumption tests performed include heteroscedasticity, multicollinearity, and autocorrelation tests [22]. After the data is collected, then the data is analyzed using data management techniques. Analysis of the data used is multiple linear regression analysis aims to explain the magnitude of the effect of Earnings Asset Quality (X_1), Non-Performing Loans (X_2) on Profitability (Y), as it follows:

$$Y = \alpha + \beta_1 X_2 + \beta_2 X_2 + \beta_n X_n + e \qquad (1)$$

According to [21], The correlation coefficient test measures how strong the model's ability to account for changes in the dependent variable is. The value of the coefficient of determination (R^2) ranges from zero (0) to one (1). A coefficient of determination close to zero (0) means that the model's ability to explain the dependent variable is very limited. Conversely, when the coefficient of determination of a variable is close to 1, it means that the ability of the independent variable to determine the existence of the dependent variable increases.

$$Kd = R^2 \; X \; 100\% \qquad (2)$$

Hypothesis testing is done partially shows the influence of an individual independent variable in explaining the variation of the dependent variable, namely:

1. P-value <0.05, then H_0 is rejected, or the independent variable affects the dependent variable significantly.
2. P-value > 0.05, then H_0 is accepted, or the independent variable has no significant effect on the dependent variable.

3. Results and Discussion

The description of each variable in this study was carried out using SPSS version 20.0 followed by partial statistical testing. Statistical testing was carried out using multiple linear regression analysis through the following stages: classical assumption test testing, multiple linear regression analysis, correlation analysis, coefficient of determination analysis, and hypothesis testing. The test was carried out with the help of SPSS version 20.0 software. Before testing the hypothesis using multiple regression analysis, several assumptions must be met so that the conclusions from the regression are not biased, namely by using the classical assumption test. In this study, the data collected contains elements of a time series, namely three years of research with 18 commercial bank companies as the object of research.

Researchers used multiple linear regression analysis was used by researchers to analyze the linear relationship between the independent variable and the dependent variable. By using SPSS 20.0 software, the test results are obtained in table 1, as follows:

Table 1. Multiple Linear Regression

	Coefficients^a					
	Unstandardized Coefficients		Standardized Coefficients			
Model	B	Std. Error	Beta	t	Sig.	
1 (Constant)	.840	.509		1.650	.105	
Earnings Asset Quality (X_1)	-.282	.067	-.595	-4.221	.000	
NPL (X_2)	-.456	.050	-.887	-9.066	.000	
CAR (X_3)	.045	.021	.682	2.169	.035	

a. Dependent Variable: ROA

Source: Data processing results using SPSS 20.0

In table 2, it can be seen that the constant value (a) obtained is 0.840 with a regression coefficient value of -0.282 (X_1), -0.456 (X_2), and 0.045 (X_3). Based on the values obtained, multiple linear regression equations can be formed as follows:

$$ROA = 0.840 - 0.282 \text{ (Earnings Asset Quality)} - 0.456 \text{ (NPL)} + 0.045 \text{ (CAR)} \quad (3)$$

From the results of the multiple linear regression equation above, it can be interpreted as follows:

a. The value of constant (a) is 0.840 shows that if all the independent variables, namely Earnings Asset Quality, NPL, and CAR, simultaneously have a value of 0 (zero), in other words, there is no change, it is predicted that ROA will be worth 0.840 times.

b. The regression coefficient for $1X_1$ Earnings Asset Quality is -0.282, and the sign is negative. If the other independent variables have a fixed value and the Earnings Asset Quality increases by 1%, the ROA will increase by 0.282 times. A negative coefficient means a negative relationship between Earnings Asset Quality and ROA. The higher the Earnings Asset Quality, the lower the ROA.

c. The regression coefficient for $2X_2$ NPL is -0.456 and is negative. If the other independent variables have a fixed value and the NPL has increased by 1%, the ROA will decrease by -0.456. A negative coefficient means a negative relationship between NPL and ROA. The higher the NPL, the lower the ROA.

d. The regression coefficient for $3X_3$ CAR is 0.045 and is positive. If the other independent variables are fixed and the CAR increases by 1%, the ROA will increase by 0.045 times. The positive coefficient means a positive relationship between CAR and ROA. The higher the CAR, the higher the ROA.

Using the Pearson correlation coefficient approach, correlation analysis is used to determine whether or not the relationship between variables X and Y is strong. The following is the result of calculating the partial correlation coefficient for the earnings asset quality variable to ROA in table 2, as follows:

Table 2. Partial Correlation Coefficient of Earnings Asset Quality variables on ROA

Correlations		Earnings Asset Quality	ROA
Earnings Asset Quality	Pearson Correlation	1	-.306
	Sig. (2-tailed)		.446
	N	54	54
ROA	Pearson Correlation	-.306	1
	Sig. (2-tailed)	.446	
	N	54	54

Source: Data processing results using SPSS 20.0

Based on table 3, it can be seen that the value of the correlation coefficient obtained between earnings asset quality and ROA is -0.306. The correlation value is negative, indicating that the relationship between the independent and dependent variables is unidirectional, meaning that a decrease will follow the increase of earnings asset quality in ROA.

Based on the correlation coefficient interpretation criteria, the correlation value is -0.306. Included in the category of low relationship is in the interval 0.20 – 0.399.

The following is the result of calculating the partial correlation coefficient for the NPL variable to ROA, Table 3, as follows:

Table 3. Partial Correlation Coefficient of NPL Variable to ROA

	Correlations	NPL	ROA
NPL	Pearson Correlation	1	-.736**
	Sig. (2-tailed)		.000
	N	54	54
ROA	Pearson Correlation	-.736**	1
	Sig. (2-tailed)	.000	
	N	54	54

**. Correlation is significant at the 0.01 level (2-tailed).
Source: Data processing results using SPSS 20.0

Based on table 4, the correlation coefficient value obtained between NPL and ROA is -0.736. The correlation value is negative, indicating that the relationship between the independent and dependent variables is unidirectional, meaning that a decrease will follow the increasing NPL in ROA. Based on the correlation coefficient interpretation criteria, the correlation value is -0.736. It is included in a strong relationship in the interval 0.60 – 0.799.

Based on the results of calculating the partial correlation coefficient of the CAR variable on ROA, in table 4.

Table 4. Partial Correlation Coefficient of CAR variable on ROA

	Correlations	CAR	ROA
CAR	Pearson Correlation	1	.411**
	Sig. (2-tailed)		.002
	N	54	54
ROA	Pearson Correlation	.411**	1
	Sig. (2-tailed)	.002	
	N	54	54

**. Correlation is significant at the 0.01 level (2-tailed).
Source: Data processing results using SPSS 20.0

Based on table 5, the correlation coefficient value obtained between CAR and ROA is 0.411. The correlation value is positive, indicating that the relationship between the independent and dependent variables is unidirectional, meaning that the higher the CAR, the higher the ROA will be. Based on the correlation coefficient interpretation criteria, the correlation value is 0.411. included in the category of moderate relationship was in the interval 0.40 – 0.599.

Coefficient of determination analysis is used to see how much the independent variable (X) has an effect on the dependent variable (Y), which is expressed as a percentage [21]. The greater the determination value, the more the resulting regression equation is suitable for estimating the dependent variable. The result of calculating the partial correlation coefficient for earnings asset quality, NPL, and CAR variables on ROA in table 5, is as follows:

Table 5. Partial correlation of Earnings Asset Quality, NPL, and CAR Variables to ROA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	.840	.509		1.650	.105			
	Earnings Asset Quality (X_1)	-.282	.067	-.595	-4.221	.000	-.306	-.513	-.334
	NPL (X_2)	-.456	.050	-.887	-9.066	.000	-.736	-.789	-.718
	CAR (X_3)	.045	.021	.682	2.169	.035	.411	.293	.172

Dependent Variable: ROA

Source: Data processing results using SPSS 20.0

Based on table 6, it can be calculated the partial effect of each independent variable, as follows:
a. Earnings Asset Quality (X_1) = -0,595 x -0,306 = 0.1820= 18.20%
b. NPL (X_2) = -0.887 x -0.736 = 0.6528= 65.28%
c. CAR (X_3) = 0,682 x 0.411 = 0.2803= 28.03%

From the results of the above calculation, it can be seen that the variable that has the most influence or gives a high contribution to the dependent variable is the NPL (X_2) of 65.28%, followed by the variable CAR (X_3) of 28.03% and last by variable earnings asset quality (X_1) by 18.20%. Furthermore, the influence of each variable in this study is shown in table 6 below:

Table 6. Earnings Asset Quality Hypothesis Testing Results on ROA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.840	.509		1.650	.105
	Earnings Asset Quality (X_1)	-.282	.067	-.595	-4.221	.000
	NPL (X_2)	-.456	.050	-.887	-9.066	.000
	CAR (X_3)	.045	.021	.682	2.169	.035

a. Dependent Variable: ROA

Source: Data processing results using SPSS 20.0

Based on table 7, the T count value for earnings asset quality is -4.221. This value will be compared with the T table value in the T distribution table with $= 0.05$, $df = nK = 54-4 = 50$, and the T table value is ± 2.00856. It can be seen that T count for X_1 is $-4.221 < \pm -2.00856$, which means it is outside the T table value (-2,00856 and 2,00856), so it can be concluded that H_0 in the rejection area and means H_a is accepted, meaning that the earnings asset quality variable has a significant effect on ROA because the significance value is 0.05. According to [23], this result follows previous research, which states that the higher the earnings asset quality, the greater the reserves that must be formed. The larger reserves decrease bank profitability [24]. In line with [25], which shows a significant relationship between the earnings asset quality and ROA. Then the research conducted by [9] shows that the earnings asset quality has a significant negative effect on ROA.

Furthermore, the T count for NPL is -9006. This value will be compared with the T table value in the t distribution table. with $= 0.05$, $df = nK = 54-4 = 50$, and the T table value is ± 2.00856. It can be seen that T count for X_1 is $-9.006 < \pm 2.00856$, which means it is outside the T table value (-200856 and 2.0856), it can be concluded that H_0 is in the rejection area and means H_a is accepted, meaning that the NPL variable has a significant effect on ROA because the significance value is 0.05. This result follows previous research, according to [26], which states that if NPL is high, then profitability decreases. The amount of bank loans disbursed is not collected [27]. The higher the NPL collectability, the greater the risk or vice versa [28]. Research by [29] shows a significant relationship between NPL and ROA. Then the research conducted by [30] shows that non-performing loans have a significant negative effect on return on assets [31].

It can be seen that the T count for the Capital Adequacy Ratio is 2.169. This value will be compared with the T table value in the t distribution table. with $= 0.05$, $df = nK = 54-4 = 50$, and the T table value is ± 2.00856. It can be seen that the T count for X_1 is 2.169 ± 2.00856, which means it is outside the T table value (-200856 and 2.0856), it can be concluded that H_0 is in the rejection area and means H_a is accepted, meaning that the earnings asset quality variable has a significant effect on ROA because the value the significance is 0.05. These results support previous research from [32], which states that capital adequacy is to ward off the possibility of risk arising due to placing funds in income assets. How can a bank finance its activities with its capital ownership [33], it is also comprehensively described in [34] which shows that there is a significant relationship between the Capital Adequacy Ratio on return on assets, with the capital adequacy limit that the company has determined? Then the research conducted by [18,35] that the research results show that the capital adequacy ratio has a significant positive effect on return on assets. With the capital adequacy limit that the company has determined.

4. Conclusion

Earnings asset quality has a negative and significant effect on ROA at Commercial Banks Listed on the Indonesia Stock Exchange for 2019-2021. Every increase in the earnings asset quality will reduce the return on assets. Likewise, the lower the earnings asset quality, the return on assets generated will increase. Fluctuating changes in the earnings asset quality occurred due to the high lousy debt ratio issued. Non-Performing Loans have a negative and significant effect on ROA at Commercial Banks Listed on the Indonesia Stock Exchange for the 2019-2021 Period, where every increase in non-performing loans will reduce the return on assets.

On the other hand, the lower the non-performing loan, the higher the return on assets generated. The fluctuating changes in non-performing others occurred due to the slowdown in the micro economy, which required credit restructuring. Capital Adequacy Ratio has a positive and significant effect on ROA at Commercial Banks Listed on the Indonesia Stock Exchange for the 2019-2021 Period where every increase in the capital adequacy ratio, the return on assets will increase. On the other hand, the lower the capital adequacy ratio, the lower the Return on Assets.

Fluctuating changes in the capital adequacy ratio occur due to a decrease in net profit and an increase in the cost of funds, where every increase in the capital adequacy ratio, the return on assets will increase.

Acknowledgment

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