

THE EFFECT OF CAR, LDR, AND NPL ON ROA

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ABSTRACT

This research aims to test and analyze the influence of capital adequacy ratios, loan-to-deposit ratios, and non-performing loans on the return on assets of conventional banking companies listed on the IDX for the 2020–2022 period. This research is a type of causal research. Causal research, namely the type of research used to test causal relationships between variables, The selection and collection of sample data required in this research was purposive sampling. The total sample consisted of 43 companies. The data analysis techniques used are classical assumption tests, model suitability tests, multiple linear regression analysis, and hypothesis testing using the IBM SPSS 23 program. The research results show (1) that the capital adequacy ratio has a positive and insignificant effect on return on assets. (2) The loan-to-asset ratio has a positive and significant effect on return on assets. (3) Non-performing loans have a negative and significant effect on return on assets.

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1. Introduction

The banking industry is an important part of a country's economy, especially as an intermediary for economic activities. The *financial intermediary* in question is an organization that is able to transfer funds owned by economic units that have excess funds (surplus) to economic units that need financial support (deficit). One aspect that can be seen in banking performance is knowing whether the company's financial reports are able to carry out banking activities well or not. This can lead to the growth of banking in Indonesia if public trust in banks can be influenced by the performance achieved by banking companies that carry out their activities, and vice versa, if the company's performance is poor, then the public's sense of trust in banks will decrease (Pratama, 2021).

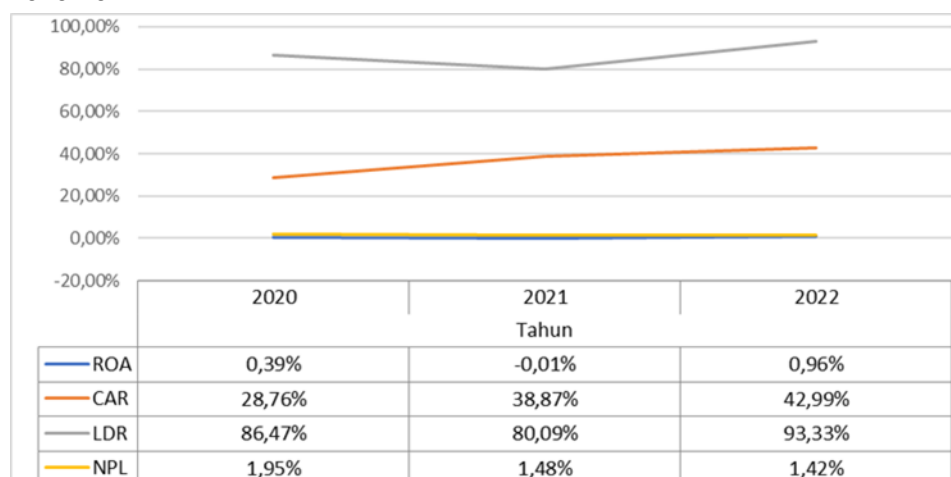
According to Wahyudi and Kartikasari (2021), one of the goals of banks is to obtain maximum profitability. Profitability is the bank's ability to produce or obtain profit, which is used to evaluate the bank's performance in generating profits effectively and efficiently. To measure the profitability of a company, it usually uses two ratios: return on assets (ROA) and *return on equity* (ROE). However, in this research, the author chose to use *return on assets* as the dependent variable for the purpose of measuring the company's effectiveness in generating profits by utilizing the assets it owns.

Capital is a very important initial basis and needs attention if an economic entity is going to set up a business. The higher the capital value, the more the entity can start its activities, such as carrying out commercial-scale operations and development as well as banking. All banks in Indonesia are required to provide minimum capital or minimum capital requirements (KPMM). The purpose of minimum bank capital is to cover possible losses from risky assets. Banks need to have a lot of capital so that bank management has more freedom to enter capital into investment activities, which can certainly generate profits. *The capital adequacy ratio (CAR)* reflects bank capital because the higher the CAR, the more likely it is that asset returns will be higher (Fanny et al., 2020).

The bank's ability to provide loans to the public must, of course, be balanced with the amount of savings obtained by the bank. Banks cannot operate without public acceptance in the form of deposits. However, banks also cannot maximize profits just by accepting deposits from the public. Therefore, a balance between loans disbursed and deposits received (intermediation function) is necessary. In this case, the loan-to-deposit ratio (LDR) is a ratio that can be used to measure the balance between the amount of credit disbursed by the bank and third-party funds. The higher the LDR ratio, the higher the bank's ability to generate profits (assuming the bank is able to provide effective credit). As bank profits increase, the bank's operational efficiency also increases. The size of the bank's LDR ratio will affect the bank's profitability (Wahyudi & Kartikasari, 2021).

In providing credit to the public, banks must pay attention to matters relating to the prospective debtor's business. In other words, the bank must assess whether the business is worthy of financing or not. Furthermore, banks must also pay attention to the use of the credit provided, including monitoring the business development of prospective debtors. This aims to anticipate that there will be no irregularities in credit use that have the potential to become problematic. The ratio that can be used as an indicator in this case is non-performing loans (NPL). According to Pratama (2021), non-performing loans are the ratio of banking management's ability to manage problem loans. The lower the NPL value, it can be said that the banking company's performance is good.

Figure 1. Development ROA, CAR, LDR And NPLs at a Banking Company Conventional listed on the IDX 2020-2022



Source : Data processed, (2023)

Based on Figure 1, it can be seen that CAR has increased in the last 3 years, with the highest being in 2022, at 42.99%, whereas the lowest CAR occurred in 2020, amounting to 28.76%. The LDR ratio fluctuates from year to year, with the highest value occurring in 2022 at 93.33%, while the lowest LDR occurred in 2021 at 80.09%. On ratio, NPLs tend to drop, with the highest occurring in 2020, at 1.95%,

while the lowest occurred in 2022, at 1.42%. ROA experiences fluctuations, with the highest value occurring in 2022 at 0.96% and the lowest happening in 2021 at -0.01%. On Picture 1, it is seen that CAR shows conditions that are inconsistent with the ROA of conventional banking sector companies that were listed on the Indonesian Stock Exchange in 2020–2022. This is shown by the increase in CAR in 2021, which in 2020 was 28.76% to 38.54% in 2021, while the ROA value further decreased in 2020 by 0.39% to -0.01% in 2021. Apart from that, when the NPL fell in 2021 by 1.48%, it became 1.42% in 2022, whereas ROA increased, which in 2021 was -0.01%, to 0.96% in 2022.

From several previous studies, there are differences of opinion on the results of research that has been carried out by several researchers, namely in the form of the influence of each variable X on variable Y, which shows positive or negative results. In the *Capital Adequacy Ratio* (CAR) variable, there are differences in research results. Research conducted by Kossoh, Mangantar, & WJogi (2017), Nugroho et al. (2019), and Fanny et al. (2020) found that CAR had a significant positive effect on ROA, while research conducted by Wahyudi & Kartikasari (2021) found that CAR had an insignificant negative effect on ROA. There are also differences in results for variables. *Loans-to-Deposits Ratio* (LDR). Studies done by Kossoh et al. (2017), (2017), and Setyarini (2020) obtained results that LDR had a significant positive effect on ROA, while research conducted by Wahyudi & Kartikasari (2021) and Chandra & Desy (2020) got results that LDR was influential and significant to ROA. Apart from that, in the *Non-Performing Loan* (NPL) variable, there are also differences in research results. Studies done by Chandra & Desy (2020), Fanny et al. (2020), and Aswini, Gunawan, Chaniago, & Astuty (2021) found that NPLs are influential and significant to ROA, while research conducted by Gilseda & Riyadi (2021) found that NPL have a positive and insignificant effect on ROA.

Based on the background, there is a gap, namely in the form of *gap phenomena* and *research gaps* between theories that are considered correct and the influence of the independent variable (X) on the dependent variable (Y). There are fluctuations in the average *capital adequacy ratio*, the loan-to-deposit ratio, and non-performing loans *to return on assets* in conventional banking companies, which caused the results of research conducted by several previous researchers to be inconsistent with the phenomena that occurred in the research period, namely 2020–2022. The objectives of the study are:

1. To test and analyze the influence of *the capital adequacy ratio* on *return on assets* in the company banking convention registered on the IDX for the 2020–2022 period.
2. To test and analyze the influence of the *Loans to Deposits Ratio* on *Return on Assets* on Company Banking Conventional, which was registered in IDX for the period 2020–2022,.
3. To test and analyze the influence of *non-performing loans* on *returns on assets* on Company Banking Conventional, which was registered in IDX for the period 2020–2022.

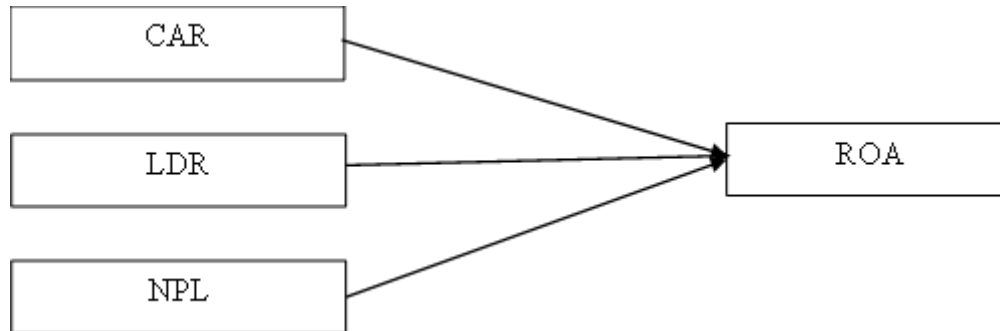
2. Literature Review

Signal theory states that a signal is an action taken by company management by providing investors with clues as to how management views the company's prospects (Brigham & Houston, 2018). According to Eisenhardt (1989) in Harmono (2009), agency theory can explain the gap between management as agents and shareholders as principals or delegators.

According to Setiawan (2017), return on assets (ROA) is a ratio used to measure the ability of bank management to obtain profitability and manage the overall level of bank business efficiency. The Capital Adequacy Ratio (CAR) is a calculation of the minimum capital provision that is based on the comparison between the capital owned by the bank and the amount of risk-weighted assets (RWA) (Dendawijaya, 2003).

Loan-to-Deposit Ratio (LDR) is an element in assessing company or banking liquidity by comparing total loans with total deposits, meaning that it is measured by the size of the entire volume of credit disbursed by banks in receiving funds (Pratama, 2021). According to Chandra and Desy (2020), non-performing loans (NPL) are the ratio used to compare credit that can be returned by the debtor, or better known as bad credit, with the total credit disbursed by the public. Based on the title and previous research that has been described, this research model can be described as follows:

Figure 2. Research Model



Hypothesis Development

The capital adequacy ratio (CAR) is a ratio used to measure a bank's ability to cover possible losses. in its operational activities using existing capital. According to Bank Indonesia Regulation Number 14/18/PBI/2012, dated November 28, 2012, it has been determined that the CAR ratio is a minimum of 8%. The higher the CAR in a bank, the better the bank's ability to overcome losses. that may occur. This situation makes it possible to attract investors to invest their capital. This is supported by research conducted by Kossoh et al. (2017), Nugroho et al. (2019), and Fanny et al. al., 2020), which states that the Capital Adequacy Ratio (CAR) has a significant positive effect on Return on Assets. (ROA).

H1: The capital adequacy ratio (CAR) has a significant positive effect on return on assets (ROA).

The loan-to-deposit ratio (LDR) is a liquidity ratio that is often used in assessing banking performance. LDR is a comparison between the amount of credit disbursed by the bank and third-party funds. Credit is one part of liquidity that will generate profits because credit generates interest income. for the bank. According to Bank Indonesia Regulation Number 15/7/PBI/2013, the LDR ratio has been determined to be in the range of 78% to 92%. The higher the LDR, the more efficient The bank is carrying out liquidity and productive activities to generate profits through loan . interest income. And conversely, a lower LDR ratio indicates the bank's lack of effectiveness. in distributing credit, so that the bank can lose the opportunity to make a profit. This is supported by research conducted by Kossoh et al. (2017), Setiawan (2017), and Setyarini (2020), which states that the loan-to-deposit ratio (LDR) has a significant positive effect on return on assets. (ROA).

H2: Loan-to-Deposit Ratio (LDR) has a significant positive effect on Return on Assets (ROA).

Non-Performing Loans (NPL) is a ratio that describes the size of the credit risk being faced by a banking company. NPL is also commonly called the non-performing credit ratio. Problematic credit can occur when debtors fail or are unable to pay credit and loan interest to the bank. Through Bank Indonesia Regulation Number 23/2/PBI/2021, it has been determined that the ratio of bad credit, or NPL, is less than 5%. The smaller the NPL ratio, the smaller the credit risk borne by the bank, so that the bank has a greater opportunity to gain profits from credit interest and credit returns. This is supported by

research conducted by Aswini et al. (2021), Chandra & Desy (2020), and Fanny et al. (2020), which states that non-performing loans (NPL) have a significant negative effect on return on assets (ROA).

H3: Non-Performing Loans (NPL) have a significant negative effect on Return on Assets (ROA).

3. Method, Data, and Analysis

Type and object of research

This type of research is causal research. Causal research examines relationships between cause and effect between two variables or more (Sugiyono, 2019). This research uses conventional banking companies listed on the Indonesia Stock Exchange (BEI). There are 43 registered conventional banking companies, and this research will carry out an assessment using financial reports and annual reports from 2020–2022.

Operational Definition of Variables

The dependent variable (Y) is return on assets (ROA), while the independent variables (X) are capital adequacy ratio (CAR), loan-to-deposit ratio (LDR), and non-performing loans (NPL). Based on the description above, the operationalization of variables can be summarized in Table 1 below:

Table 1. Operational Definition of Variables

No	Variable	Definition	Formula
1	ROA	<i>Return On Assets</i> (ROA) is a ratio used to measure bank management's ability to obtain profitability and manage levels efficiency business bank in a way whole.	$ROA = \frac{\text{Laba Setelah Pajak}}{\text{Total Aset}} \times 100\%$
2	CAR	<i>Capital Adequacy Ratio</i> (CAR) is a ratio used to measure a bank's ability to cover possible losses in its operational activities use capital Which There is.	$CAR = \frac{\text{Modal Bank}}{\text{ATMR}} \times 100\%$
3	LDR	<i>Loans to Deposits Ratio</i> (LDR) is a comparison between amount credit Which disbursed by the bank towards third party funds.	$LDR = \frac{\text{Kredit}}{\text{DPK}} \times 100\%$
4	NPLs	<i>Non Performing Loans</i> (NPL) is a ratio that describes the size of the risk credit Which currently faced by something company banking.	$NPL = \frac{\text{Kredit Bermasalah}}{\text{Total Kredit}} \times 100\%$

Source: Sakhowi & Mahirun, (2019)

Population and Sample

The population in this study is the whole group of conventional banking companies listed on the Indonesia Stock Exchange (BEI) for the 2020–2022 period, with a total of 43 companies. This research uses the purposeful sampling technique, namely determining samples based on certain criteria to be able to provide optimal information (Nurhayati, 2012). Study This is done by the company Banking Conventional, which is registered on the Indonesian stock exchange for the 2020–2022 period. The criteria used in sampling in Table 2 are as follows:

Table 2. Sampling Criteria

Information	2020	2021	2022	Amount
Company Banking Conventional Which researched Still operate And listed on the Indonesian Stock Exchange (BEI) in 2020-2022	43	43	43	129
Company Banking Conventional Which publish or publish an annual report for the 2020-2022 period.	43	43	43	129
Total sample Which used in study period 2020- 2022				129

Source : Data processed, (2023)

The type of data used is secondary data. The data used is in the form of records, historical financial reports, and annual reports of conventional banking companies listed on the Indonesia Stock Exchange for the 2020–2022 period.

This research uses a documentation method in collecting data, namely by gathering secondary data from report finance as well as the *annual report* for the 2020–2022 period from each conventional banking company listed on the Indonesia Stock Exchange. The data source was obtained from the Indonesian Stock Exchange via the website www.idx.co.id as well as from the official website of each company.

Analysis Techniques

The data analysis tools used in this research are descriptive statistical analysis, classical assumption tests, model suitability tests (f tests), multiple linear regression analyses, and t tests. The regression equation can be formulated as follows:

$$ROA = a + b_1 CAR + b_2 LDR + b_3 NPL + e \quad (1)$$

Information :

ROA : Return on Assets

a : constant

CAR : Capital Adequacy Ratio

LDR : Loan-to-Deposit Ratio

NPL: Non-Performing Loan

b : Coefficient Regression

e : residual error

4. Result and Discussion

Descriptive Statistical Analysis

The amount of data used in this research was 60. Initially, the data that would be used in this research was 129. This happened because the researcher carried out outliers by eliminating data with extreme values so that it could influence the results of the analysis in SPSS. A total of 69 data points have been eliminated, so the number of samples (N) is 60, originating from conventional banking companies listed on the Indonesia Stock Exchange for the 2020–2022 period. Before data processing is carried out, descriptive analysis is first carried out, with the results in Table 3:

Table 3. Descriptive Statistical Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
CAR	60	11,13	67.15	27.55	11,532
LDR	60	38.76	81.68	67.20	12,873
NPLs	60	0.00	4.80	1.57	1,660
ROA	60	- 3.36	4.31	1.10	1,499
Valid N (listwise)	60				

Outputs SPSS (Data processed 2023)

Table 3 shows the research data, namely for 2020–2022. It can be seen that the return on assets variable has the lowest value of -3.36% PT Bank Jtrust Indonesia Tbk (BCIC) in 2020, while the highest value is 4.31% PT Bank Mestika Dharma Tbk (BBMD) in 2021, with an average value of 1.10 and a standard deviation of 1.499.

The capital adequacy ratio variable has the lowest value of 11.13% for PT Bank Mayapada Internasional Tbk (MAYA) in 2022, while the highest value is 67.15% for PT Bank Ganesha (BGTG) in 2021, with an average value of 27.55 and a standard deviation of 11.532.

The Loan to Deposit Ratio variable has the lowest value of 38.76% at PT Bank Multiarta Sentosa Tbk (MASB) in 2020, while the highest value is 81.68% at West Java and Banten Regional Development Bank Tbk (BJBR) in 2021, with an average value of 67.20 and a standard deviation of 12.873.

The non-performing loan variable has the lowest value of 0.00% PT Bank Capital Indonesia Tbk (BACA) in 2020, while the highest value is 4.80% PT Bank Amar Indonesia Tbk (AMAR) in 2020, with an average value of 1,57 and a standard deviation of 1.660.

The classic assumption test

Normality Test

The normality test is one component of the classical assumption test requirements. According to Ghozali (2013), the normality test aims to test whether the regression model of the independent variables and the dependent variable has a normal distribution or not. In this study, a normality test is carried out using the Kolmogorov-Smirnov (KS) non-parametric statistical test by looking at the residual data, whether they are normally distributed or not. Normally distributed data will produce output with a significance value of > 0.05 or > 5%. The test results can be seen in Table 4:

Table 4. Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residuals
N		60
Normal Parameters ^{a, b}	Mean	,0000000
	Std. Deviation	,01238210
Most Extreme Differences	Absolute	,098
	Positive	,078
	Negative	- \$1.098
Test Statistics		,098
Asymp. Sig. (2- tailed)		,200 ^{c, d}

a. Test distribution is Normal.

- b. Calculated from data.
- c. Lilliefors Significance Corrections.
- d. This is a lower bound of the true significance.

Source : *Outputs SPSS (Data processed 2023)*

In the Kolmogorov-Smirnov test, it was shown that Asymp. Sig., which is 0.200, is greater than 0.05 or 5%, so it can be concluded that the regression model for the independent variable and dependent variable has a normal distribution.

Multicollinearity Test

The multicollinearity test aims to test whether, in the regression model, a high or perfect correlation is found between the independent variables (Ghozali, 2009). Apart from that, the multicollinearity test is used to determine whether there is multicollinearity or not by using a tolerance value > 0.10 with a variance inflation factor (VIF) value < 10.00 so that multicollinearity does not occur. The multicollinearity test can be seen in Table 5:

Table 5. Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
CAR	,986	1,015
LDR	,978	1,022
NPLs	,964	1,037

- a. Dependent Variables: ROA

Source : *Outputs SPSS (Data processed 2023)*

Based on Table 5, each independent variable has a *tolerance value* greater than 0.10 and a VIF value below 10, which means there is no relationship between variables. So it can be concluded that model multicollinearity does not occur in the regression.

Autocorrelation Test

Test autocorrelation aims to prove whether there is a correlation in the regression model between confounding errors in period t and confounding errors in period t-1 (previously) (Ghozali, 2013). To find whether there is autocorrelation or not, this is done using the *Durbin-Watson test* (DW test).

Table 6. Autocorrelation Test

Model Summary ^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,564 ^a	,318	,281	,01271	1,748

- a. Predictors: (Constant), NPL, CAR, LDR

- b. Dependent Variable: ROA

Source : *Outputs SPSS (Data processed 2023)*

It can be seen in Table 6 that the Durbin-Watson value is 1.748. This value will be compared with the Durbin-Watson (kn) table value, with k indicating many variables free, that is, amount 3, and n is amount data. The amount used is \$60. It is known that if the dL value is 1.4797 and the dU value is 1.6889, then the value of 4 minus dU is 2.3111. If the value $dU < dw < 4 - dU$ can be said, no

autocorrelation happens. In the test, this obtained a mark of $1.6889 < 1,748 < 2.3111$. So it can be concluded that the regression model does not contain autocorrelation.

Heteroscedasticity Test

The heteroskedasticity test aims to test whether the regression model results in inequality and *variance* from residuals. One observation to observation, which other? In a test of heteroskedasticity, we can use test statistics, which is the Glejser test.

Table 7. Heteroscedasticity Test

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
1 (Constant)	,020	,006		3,569	,001
CAR	-\$1.003	,008	-,043	-,334	,740
LDR	-\$1.009	,007	-,165	-1,279	,206
NPLs	-,102	,057	-,231	-1,777	,081

a. Dependent Variables: ABS_RES

Source : [Outputs SPSS \(Data processed 2023\)](#)

On Table 7, we can see results from the test of heteroscedasticity with Using the Glejser test produces output that shows there is no significant relationship between variables independent of mark absolute, with a sig. greater than 0.05. It can be concluded that the regression model is free from heteroscedasticity.

Model Fit Test (F Test)

The model fit test (F test) is used to determine whether there is an influence of the independent variables simultaneously on the dependent variable. To determine the degrees of freedom (df), use the formulas $df1 = k$ and $df2 = nk-1$. Where k is the number of independent variables and n is the number of samples.

Table 8. F test

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	,004	3	,001	8,693	,000 ^b
Residual	,009	56	,000		
Total	,013	59			

a. Dependent Variables: ROA

b. Predictors: (Constant), NPL, CAR, LDR

Source : [Outputs SPSS \(Data processed 2023\)](#)

Based on the table above, the degree of freedom values are obtained, namely $df_1 = 3$ and $df_2 = 60 - 3 - 1 = 56$. The result of the f_{count} value in the anova table is 8.693, while the f_{table} is 2.769, so it can be seen that $f_{count} > f_{table}$ ($8.693 > 2.769$). Apart from that, there is a Sig value. In the anova table, 0.000 is smaller than 0.05. From these results, it can be concluded that the independent variables have a joint (simultaneous) effect on the dependent variable.

Multiple Linear Regression Analysis

Multiple linear regression analysis aims to determine the direction of the relationship between the dependent variable and the independent variable in accordance with the problem formulation and research objectives, namely to test the influence of the capital adequacy ratio (X1), loan-to-deposit ratio (X2), non-performing loans (X3), and return on assets (Y).

Table 9. Multiple Linear Regression Analysis

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	,000	,010		,031	,975
CAR	,020	,014	,153	1,378	,174
LDR	,028	,013	,244	2,184	,033
NPLs	-\$1,455	,102	-\$1,504	- 4,485	,000

a. Dependent Variables: ROA

Source : *Outputs SPSS (Data processed 2023)*

Based on Table 9, the model equality regression linear multiple can be formulated as follows:

$$ROA = 0,000 + 0.0153 CAR + 0.244 LDR - 0.504 NPL + e \quad (2)$$

t Test

The t test is used to determine whether there is a partial influence of the capital adequacy ratio (CAR), loan-to-deposit ratio (LDR), and non-performing loans (NPL) on return on assets (ROA). This research was carried out using a significance level of 5% with the condition that if the significant value is > 0.05 , then H_a is rejected, whereas if the significant value is < 0.05 , then H_a is accepted.

Table 10. t Test

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	,000	,010		,031	,975
CAR	,020	,014	,153	1,378	,174
LDR	,028	,013	,244	2,184	,033
NPLs	-\$1,455	,102	-\$1,504	- 4,485	,000

a. Dependent Variables: ROA

Source : Outputs SPSS (Data processed 2023)

From Table 10, results test hypothesis in a way that partial (t test) can be known that:

1. Capital Adequacy Ratio (CAR) owns the Sig value. as big as 0.174 is greater than 0.05, and the regression coefficient value is 0.153, so the hypothesis is rejected. It can be concluded that the capital adequacy ratio variable has a positive and insignificant effect on return on assets.
2. Loan-to-Deposit Ratio (LDR) has a value of 0.033, which is smaller than 0.05, as well as a coefficient of regression as big as 0.244, so the hypothesis is accepted. We can conclude that the loan-to-asset ratio has a significant positive effect on return on assets.
3. Non-performing loans (NPL) have a value of 0.000 . that is smaller than 0.05 and the regression coefficient value is -0.504, then the hypothesis is accepted. It can be concluded that non-performing loans have a negative and significant effect on return on assets.

Discussion

Effect of Capital Adequacy Ratio on Return on Assets

The results of hypothesis testing show that the Capital Adequacy Ratio (CAR) variable has a value of Sig. amounting to 0.174, which is greater than 0.05, and the regression coefficient value is 0.153. These results can be interpreted as the capital adequacy ratio having a positive and insignificant effect on return on assets. The capital adequacy ratio (CAR) is a financial ratio that shows the amount of capital owned and describes the bank's ability to cover possible losses that may occur in its operational activities. The greater the bank capital owned by the bank, it can be said that the bank is able to overcome the possible losses it will face. With large capital, banks can use it to distribute credit to customers so that the bank earns interest on loans and influences the amount of return on assets (ROA). The research results show that the capital adequacy ratio (CAR) has a positive and insignificant effect. Even though a bank has large capital, it does not necessarily mean that bank management can utilize it effectively and is too careful in disbursing credit to avoid large losses. The results of this research are in accordance with several studies that have been conducted by Setiawan (2017), Gilseda & Riyadi (2021), and Chandra & Desy (2020), which state that the capital adequacy ratio (CAR) has a positive and insignificant effect on return on assets (ROA).

Effect of Loan-to-Deposit Ratio on Return on Assets

The results of hypothesis testing show that the loan-to-deposit ratio (LDR) has a value of Sig. amounting to 0.033, which is smaller than 0.05, and the regression coefficient value is 0.244. These results indicate that the loan-to-deposit ratio has a significant positive effect on the return on assets. The loan-to-savings ratio (LDR) is a ratio that compares total loans with total savings. LDR measures the extent of the bank's ability to repay fund withdrawals made by depositors by relying on the credit provided as a source of liquidity. Bank Indonesia has set regulations regarding the size of the LDR ratio, namely in the range of 78% to 92%. A high loan-to-deposit ratio (LDR) indicates that the bank is disbursing credit effectively, so it has many opportunities to earn profits from loan interest. And if the LDR is too low, it shows the bank's lack of effectiveness in distributing credit, so the bank could lose the opportunity to make a profit. In this research, the results showed that the loan-to-deposit ratio (LDR) had a significant positive effect. This can mean that when the loan-to-deposit ratio (LDR) increases, the profits generated by the company will also increase. These results are in line with theory: if the company is effective in distributing credit, then the opportunity to gain profits will also be greater. Of course, banks will also remain careful when distributing credit to reduce the emergence of bad loans. With increasing

profits, it can be said that the bank's financial performance is getting better. The results of this research are in accordance with several studies that have been conducted by Kossoh et al. (2017), (2017), and Setyarini (2020), which state that the loan-to-deposit ratio (LDR) has a positive and significant effect on return on assets (ROA).

Effect of Non-Performing Loans on Return on Assets

The results of hypothesis testing show that non-performing loans (NPL) have a value of 0.000, which is smaller than 0.05, and the regression coefficient value is -0.504. These results can be interpreted as meaning that non-performing loans have a negative and significant effect on return on assets. Non-Performing Loans (NPL) is the ratio between non-performing loans and loans provided. This ratio describes the magnitude of credit risk being faced by the bank. Problematic credit arises when debtors cannot pay credit and loan interest to the bank. Based on Bank Indonesia Regulations, a bank can be said to be healthy if it has an NPL ratio of less than 5%. This can be seen from the phenomenon that the average NPL from 2020 to 2021 is below 5% and tends to decline, meaning that conventional banking companies listed on the Indonesia Stock Exchange for the 2020–2022 period have a healthy financial condition. According to signaling theory, a high NPL is considered a negative signal, while a low NPL is considered a positive signal for investors. An increase in the NPL value is bad news for investors because the high NPL value shows that the company has problems, namely problematic credit because debtors fail to pay credit and loan interest. Meanwhile, a low NPL value is considered good news for investors because, with the bank's low credit risk, it has a greater opportunity to earn profits through credit returns and loan interest paid by debtors according to the agreed-upon time. The results of this research are in line with previous research conducted by Aswini et al. (2021), Kossoh et al. (2017), and Chandra & Desy (2020), which stated that non-performing loans (NPL) have a negative and significant effect on return on assets (ROA).

5. Conclusion and Suggestion

Based on the analysis carried out in this research, it can be concluded that:

1. The capital adequacy ratio (CAR) variable has a positive and insignificant effect on return on assets (ROA) in conventional banking companies listed on the Indonesia Stock Exchange for the 2020–2022 period.
2. The loan-to-deposit ratio (LDR) variable has a positive and significant effect on return on assets (ROA) in conventional banking companies listed on the Indonesia Stock Exchange for the 2020–2022 period.
3. The non-performing loan (NPL) variable has a negative and significant effect on the return on assets (ROA) of conventional banking companies listed on the Indonesia Stock Exchange for the 2020–2022 period.

Future research is expected to add other variables that are considered to influence return on assets (ROA) and increase the research period, and it is recommended to use all banking companies listed on the Indonesian Stock Exchange so that the results obtained will be more valid.

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