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The Effect of Capital Adequacy, Lending Interest Rates, Credit Risk and Third Party Funds on Return on Asset (ROA) (Empirical Study on Conventional Banking Companies Listed on the Indonesia Exchange in 2019-2023)

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Abstract: This study is to determine the effect of third party fund growth, credit interest rates, credit risk, capital adequacy and economic conditions on profitability in the banking industry on the Indonesian stock exchange. The population in this study were banking companies on the Indonesian Stock Exchange for the period 2019-2023. The sampling technique used was purposive sampling, and 25 banking company. The data collection method used in this study was non-participant observation. The data analysis technique was carried out using multiple linear regression analysis with the help of the SPSS 27.0 application. Findings: The results of this study indicate that Capital Adequacy has a positive and insignificant effect on Return on Assets (ROA). Interest Rate Level has a positive and significant effect on Return on Assets (ROA). Credit Risk has a positive and significant effect on Return on Assets (ROA). Third Party Funds have a positive and insignificant effect on Return on Assets (ROA). The results of this study have implications for the Community who will invest, giving them a better basis in making savings and investment decisions. The author explains the importance of the Influence of Capital Adequacy, Credit Interest Rates, Credit Risk and third party funds on Return on Assets (ROA).

Keywords: Third Party Funds, Capital Adequacy, Credit Risk, Return on Asset, Credit Interest Rate

INTRODUCTION

Banking has an important role for the economy in a country, in every aspect of human life is never separated from banks and financial institutions. A bank is a business entity that collects funds from the community in the form of deposits and distributes them to the community in the form of credit and other forms in order to improve the standard of living of many people in accordance with (Law of the Republic of Indonesia No. 10 of 1998 concerning Banking, n.d.). The banking industry as an intermediary between capital owners and fund users so as to facilitate the economic activities of a country. Banks are the most important financial

institutions and greatly affect the economy both micro and macro. One of the roles of banking is that banks must be able to improve their performance and generate profits, in the process of working not all banks generate profits and even some banks experience losses. The profitability ratio is a measure that indicates a company's ability to generate profits in a given period (Arsita Y, 2021). This ratio also provides a measure of the level of effectiveness of a company's management. Profitability is the ability of a company to make a profit. Companies that have good profits will be the target of investors (Ulva, 2021). Return on Asset is a ratio that measures the overall effectiveness of management in generating profits with available assets (Sorongan, 2019).

Often referred to as Return on Investment (ROI), if the ROA value is high, then the company is said to be good. Return on Assets (ROA) is a financial ratio used to measure the relationship between profit and total assets (Pasaribu, 2022). A low level of profitability is bad news, so management tends not to report financial statements in a timely manner and if the level of profitability is high, the management will tend to report on time. Therefore, the timeliness or not of financial reporting is greatly influenced by the content of the financial statements. In this study, profitability is proxied by return on assets (ROA) (Mareta, 2017). According to (Mareta et al., 2023) Profitability is also one of the indicators of a successful company to be able to generate profits so that the higher the profitability, the higher the company's ability to generate profits for the company.

Capital Adequacy Ratio (CAR) is a financial ratio related to banking capital, where the amount of capital of a bank will affect whether or not a bank is able to efficiently carry out its activities (Laruli, 2021). CAR is a minimum ratio that is based on the ratio of capital to risky assets. Capital Adequacy Ratio (CAR) is a ratio that aims to ensure that banks can absorb losses arising from their activities (Yulistiani & Suryantini, 2016).

Credit interest rate is the value, level, price or profit provided to investors from the use of investment funds on the basis of calculating economic value in a certain period of time (Christie et al., 2021). Lending interest rates are the most influential factor in income for banks (Sumawati, 2019).

Credit risk or Non-Performing Loan (NPL) is a ratio that shows the bank's ability to manage credit. In relation to the main activities of banks, bank activities that are lending are of course risky. Credit risk is a risk arising from the failure of the debtor who does not pay on time and causes the Company's losses. Credit Risk / Non-performing loan (NPL) is a ratio to measure the magnitude of non-performing loan risk in a bank caused by unsmooth payment of loan principal made by the customer so that the bank's performance decreases and becomes inefficient (Suardika et al., 2023).

One of the variables that determines Return On Assets (ROA) is Third Party Funds (DPK) which is a variable that has a great influence on bank credit distribution because it is the main task as a financial intermediary and Third Party Funds collected from the public can reach 80-90% of all funds managed by banks (Mamangkey, 2021). Credit Risk / Non-performing loan (NPL) is a ratio to measure the magnitude of non-performing loan risk in a bank caused by unsmooth payment of loan principal made by the customer so that the bank's performance decreases and becomes inefficient (Suardika et al., 2023).

METODE

Signal Theory is a concept in economics that explains how individuals or companies use certain cues or signs to communicate information about themselves to others. This theory has a wide range of applications, including in the fields of finance, the stock market, and marketing. Signal theory is an action taken by the company's management that provides investors with instructions on how management views the company's prospects.

Capital adequacy ratio (CAR) is the capital used to protect the bank from possible risk of losses resulting from the movement of bank assets, which partly comes from third-party

loans. Therefore, the higher CAR value makes banks confident in increasing their financing activities (Rais M, Manafe & H. A., & Man, 2023). The results of the study are in line with those conducted by (Suryadi et al., 2022) which show that CAR has a significant and positive effect on Profitability (ROA). Therefore, the formulation of the hypothesis that can be proposed is as follows:

H1: Capital Adequacy has a positive and significant effect on Return on Assets

Credit interest rate is a price that must be paid by the debtor to the bank for the loan that has been given. The high and low interest rates greatly affect the number of credit requests which if there is an increase in interest rates, the number of credit requests will decrease and vice versa (Arianti & Abdullah, 2021). This is in line with research conducted (Aditya & Badjra, 2018) Profitability is able to be positively and significantly influenced by the tribal level. Therefore, the formulation of the hypothesis that can be proposed is as follows:

H2: Lending Interest Rate has a positive and significant effect on Return on Assets.

Credit risk / Net present Loan (NPL) is the main risk faced by banks that occurs due to the failure of the counterparty to meet its obligations. Credit risk is a risk that will be suffered by the bank as a result of the non-repayment of credit that the bank has given to debtors (Capriani & Dana, 2019). This is in line with what was done by (Pratiwi & Wiagustini, 2016) who stated that NPLs have a positive but not significant influence on ROA. Therefore, the formulation of the hypothesis that can be proposed is as follows:

H3: Credit Risk has a positive and significant effect on Return on Assets.

Third-party funds (deposits) are funds entrusted by the public to banks based on fund storage agreements in the form of current accounts, deposits, certificates of deposit, savings and or other forms that are similar to it. Funds collected from the public (Third Party Funds) turn out to be the largest source of funds most relied on by banks (can reach 80% - 90% of all funds managed by banks) (Hatiana & Pratiwi, 2020). Therefore, the formulation of the hypothesis that can be proposed is as follows:

H4: Third Party Funds have a positive and significant effect on Return on Assets

Based on the formulation of the hypothesis above, the research framework can be described as follows:

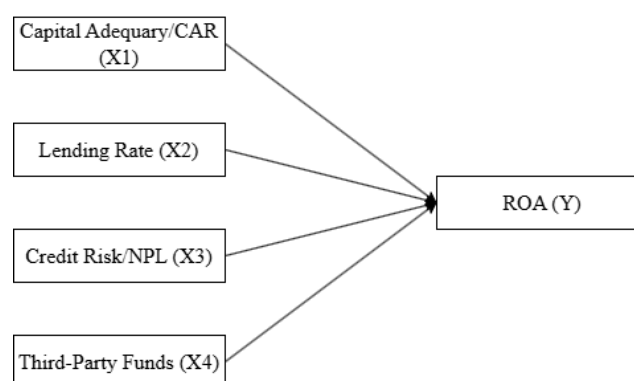


Figure 1. Thought Framework

The subject of this study is banking companies listed on the Indonesia Stock Exchange (IDX) in the 2019-2023 period, while the object of this research is the financial statements of banking companies listed on the Indonesia Stock Exchange (IDX) in the 2019-2023 period. The population in this study is all banking companies listed on the Indonesia Stock Exchange (IDX) for the 2019-2023 period. The sample selection method used in this study is purposive sampling which is a sampling technique with certain considerations.

RESULTS AND DISCUSSION

Descriptive Statistical Test Results

Table 1. Descriptive Statistical Test Result

Variabel	Minimum	Maximum	Mean	Std. Deviation
NPL (X3)	.00	34.15	2.9508	4..27795
DPK (X4)	1507598	1352683000	222178274.48	350128700.734
Interest rate (X2)	5.90	15.07	9.0690	1.80024
CAR (X1)	6.92	72.87	24.5073	9.56735
ROA (Y)	.02	3.70	1.1374	.81900

Source: Output Results of Data Processing with SPSS Version 27

Based on the table above, it is known that the ROA variable obtained a minimum value of 0.02 Bank Sinar Mas Tbk in 2019, a maximum value of 3.70 owned by Bank Central Asia Tbk in 2022, an average value (mean) of 1.1374 and a Std deviation of 0.81900. CAR obtained a minimum value of 6.92 owned by Bank Woori Saudara 1906 Indonesia Tbk in 2019, a maximum value of 72.87 owned by Bank Bumi Arta Tbk in 2023, a mean value of 24.5073 and a Std deviation of 9.56735. The interest rate obtained a minimum value of 5.90 Bank Pembangunan Daerah Jawa Tbk. in 2021, the maximum value of 15.07 was owned by Bank Capital Indonesia Tbk in 2019, the average value (mean) was 9.0690 and the Std deviation was 1.80024. NPL obtained a minimum value of 0.00 Bank Capital Indonesia Tbk in 2022, the maximum value of 34.15 is owned by Bank Permata Tbk. In 2023, the mean value was 2.9508 and the Std deviation was 4.27795. The deposit obtained a minimum value of 1507598 Bank Nobu Tbk in 2022, a maximum value of 1352683000 owned by Bank Rakyat Indonesia Tbk in 2023, a mean value of 222178274.48 and a Std deviation of 350128700.734.

Normality Test Results

Table 2. Results of the Normality Test

	Unstandardized Residual	Description
Asymp.Sig. (2-tailed)	0,093	Normally distributed data

Source: Output Results of Data Processing with SPSS Version 27

The results of the normality test showed that the residual values of all variables, namely capital adequacy, credit interest rates, credit risk, third-party funds and ROA in this study were distributed normally, which was shown by the magnitude of the significance value of Asymp. Sig. (2-tailed) above 0.05 or 5%, which is 0.093 or 9.3%, this shows that the regression model is feasible to use because it meets the assumption of normality.

Multicollinearity Test

Table 3. Multicollinearity Test

	Collinearity Statistics		Description
	Tolerance	VIF	
NPL (X2)	.904	1.106	No Multicollinearity Problem Occurs

DPK (X4)	.911	1.098	No Multicollinearity Problem Occurs
Interest rate (X3)	.959	1.043	No Multicollinearity Problem Occurs
CAR (X1)	.928	1.077	No Multicollinearity Problem Occurs

Source: Output Results of Data Processing with SPSS Version 27

Here's the outline of each variable: 1) The Capital Adequacy Ratio (CAR) variable has a VIF value of $1.077 < 10$ and a Tolerance value of $0.928 > 0.1$; 2) The Lending Rate variable has a VIF value of $1.043 < 10$ and a Tolerance value of $0.959 > 0.1$; 3) The Non-Performing Loan (NPL) variable has a VIF value of $1.106 < 10$ and a Tolerance value of $0.904 > 0.1$; 4) The Third Party Fund (DPK) variable has a VIF value of $1.098 < 10$ and a Tolerance value of $0.911 > 0.1$.

From the results of the above test output, it can be stated that there is no problem of multicollinearity between independent variables. So it can be concluded that there is no multicollinearity in this regression, so it is feasible to use.

Autocorrelation Test

Table 4. Autocorrelation test results

DU	Durbin-Watson	4-DU	Information
1,774	1,874	2,226	There are no signs of autocorrelation

Source: Output Results of Data Processing with SPSS Version 27

The autocorrelation test obtained a Durbin-Watson value (DW calculated) of 1.874 This value will be compared using a significance of 5%, the number of observations (n) as many as 125 and the number of independent variables 4. Here's a recap of the Durbin-Watson (DW) table, $\alpha = 5\%$:

Table 5. Results of the conclusion of the durbin-watson table

There is Autocorrelation	Area of uncertainty	No Autocorrelation	Area of uncertainty	There is Autocorrelation
d_L	d_U	DW	$4-d_U$	$4-d_L$
1,642	1,774	1,847	2,226	2,358

Source: Output Results of Data Processing with SPSS Version 27

Based on the criteria that have been determined, there is no negative/positive autocorrelation and the decision is not rejected or accepted, because:

$$\text{Residue} < DW < 4 - \text{Residue} \Rightarrow 1,774 < 1,874 < 2,226$$

So it can be concluded that there is no autocorrelation and means that the autocorrelation test is fulfilled.

Heteroscedasticity Test

Table 6. Results of heteroscedasticity test

		Unstandardized Residual	Description	
Variable	NPL (X2)	Sig.(2-tailed)	0,170	No Heteroscedasticity Occurs
	DPK (X4)	Sig.(2-tailed)	0.080	No Heteroscedasticity Occurs
	Interest rate (X3)	Sig.(2-tailed)	0.099	No Heteroscedasticity Occurs
	CAR (X1)	Sig.(2-tailed)	0.097	No Heteroscedasticity Occurs

Source: Output Results of Data Processing with SPSS Version 27

From the results of the Heteroscedacity Test, it can be seen that the Sig value of Abs_REG with CAR is 0.097, the sig value of Abs_REG with Interest Rate is 0.099, and the Sig value of Abs_REG with NPL is 0.170 and Abs_REG with DPK is 0.080. Since $\text{Sig} > 0.05$, H_0 is accepted, meaning that the test between Abs_REG and CAR, Interest Rate, NPL

and DPK has no symptoms of heteroscedasticity. With this, it can be concluded that no heteroscedasticity problem was found in the regression model.

Determination Coefficient Test (R2)

Table 7. Analysis of Determination Coefficient

Model	R	R Square	Adjusted R Square
1	0,579	0,335	0,313

Source: Output Results of Data Processing with SPSS Version 27

The calculation results obtained an Adjusted R2 value of 0.579 or 57.9%. This shows that 57.9% of the profitability variables are influenced by capital adequacy (CAR), lending interest rates, credit risk (NPL), and third-party funds (DPK) while the remaining (100%-57.9%) = 42.1% is influenced by other factors that are not studied in this study such as BOPO, LDR and others.

Simultaneous Signification Test (F-Test)

Table 8. Statistical Test F

Model	F	Sig.	Information
Regression	15.096	0.000	Significant

Source: Output Results of Data Processing with SPSS Version 27

Decision-making based on the level of significance. The interpretation of the ANOVA (F Test) output in table 4.11 is as follows:

- F table is obtained from an output of 15.096 (Sig 0.05, df1 = Number of variables – 1 = (5 - 1) = 4, and df2 = n – k – 1 (125 – 4 - 1 = 120) where k in df1 is the number of variables, and k in df2 is the number of independent variables, and n is the amount of data. Since F calculates > F table (15.096 > 2.44), the conclusion is that Ha is accepted and Ho is rejected.
- Sig. output is known to be 0.000. because Sig output (0.000) < Sig. α (0.05), the conclusion is that Ha is accepted and Ho is rejected. Calculation result between Fcal and Ftable explained that Fcal 17.79 > Ftable 2.44 In addition, it can be seen from the significance value produced is 0.000 (0.000 < 0.05) then Ha is accepted and Ho is rejected, so it can be concluded that the regression model in this study is feasible to use.

Partial Signification Testing (t-Test)

Table 9. Test T

Variable	T	Sig.	Information
NPL (X2)	-0,756	0,451	H1 accepted
DPK (X2)	6.284	0.000	H1 rejected
Interest Rate (X2)	-2,654	0.009	H1 accepted
CAR (X1)	-0,249	0,804	H1 rejected

Source: Output Results of Data Processing with SPSS Version 27

CAR variable The results of the comparison between t calculated and t table result in t count -0,249 < t table 2.00 or using the significance value can also be seen that the CAR of 0.165 which is greater than 0.05 (0.804 > 0.05), thus H01 is rejected and Ha1 is accepted by explaining that the CAR variable has no effect and is not significant to ROA. lending interest rate The result of the comparison between t calculated and t table results in t calculated -2,654 < t table 2.00 or using the significance value can also be seen that the lending interest rate of 0.000 which is greater than 0.05 (0.009 < 0.05), thus H02 is accepted and Ha2 is rejected which explains that the lending rate variable has a significant effect on ROA. NPL The result of the comparison between t calculation and t table results in t calculation -0,756 < t table 2.00 or

using the value significance can also be seen that the NPL of 0,451 is smaller than 0.05 ($0.451 < 0.05$), thus H_{03} is rejected and H_{a3} is accepted which explains that profitability has a significant effect on ROA. The results of the comparison between t calculation and t table result in t calculation $6,284 < t$ table 2.00 or using the significance value can also be seen that the third-party fund is 0.000 which is greater than 0.000 ($0.000 < 0.05$), thus H_{04} is accepted and H_{a4} is rejected which explains that the third-party fund variable has no effect and is not significant to ROA.

CONCLUSION

Capital Adequacy has a negative and insignificant effect on Return On Assets (ROA). The Lending Rate has a negative and significant effect on Return On Assets (ROA). Credit risk has a negative and no significant effect on Return On Assets (ROA). Third-Party Funds have a positive and insignificant effect on Return On Assets (ROA).

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