Effect of Credit and Credit Risk on Profitability of Central Asia Bank

by Ratna Ursula Setiadi

Effect of Credit and Credit Risk on Profitability of Central Asia Bank

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Abstract: *One of the bank's products is credit, which until now is still a productive asset that provides primary income. But it can also be a failure in a bank if the bank contains a high risk that can affect the survival rate of a bank. This study aims to analyze the effect of lending and credit risk on profitability at Central Asia Bank. The study was conducted by taking data for 5 years, namely from the period 2013-2017 using a quantitative approach. Data collection techniques in this study by means of documentation and testing analysis using multiple linear regression analysis with SPSS 16.0 software. The results of the study in testing the hypothesis obtained LDR variable regression coefficient of 0.027 and the NPL variable of 0.176, and the results of the F statistic test amounted to 64.931 with a significance of 0.015. Significance value F <0.05 indicates that the LDR and NPL variables significantly influence ROA at Central Asia Bank.*

Keywords: Giving Credit, Credit Risk, Profitability

1. Introduction

With the sign of the era of globalization, the demands for an increase in the standard of living for each person are increasingly high. This encourages everyone to compete to improve their standard of living. Thus, the bank becomes an option that can overcome this through the services offered by the bank.

One of the bank's products is credit, which until now is still a productive asset that provides primary income. But it can also be a failure in a bank if the bank contains a high risk that can affect the survival rate of a bank.

Credit risk can occur due to the inability of customers to pay their obligations within a predetermined period of time in a bank loan agreement to customers. Such as repayment of loan principal, interest payments and others that are not in accordance with a predetermined period of time, if it is not managed properly, it will result in increasingly problematic loans (Non Performing Loans) that will have an impact on banking conditions.

The success of the bank in achieving profit or profitability requires an increase in credit services as the main service product, in accordance with the targets and plans set by the board of directors, as well as increasing profits based on company principles and need to be supported by integrated and adequate policies, so as to optimize service levels to the community.

Based on the background above, the researcher formulated the problem as follows: (1) Does the provision of credit and credit risk simultaneously affect the profitability of Central Asia Bank ?. (2) Does giving credit and credit risk partially influence the profitability of Central Asia Bank ?. (3) Between giving credit and credit risk, which one has the most dominant influence on the profitability of Central Asia Bank?

The objectives of this study are: (1) To test and analyze the effect of giving credit and credit risk simultaneously to the profitability of Central Asia Bank. (2) To test and analyze the effect of giving credit and credit risk partially on the profitability of Central Asia Bank. (3) To find out the dominant influence between giving credit and credit risk to the profitability of Central Asia Bank.

2. Theoretical

Understanding of the Bank

According to Faud (2015: 7) In general, banks are places where people with excessive funds save money and places where people who lack loans. The bank comes from Italian: banco, which means "bench or chair." This is because at that time people who worked at the bank were always behind the desk or sitting in chairs. The type of bank according to Faud (2015: 8) there are two types of banks in Indonesia, namely: (1) Commercial banks, and (2) Rural Banks. According to Article 1 Paragraph 11 of the Banking Law Number 10 of 1998 concerning Amendment to Law Number 7 of 1992 concerning Banking, credit is the provision of money or claims that can be equated with it based on an agreement or agreement between banks and other parties that require the borrower to pay off the debt after a certain period of time and after the interest is given.

Understanding of Credit

Credit Elements according to Karmila (2013: 5) Loans channeled by banking institutions contain the following elements: (1) Trust, (2) Agreement, (3) Duration, (4) Reward, (5) Risk. While the function of Credit in the economy are: (1) Increasing the use of money, (2) Increasing the circulation of money, (3) Increasing the usability and circulation of goods, (4) Tools of economic stability, (5) Increasing business activities, (6) Increasing income distribution, (7) Increasing relations between countries. While detailed credit benefits can be distinguished as follows: (1) Benefits of credit for borrowers, (2) Benefits of credit for banks, (3) Benefits of credit for the government, (4) Benefits of credit for the community.

The terms of lending to the public are known as the 6C Principle, namely: (1) Character (2) Capacity, (3) Capital,

(4) Collateral, (5) Condition of economy, (6) Constraints. In addition to Principle 6C, financial institutions also consider the principles of lending. This principle is known as the term 7P which includes, (1) Personality, (2) Purpose, (3) Prospect, (4) Payment, (5) Party, (6) Profitability, (7) Protection. And for the stages of credit requests that must be passed by a debtor, namely the approach stage, official submission, identification, legalization and commitment, and the realization stage. Besides that not all proposed loans are approved by the bank. It is possible that a credit application was rejected.

The credit interest system can be distinguished according to the nature of fixed credit interest and floating credit interest. While based on the method of payment of credit interest is divided into a flat interest system and a sliding interest system.

Definition of Credit Risk
According to Rustam (2018: 153) Credit risk is a risk due to the failure of other parties to fulfill obligations to financial institutions that provide credit in accordance with the agreed agreement.
Indicators of credit risk are:

$$Credit\ Risk = \frac{Non\ Performing\ Loan}{Total\ Earning\ Assets} \times 100\%$$

The types of credit risk according to Rustam (2018: 155) are distinguished as follows: (1) Risk of credit concentration, (2) Risk due to failure of the opposing party, (3) Risk due to settlement failure, (4) Country risk.

For non-performing loans, loans are generally those with installment payments or interest over 90 days after maturity, or loans with timely payments are very doubtful. Non-performing loans can also be interpreted as loans that experience difficulty repayment due to intentional factors or because external factors beyond the ability of the debtor can be measured by credit collectibility.

Definition of Profitability
Profitability or ability to earn profits is a measure in the percentage used to assess the extent to which a company is able to generate profits at an acceptable level. Profitability figures are stated among others in the numbers before or after tax profit, investment profit, income per share, and sales profit. The value of profitability is a measure norm for the health of the company. Profitability Ratio is a ratio or comparison to find out the ability of a company to earn profit from earnings related to sales, assets, and equity based on certain measurement bases.

For the benefit of the Profitability Ratio include: (1) To measure or calculate the profits obtained by the company in a given period, (2) To assess the position of corporate profits the previous year with the current year, (3) To assess the development of profits over time, (4) To assess the amount of net income after tax with own capital, (5) To measure the productivity of all company funds used both loan capital and own capital.

Type of Profitability Ratio
1. Gross Profit Margin
   Gross profit margin is calculated as follows:
   $$Gross\ Profit\ Margin = \frac{Gross\ Profit}{Total\ Income} \times 100\%$$
2. Net Profit Margin
   Net Profit Margin is calculated as follows:
   $$Net\ Profit\ Margin = \frac{Net\ Profit\ after\ tax}{Total\ Sales} \times 100\%$$
3. Return On Total Assets (ROA)
   Return On Total Assets are calculated using the following formula:
   $$ROA = \frac{Profit\ before\ taz}{Total\ Assets} \times 100\%$$
4. Return On Equity Ratio
   Return On Equity Ratio is calculated by the following formula:
   $$ROE = \frac{Net\ Profit\ after\ tax}{Shareholders\ Equity} \times 100\%$$
5. Return On Sales Ratio
   Return On Sales Ratio is calculated by the formula as follows:
   $$ROS = \frac{Profit\ before\ tax\ and\ interest}{Total\ Sales} \times 100\%$$
6. Return on Capital Used (Return on Capital Employed)
   Here are two commonly used ROCE formulas:
   $$ROCE = \frac{Profit\ before\ tax\ and\ interest}{Working\ Capital} \times 100\%$$
   or $$ROCE = \frac{Profit\ before\ tax\ and\ interest}{(Total\ Assets - Liabilities)} \times 100\%$$
7. Return On Investment (ROI)
   Return On Investment is calculated by the formula as follows:
   $$ROI = \frac{(Return\ on\ Investment - Initial\ Investment)}{Investment} \times 100\%$$
8. Earning Per Share (EPS)
   Earning per share is calculated using the following formula:
   $$EPS = \frac{Profit\ after\ tax - Preferred\ stock\ dividend}{Number\ of\ ordinary\ shares\ outstanding} \times 100\%$$
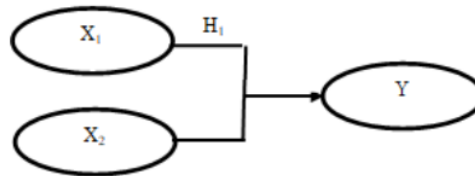
3. Conceptual Framework

Figure 2.3: Conceptual Framework

Information
X1: Credit
X2: Credit Risk
Y: Profitability

Hypothesis
From the background and conceptual framework above, the hypothesis can be determined in this study that: (1) Credit and credit risk simultaneously have a significant effect on

the profitability of Central Asia Bank. (2) Giving credit and credit risk partially has a significant effect on the profitability of Central Asia Bank. (3) Giving credit has the most dominant influence on the profitability of Central Asia Bank.

4. Research Methods

The type of research used in this study is quantitative. The population in this study is the financial statements of Central Asia Bank. And the sample in this study is the financial statements of Central Asia Bank for the period 2013-2017. The variables studied can be divided into 2, namely:
1) Independent variable (X)
   a) Credit (X1), using the indicator of Loan Deposit Ratio (LDR)
   b) Credit Risk (X2), using the Non Performing Loan (NPL) indicator
2) Dependent variable (Y)
   The dependent variable (Y) used by the author in this study is Profitability, using the indicator Return on Total Assets (ROA).

The measurement scale used in this study is the ratio. The indicator used to measure the level of lending in this study uses indicators:

$$LDR = \frac{Credit}{Total\ Third\ Party\ Funds} \times 100\%$$

The indicator for measuring the level of credit risk in this study uses indicators:

$$NPL = \frac{Non\ Performing\ Loan}{Total\ Credit} \times 100\%$$

Indicators for measuring the level of profitability in this study use indicators:

$$ROA = \frac{Profit\ before\ tax}{Total\ Assets} \times 100\%$$

The data collection technique in this study is by means of documentation and data sources used in this study are secondary data.

In this study, the data needed are financial statements of Central Asia Bank for 5 years, namely in the period 2013-2017 taken from the Gallery of Investment in the Indonesia Stock Exchange. Data analysis in this study by using quantitative data with ratio data.

In this study researchers used statistical data analysis. The model used in analyzing data is multiple linear regression models. Data analysis using SPSS 16.0 statistical computer program (Statistical Package for the Social Sciences Version 16.00).

Hypothesis tests conducted in this study are: (1) Classical Assumption Test consisting of: a) Normality Test, b) Multicollinearity Test, c) Autocorrelation Test, d) Heteroscedasticity Test. (2) Multiple Linear Regression Analysis, namely hypothesis testing carried out in this study by using: a) Test t, b) Test F, and Test R^2

5. Analysis of Discussion

5.1 Research data

Based on input data from Bank Indonesia Financial Statements for 2013-2017, bank financial ratios used in this study can be calculated which include Loan Deposit Ratio (LDR), Non Performing Loans (NPL), and Return On Total Assets (ROA). The calculation results are like the table below:

Table 4.1: LDR Calculation for 2013-2017

No	Year	Credit	Third Party Fund	LDR (%)
1	2013	306.679	409.486	74,9
2	2014	339.859	447.906	75,9
3	2015	378.616	473.666	79,9
4	2016	403.391	530.134	76,1
5	2017	454.265	581.115	78,2

Source: 2013-2017 Financial Report Central Asia Bank at the Investment Gallery of the Indonesia Stock Exchange.

Table 4.2: Calculation of NPL for 2013-2017

No	Year	Problem Loan	Total Credit	NPL (%)
1	2013	1.373	306.679	0,4
2	2014	2.067	339.859	0,6
3	2015	2.801	378.616	0,7
4	2016	5.452	403.391	1,3
5	2017	6.945	454.265	1,5

Source: 2013-2017 Financial Report Central Asia Bank at the Investment Gallery of the Indonesia Stock Exchange.

Table 4.3: Calculation of ROA for 2013-2017

No	Year	Profit Before Tax	Total Assets	ROA (%)
1	2013	17.816	496.305	3,6
2	2014	20.741	552.424	3,7
3	2015	22.657	594.373	3,8
4	2016	25.839	676.739	3,8
5	2017	29.159	750.320	3,9

Source: 2013-2017 Financial Report Central Asia Bank at the Investment Gallery of the Indonesia Stock Exchange.

Based on the recapitulation of data from LDR, NPL, and ROA, the minimum, maximum, average and standard deviation values of each research variable are obtained as in table 4.4 below:

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LDR	5	74,9	79,9	77,000	20,174
NPL	5	,4	1,5	,900	,4743
ROA	5	3,6	3,9	3,760	,1140
Valid N (listwise)	5				

Source: SPSS 16 Calculation Results (Data processed)

Based on the results of calculations in table 4.4 above, it can be seen that the average LDR is 77,000%, the magnitude of the LDR shows a good value because in accordance with BI rules, the LDR is of a magnitude between 75% and 105%. The average NPL is 0.900%, the magnitude of the NPL is in accordance with BI rules, namely a good NPL must be below 5%. The average ROA is 3.760%, the amount of ROA in accordance with BI rules is that a good ROA must be above 1.5%.

5.2 Research result

Table 4.5: Normality Test Results One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
	N	5
Normal Parameters[a]	Mean	,0000000
	Std. Deviation	,01404193
Most Extreme Differences	Absolute	,253
	Positive	,253
	Negative	-,150
Kolmogorov-Smirnov Z		,567
Asymp. Sig. (2-tailed)		,905

Source: SPSS 16 Calculation Results (Data processed)

Table 4.6: Multicollinearity Test Results Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1,492	,392		3,804	,063		
	LDR	,027	,005	,485	5,305	,034	,908	1,101
	NPL	,176	,022	,731	8,003	,015	,908	1,101
a. Dependent Variable:ROA								

Source: SPSS 16 Calculation Results (Data processed)

Based on the calculation results in table 4.6 above, the VIF value of all variables <10, and Tolerance> 0.1. Then it can be concluded that in each variable there is no multicollinearity.

Table 4.7: Autocorrelation Test Results Summary[b]Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,992[a]	,985	,970	,0199	2,784
a.	Predictors: (Constant), NPL, LDR				
b.	Dependent Variable: ROA				

Source: SPSS 16 Calculation Results (Data processed)

Based on the results of calculations in table 4.7 above, it can be seen that the results of Durbin-Watson 2,784, while in the DW table k = 2 and n = 5, the magnitude of the DW table: dL = 0.4672, dU = 1.8964, 4 - d = 4 - 2,784 = 1,216, then the calculation can be interpreted as 4-dU ≤ DW ≤ 4-dL, there is no conclusion. From these results, the authors use the run test to get more definite results. Run test can be seen in table 4.8

Table 4.8: Correlation Analysis Results Runs Test

	Unstandardized Residual
Test Value[a]	-,00430
Cases < Test Value	2
Cases >= Test Value	3
Total Cases	5
Number of Runs	4
Z	,109
Asymp. Sig. (2-tailed)	,913

Source: SPSS 16 Calculation Results (Data processed)

The Run Test results show that Asymp. Sig. (2-tailed)> 0.05 (0.913> 0.05) which means the null hypothesis failed to be rejected. Thus the data used is quite random so there is no problem of autocorrelation in the data being tested.

Based on the results of calculations in table 4.5 above, significant value> alpha (0.905> 0.05). This means that Ho is accepted which concludes that the residual data is normally distributed.
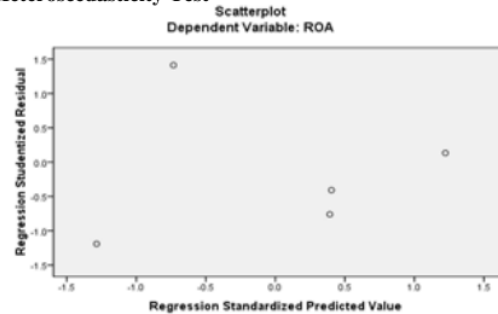
Heteroscedasticity Test

Figure 4.2: Heteroscedasticity Test
Source: SPSS 16 Calculation Results (Data processed)

Figure 4.2 shows there was no heteroscedasticity in this study. Figure 4.2 shows points that spread well above zero and below zero. Therefore, this study can be concluded that there is no heteroscedasticity and regression equation can be used to predict profitability based on the variable X tested.

Analysis of Multiple Linear Regression

Table 4.9: Results of Multiple Linear Regression Analysis

Model		Coefficients[a]				
		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,492	,392		3,804	,063
	LDR	,027	,005	,485	5,305	,034
	NPL	,176	,022	,731	8,003	,015
a. Dependent Variable: ROA						

Source: SPSS 16 Calculation Results (Data processed)

Based on the results of calculations in table 4.9 above, it can be written the multiple linear regression equation for this study are as follows:

$Y = 1,492 + 0,027X_1 + 0,176X_2$

Information:
Y = Return On Total Assets (ROA)
X_1 = Loan Deposit Ratio (LDR)
X_2 = Non Performing Loan (NPL)

Table 4.10: T test

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,492	,392		3,804	,063
	LDR	,027	,005	,485	5,305	,034
	NPL	,176	,022	,731	8,003	,015
a. Dependent Variable: ROA						

Coefficients[a]

Source: SPSS 16 Calculation Results (Data processed)

Based on the table above the following results are obtained:
1) The partial test results for the LDR variable are sig <0.05 (0.034 <0.05). This shows that the LDR has a significant effect on ROA.
2) The partial test results for the NPL variable are sig <0.05 (0.015 <0.05). This shows that the LDR has a significant effect on ROA.

Table 4.11: F Test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	,051	2	,026	64,931	,015[a]
	Residual	,001	2	,000		
	Total	,052	4			
a.	Predictors: (Constant), NPL, LDR					
b.	Dependent Variable: ROA					

ANOVA[b]

Source: SPSS 16 Calculation Results (Data processed by author, 2018)

Based on table 4.11 above shows that sig <0.05 (0.015 <0.05). This shows that the independent variables namely LDR and NPL have a significant effect jointly on the dependent variable, namely ROA.

Table 4.12: R^2 test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,992[a]	,985	,970	,0199
a. Predictors: (Constant), NPL, LDR				

Model Summary

Source: SPSS 16 Calculation Results (Data processed by author, 2018)

The coefficient of determination (R^2) is 0.985 or 98.5%. This means that 98.5% of the variation in ROA at Central Asia Bank can be explained by variations in the two independent variables namely LDR and NPL. Thus it can be said that the LDR and NPL variables together play a role in efforts to increase ROA. While the remaining 1.5% is influenced by other variables not examined in this study, such as CAR, BOPO, and others.

6. Discussion

The Influence of Simultaneous Lending and LDR (Credit Risk) (NPL) on Profitability (ROA)

The LDR provides an indication of the amount of third party funds channeled in the form of credit. A high ratio illustrates the lack of good bank liquidity position. As a result, the amount of funds needed to finance credit is getting bigger. Generally the ratio of up to 100% gives a pretty good picture of the state of bank liquidity.

The NPL provides an indication of the ability of banks to manage problem loans. So that the higher the ratio, the worse the quality of bank credit that causes the number of problem loans to be greater and the possibility of a bank in a problematic condition getting bigger as well. So if the NPL gets bigger, it will cause a decrease in ROA, or it means the bank's performance will decline

The results of the F test in table 4.11 above show that the F value of statistics is 64.931 with a significance of 0.015. The significance value of F <0.05 indicates that the LDR and NPL variables simultaneously have a significant effect on the ROA of Central Asia Bank in the 2013-2017 period.

This significant influence shows that the provision of credit (LDR) and credit risk (NPL) contribute to generating bank profitability (ROA). From the results of the F test above it can be explained that credit (LDR) and credit risk (NPL) simultaneously affect the profitability (ROA).

The Effect of Partial Lending and Credit Risk (NPL) on Profitability (ROA)

The effect of being given LDR on ROA at a coefficient value of 0.027. ROA will increase by 0.027 units, if there is an increase in LDR of one unit assuming other variables remain. LDR has a positive and significant influence. This can be seen in Table 4.10, which is the significance level of the LDR of 0.034. This value is smaller than the acceptable error rate of 0.05 ($\alpha = 5\%$).

The LDR shows how far the bank is able to repay funds withdrawals made by depositors by relying on loans given as a source of liquidity, or in other words, how far crediting to customers can offset the bank's obligation to immediately meet the demand of depositors who want to withdraw their money used by banks to provide credit. When viewed from the results of this study, the LDR shows a positive influence on increasing bank profits. That is, an increase in the number of loans successfully channeled by banks will have an impact on increasing bank profits.

The significance value of LDR to ROA is 0.034 indicating the effect of the LDR variable on ROA has a direct effect.

Influence given NPL on ROA at the coefficient value of 0.176. ROA will increase by 0.176 units, if there is an increase in NPL of one unit assuming other variables remain. NPL has a positive and significant effect. This can be seen in Table 4.10, namely the level of significance of the NPL of 0.015. This value is smaller than the acceptable error rate of 0.05 ($\alpha = 5\%$).

NPL will allow banks to assess how much capital the bank has. NPLs are related to problem loans, not all banks have customers who are diligent in paying for their credit, but there are also customers who are late paying their loans, not only for a month or two but for months.

The NPL significance value of ROA of 0.015 shows the effect of the NPL variable on ROA has a direct effect.

So the hypothesis proposed that lending (LDR) and credit risk (NPL) partially influence the profitability (ROA) is accepted.

Dominant influence between Credit (LDR) and Credit Risk (NPL) against Profitability (ROA)
The results of the T test in table 4.10 above show the LDR significance value of 0.034, and the NPL significance value of 0.015. The significance value of the LDR variable <0.05, which is 0.034 <0.05, indicates that the LDR variable has an effect on ROA. The significance value of the NPL variable <0.05, which is 0.015 <0.05, indicates that the NPL variable has an effect on ROA.

A high LDR can mean that the bank can provide high credit. If the interest income earned from credit is greater than the interest expense on deposits or deposits, the bank can increase its profits as well. So that a high LDR can increase bank profitability.

The more NPL ratio numbers in a bank can be ascertained that there is something wrong with the performance function of the bank, so that the negative impacts that are generated even more. While the smaller the presentation ratio of the NPL, we can be sure that the bank's performance and the functions of the bank have worked well. The basic function of a bank is the same namely to connect between the two parties, the first party is the party that has excess funds and wants to save money in the bank, while the second party is the party who needs funds so that the party submits a loan or loan to the bank. This condition implies that the higher the NPL value, the lower the profitability of Central Asia Bank.

The most dominant effect on profitability (ROA) is lending (LDR), because the significance value of the LDR variable is greater than the significance value of the NPL variable, which is 0.034> 0.015.

7. Conclusion

Based on the results of the research and discussion on the analysis of the effect of giving credit and credit risk on profitability of Central Asia Bank, the authors draw the following conclusions:
1) Simultaneous test results for credit (LDR) and credit risk (NPL) on profitability (ROA) are sig <0.05 (0.015 <0.05) which indicates that the independent variables namely LDR and NPL have significant influence together on the dependent variable, namely ROA at Central Asia Bank.
2) The partial test results for the LDR variable are sig <0.05 (0.034 <0.05), and for the NPL variable sig <0.05 (0.015 <0.05). This shows that the LDR and NPL have a partial effect on ROA at Central Asia Bank.

3) The test results show that the dominant effect on profitability (ROA) is credit (LDR), because the significance value of the credit giving variable (LDR)> the significance value of the credit risk variable (NPL), which is 0.034> 0.015.

8. Suggestion

The suggestions that the authors can convey about this research are as follows:
1) For banks, banks must conduct an evaluation of lending activities to customers, this is intended so that credit risk can be minimized, namely by way of more stringent in conducting credit supervision, making improvements in the analysis of lending by conducting trainings, choosing customer industry sector more thoroughly. This is intended so that the return process from granting credit can be seen so that the company's profitability has increased.
2) For investors or potential investors, investment decisions should need to be considered when viewed from the credit factor offered by a bank, because it affects the level of profitability of a bank.
3) For further researchers, this study has many limitations, including this study using only internal factors to determine the factors that influence the dependent variable, so it is expected that further research can complement the limitations that exist in this study.

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