

Ratio to Return On Assets in Banking Subsector Companies Listed on the Indonesia Stock Exchange in 2016-2019

Hendra Jauhari¹, Kenfi Devananta², Owen August Lais³, Gabriella⁴, Januardin⁵

^{1,2,3}Universitas Prima Indonesia, Indonesia.

januardin@unprimdn.ac.id

Abstract

This study aims to determine the effect of Cash Ratio, Capital Adequacy Ratio and Loan to Deposit Ratio on Return On Assets in banking sub-sector companies listed on the Indonesian stock exchange in 2016-2019. This research uses quantitative research methods to find the relationship between numerical data or numbers. . The data analysis model used during this research process is the multiple linear regression analysis model using the SPSS application ((Statistical Product and Service Solutions) version 24. During the 4-year period, namely; 2016-2019, there were 18 companies that met the criteria in the study. and produced 72 data samples. The results obtained are (1) It is known that the t-count Cash Ratio: $5.956 > t\text{-table } 1.996$, so it can be concluded that there is an effect of X1 (Cash Ratio) on Y (ROA) (2) The t-value is known. Calculate Cash Adequacy Ratio: $3.300 > t\text{ table } 1.996$, so it can be concluded that there is an effect of X2 (Cash Adequacy Ratio) on Y (ROA). that there is no effect of X3 (Loan to Deposit Ratio) on Y (ROA) (4) Cash Ratio, Cash Adequacy Ratio, Loan to Deposit Ratio have a simultaneous effect on Return On Assets in Peru Banking sub-sector companies listed on the IDX for the 2016-2019 period. This is evidenced by the significance value of 0.00 indicating a value that is smaller than the predetermined significance value of 0.05.

Keywords

cash ratio (CR); capital adequacy ratio (CAR); loan to deposit ratio (LDR); return on assets (ROA)



I. Introduction

Banking is a financial institution that plays an important role in the economy of a country and is a means to support smooth transactions at home and abroad. Before investors invest funds, of course, first look at the performance of the bank. There are several financial ratios in determining the performance of a company generally good financial performance can be seen from how well the bank is in generating profit/profit which is calculated using the profitability ratio. The financial ratios that will be used for this research study are Cash Ratio, Capital Adequacy Ratio, Loan to Deposit Ratio as the independent variable and Return on Assets as the dependent variable. ROA assesses how efficient a bank is in managing assets to generate profits in a period (Susanto, Heri & Kholis, 2016). The greater the Return on Assets (ROA), the greater the profit obtained. It also shows that the performance of a company is getting better (Djumahir & Ratnawati, 2013).

Financial statements are basically a source of information for investors as one of the basic considerations in making capital market investment decisions and also as a means of management responsibility for the resources entrusted to them (Prayoga and Afrizal 2021) . Financial performance is a measuring instrument to know the process of implementing the

company's financial resources. It sees how much management of the company succeeds, and provides benefits to the community. Sharia banking is contained in the Law of the Republic of Indonesia No.21 of 2008 article 5, in which the Financial Services Authority is assigned to supervise and supervise banks. (Ichsan, R. et al. 2021)

For clarity, data on Cash Ratio, Capital Adequacy Ratio and Loan to Deposit Ratio on Return On Assets in Banking Subsector Companies Listed on the Indonesia Stock Exchange for the 2016-2019 period are presented in Table 1.

Table 1. Banking Research Phenomenon 2016-2019 Period

Code	Bank name	Year	Cash Ratio	Capital Adequacy	Loan to Deposit Ratio	Return On Assets
READ	Bank Capital Indonesia, Tbk.	2016	1,449,568,493	0.206430895	0.552166844	0.008870369
		2017	6,080,681,595	0.225571321	0.504311293	0.007017841
		2018	1,565,114,838	0.186588461	0.516998139	0.007884353
		2019	1,642,205,541	0.126653048	0.595306285	0.001263158
BSIM	Bank Sinarmas, Tbk.	2016	0.46302572	0.159186608	0.76207546	0.015825183
		2017	0.408121967	0.178003672	0.777944417	0.013401459
		2018	0.500758146	0.198684978	0.873786036	0.00246719
		2019	0.426171325	0.216121864	0.864608416	0.002239989
PNBN	Bank Pan Indonesia, Tbk.	2016	5,075,934,684	0.204897305	0.87658903	0.016599383
		2017	2,519,898,526	0.219901531	0.883168883	0.013877625
		2018	3,891,220,593	0.233269875	0.997757728	0.020820155
		2019	6,413,662,313	0.234072597	1.040.501.242	0.019066128

Source :www.idx.co.id

From the table above, it can be seen that the Cash Ratio at Bank Capital Indonesia, Tbk. in 2018-2019 there was an increase from 156,511 to 164,220 but there was a decrease in Return On Assets in 2018-2019, from 0.007 to 0.001. Capital Adequacy Ratio at Bank Sinarmas, Tbk. in 2016-2017 has increased from 0.159 to 0.178 but there was a decrease in Return on Assets in 2016-2017 from 0.015 to 0.013. Loan to Deposit Ratio at Bank Pan Indonesia, Tbk. in 2018-2019 there was an increase from 0.997 to 1,040 but there was a decrease in Return on Assets in 2018-2019 from 0.020 to 0.019. Based on the above background, this study was conducted to determine the effect of Cash Ratio, Capital Adequacy Ratio and Loan to Deposit Ratio on Return on Assets in banking sub-sector companies listed on the Indonesia Stock Exchange in 2016-2019.

II. Review of Literature

Cash Ratio (Cash Ratio) is a liquidity ratio used to determine how well the cash position can cover current liabilities by comparing total cash and assets current with current debt. According to Dendawijaya (2015: 114), the greater the value of the cash ratio, the easier it is for the company to meet short-term obligations.

Capital Adequacy Ratio (Capital Adequacy Ratio) is a ratio that shows the ability of bank capital to overcome risky assets, such as credit (Fahmi, 2015). Bank Indonesia (BI) has set a minimum percentage of CAR at 8% to maintain financial system stability. According to Dietrich et al., (2009), banks with high capital are considered relatively safer than banks with low capital, this is because banks with high capital usually have lower needs than external funding. The greater the Capital Adequacy Ratio, the greater the bank's capital adequacy and the higher the profitability.

Loan to Deposit Ratio is the ratio that compares the total loans granted to the total third party funds. According to Kasmir (2012: 132), LDR shows a bank's ability to meet short-term obligations of a bank. The greater the LDR value, the higher the profit that will be obtained by a bank.

2.1. Conceptual framework

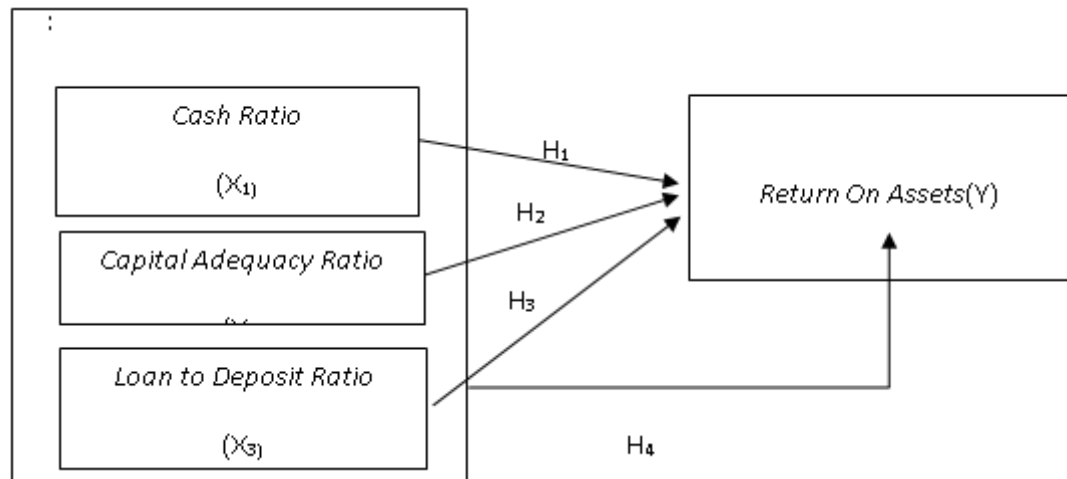


Figure 1. Conceptual Framework

The hypotheses in this study are as follows:

- H1: Cash Ratio has an effect on Return On Assets (Return on Assets) in banking sub-sector companies listed on the Indonesia Stock Exchange for the 2016-2019 period.
- H2: Capital Adequacy Ratio has an effect on Return On Assets in banking subsector companies listed on the Indonesia Stock Exchange for the 2016-2019 period.
- H3 : Loan to Deposit Ratio has an effect on Return On Assets (Return on Assets) in banking sub-sector companies listed on the Indonesia Stock Exchange for the 2016-2019 period.
- H4: Cash Ratio (Cash Ratio), Capital Adequacy Ratio (Capital Adequacy Ratio) and Loan to Deposit Ratio has an effect on Return On Assets in banking sub-sector companies listed on the Indonesia Stock Exchange for the 2016-2019 period.

III. Research Method

3.1. Research Location and Time

This research was conducted at the Indonesia Stock Exchange by taking data from the banking sub-sector companies contained on the official website of the Indonesia Stock Exchange. Data collection was carried out in August-September 2020.

3.2. Types of research

The type of research used is descriptive quantitative research. According to Kuncoro (2013: 12), descriptive research includes collecting data to test hypotheses or answer questions about the latest status of the last subject. According to Kuncoro (2013: 145), quantitative data is data that is measured on a numerical scale (numbers) in the form of ratio data. So it can be concluded that quantitative descriptive research is research that describes the relationship using numerical data or numbers.

3.3. Population and Sample

According to Sugiyono, population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by researchers to be studied and then drawn conclusions. The populations that will be used in this study are banking companies listed on the Indonesia Stock Exchange as many as 43 companies. According to Sugiyono (2012: 116), the sample is part of the number and characteristics possessed by the population. This research uses purposive sampling technique. Purposive sampling is a technique of taking samples from the population according to predetermined criteria. The criteria used to select the sample are as follows: Banking sub-sector companies listed on the Indonesia Stock Exchange during the research period, 2016-2019, sub-sector companies listed on the IDX that publish financial reports during the study period, namely from 2016-2019, financial statements of companies in the banking sub-sector that did not experience losses during the 2016-2019 period. Based on the above criteria in sampling, the researchers found 18 companies that fall into the sample criteria.

Table 2. Sample Selection Process

Sample Selection Criteria	Amount
Banking sub-sector companies listed on the IDX during the period The research took place in 2016-2019	43
IDX-listed sub-sector companies that publish reports finance during the research period, namely from 2016-2019	(15)
Financial statements of companies in the banking sub-sector that do not experienced a loss during the 2016-2019 period	(10)
Number of Samples	18

Number of sample selection = 18 x 4 years = 72

From the table above, the number of research samples obtained is 80 company data from the banking population listed on the Indonesia Stock Exchange during the 2016-2019 period.

3.4. Data Collection Technique

The data collection technique is the documentation method, namely the data collection used by using written materials or data created by other parties. The data is taken from audited financial report data of each banking company for the period 2016-2019 which was obtained through: www.idx.co.id.

3.5. Operational Definition of Research Variables

This ratio is used to measure the ability of a bank to meet its short-term obligations by using its liquid assets. The higher the cash ratio value of a bank, it will increase the profit and liquidity of a bank. According to Kasmir (2015: 71) the Cash Ratio variable can be measured by the formula:

$$\text{Cash Ratio} = \frac{\text{Liquid Asstes}}{\text{Short Term Borrowing}} \times 100\%$$

The Capital Adequacy Ratio is used as a ratio that measures the capital adequacy of a bank for. A bank will be said to be stable if it has a Capital Adequacy Ratio of 8%. According to Jumingan (2014: 243), the variable Capital Adequacy Ratio can be measured by the formula:

$$\text{Capital Adequacy Ratio} = \frac{\text{Modal}}{\text{Aktiva Tertimbang Menurut Risiko}} \times 100\%$$

The Loan to Deposit Ratio is used to measure the ability of a bank to provide credit with funds from third parties. According to Kasmir (2012: 225) the variable Loan to Deposit Ratio can be measured by the formula:

$$\text{Loan to Deposit Ratio} = \frac{\text{Jumlah Kredit yang Diberikan}}{\text{Total Dana Pihak Ketiga}} \times 100\%$$

The Return On Assets ratio is used as a measuring tool for a bank's profit. The greater the ROA value of a bank will also show how efficient a company is in managing the assets of a bank. According to Pandia (2012: 71) the Return On Assets variable can be measured by the formula:

$$\text{Return On Assets} = \frac{\text{Laba Sebelum Pajak}}{\text{Total Asset}} \times 100\%$$

IV. Result and Discussion

4.1. Descriptive statistics

According to Subagyo (2008:1), descriptive statistics are part of statistics that study data collection, presentation, determination of statistical values, making diagrams or pictures about something, data presented in a form that is easy to understand or read. In this research, the objects of descriptive statistics are all the independent and dependent variables in the study. Descriptive statistics aim to describe conditions, symptoms or problems. According to Ghazali (2013: 9), descriptive statistics provide an overview or description of a data seen from the average (mean), standard deviation, variance, maximum, minimum, sum, range, kurtosis, and skewness (distribution win).

Table 3. Descriptive Statistics

N		Minimum	Maximum	mean	Std. Deviation
CR (X1)	72	,37	4.77	1.8488	,93937
CAR (X2)	72	10.52	32.84	20.7808	4.25510
LDR (X3)	72	50.61	163.10	86.8635	15,69502
ROA (Y)	72	,09	4.00	2.0101	1.09981
Valid N (list wise)72					

Source: Processed Data (2020)

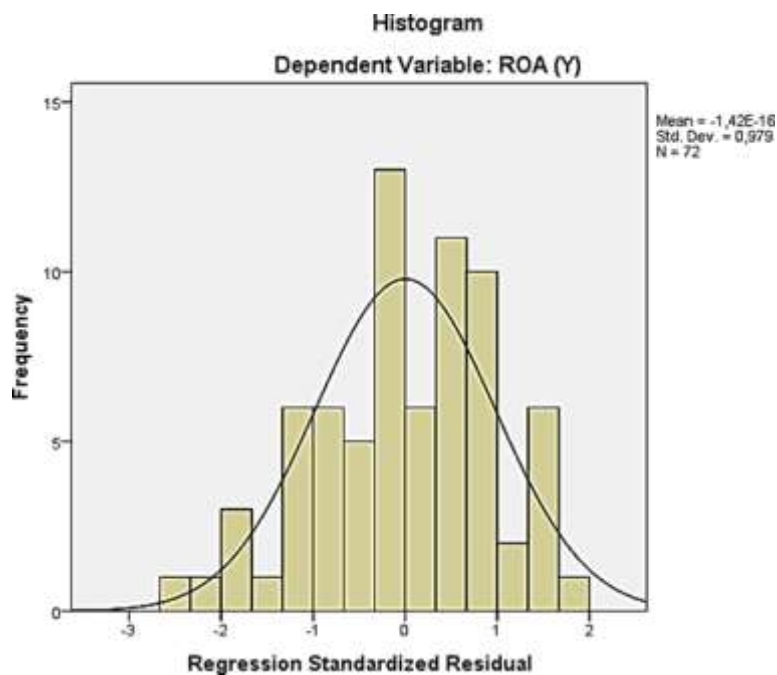
Based on Table 3, it can be detailed as follows:

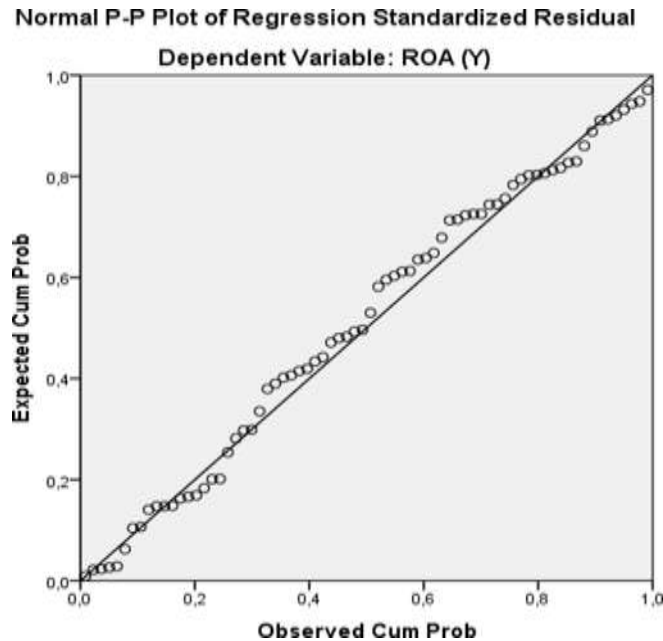
1. Cash Ratio (X1) shows the number of samples (N) is 72, the minimum value is 0.37, the maximum value is 4.77, the average value is 1.8488, the standard deviation value is 0.93937.
2. The Capital Adequacy Ratio (X2) shows the number of samples (N) is 72, the minimum value is 10.52, the maximum value is 32.84, the average value is 20.7808, the standard deviation value is 4.25510.
3. Loan to Deposit Ratio (X3) shows the number of samples (N) is 72, the minimum value is 50.61, the maximum value is 163.10, the average value is 86.8635, the standard deviation value is 15.69502.
4. Return On Asset (Y) shows the number of samples (N) there are 72, the minimum value is 0.09, the maximum value is 4.00, the average value is 2.0101, the standard deviation value is 1.09981

4.2. Classic Assumption Test Results

a. Normality test

Normality test is a test carried out with the aim of assessing the distribution of data in a group of data or variables, whether the distribution of the data is normally distributed or not. Normality test of this research uses Histogram Graph and P-Plot.





Based on the chart above, we can see the histogram graph and plot graph. Where the histogram graph gives a distribution pattern that deviates to the right, which means that the data is normally distributed. Furthermore, the P-Plot image shows that the points follow and approach the diagonal line so that it can be concluded that the regression model meets the assumption of normality.

The following table results from the Kolmogorov smirnov method

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		72
Normal Parameters ^{a,d}	mean	,0000000
	Std. Deviation	,87775379
Most Extreme Differences	Absolute	,078
	Positive	0.054
	negative	-,078
Test Statistics		,078
asymp. Sig. (2-tailed)		,200c,d

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

Based on the data in the table above, it can be seen that the significance value in the Kolmogorov-Smirnov table is $0.200 > 0.05$, so it can be concluded that the data is normally distributed.

b. Multicollinearity Test

Multicollinearity test aims to test whether a regression model of a study found a correlation between independent variables. According to Ghazali 57 (2011) testing for the existence of multicollinearity is carried out by taking into account the magnitude of the tolerance value and the magnitude of the VIF. The guidelines for decision-making multicollinearity test with Tolerance and VIF:

Based on the Tolerance value:

1. If the Tolerance value is greater than 0.10, then there is no multicollinearity in the regression model.
2. If the Tolerance value is less than 0.10, then multicollinearity occurs in the regression model.

Based on the value of VIF (Variance Inflation Factor):

1. If the value of VIF < 10.00 then there is no multicollinearity in the regression model.
2. If the value of VIF > 10.00 then there is multicollinearity in the regression model.

The results of the multicollinearity test in this study are as follows:

Model	Coefficients ^a					Collinearity Statistics	
	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Tolerance	VIF
	B	Std. Error					
1 (Constant)	-,562	,784		-,716	,476		
CR (X1)	,601	,123	,513	4,887	,000	,850	1,177
CAR (X2)	.042	0.027	,162	1,538	,129	,849	1,177
LDR (X3)	,007	,007	,098	1.007	,317	,999	1,001

a. Dependent Variable: ROA (Y)

Source: Processed Data (2020)

Based on the spss output table above, it can be seen that all variables, both CR, CAR, and LDR, show a tolerance value greater than 0.100 and a VIF value less than 10.00. So it can be concluded in this test that there are no symptoms or multicollinearity problems.

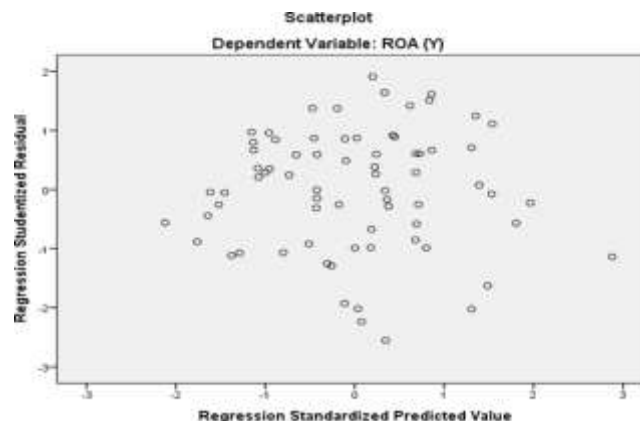
c. Heteroscedasticity Test

The heteroscedasticity test aims to test whether there is a difference in variance from the residual value in one observation period to another observation period. The method used in this study is to look at the scatterplot graph.

The provisions in the Scatterplot graph method if there are no heteroscedasticity symptoms, namely:

1. The scatter data points are above and below or around the number 0.
2. The dots collect only above or below.
3. The spread of data points should not form a wavy pattern that widens then narrows and widens again.
4. The spread of data points is not patterned.

Here are the results of the Heteroscedasticity Test:



Based on the scatterplot output above, it can be concluded that:

1. The points of the data spread are above and below or around the number 0.
2. The spread of data points does not form a certain pattern.

Thus it can be concluded that there is no symptom of heteroscedasticity in this study.

d. Autocorrelation Test

This test aims to determine whether in the regression model there is a correlation between the nuisance error in period t and period t-1 (previous). In this study, to determine the occurrence of autocorrelation or not, identification was carried out using the Durbin-Waston test. According to Ghazali (2018:111) if the calculated DW value is close to or around the number 2, then the model is free from the classical assumption of autocorrelation.

Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,708a	,501	,479	,65003	1,651

a. Predictors: (Constant), LAG_X3, LAG_X2, LAG_X1

b. Dependent Variable: LAG_Y

Source: Processed Data (2020)

From the table above shows the DW of 1.651. The measurement results are the number of samples as much as 72, $dU = 1.7054$, $dL = 1.5323$. then $dL < d < dU$ or $1.5323 < 1.651 < 1.7054$ the value of d is between dU and dL then it is stated that there is no autocorrelation disorder.

4.3. Coefficient of Determination Test (R^2)

According to Ghazali (2016: 95) the coefficient of determination (R^2) essentially measures how far the model's ability to explain the variation of the dependent variable.

Here are the results of his research:

Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,708a	0.501	0.479	0.65003

a. Predictors: (Constant), LAG_X3, LAG_X2, LAG_X1

b. Dependent Variable: LAG_Y

c. Source: Processed Data (2020)

Based on the SPSS "Model Summary" output table above, it is known that the coefficient of determination or R square is 0.501 or 50.01%. This figure means that each variable has an influence on Y while the remaining 49.99% comes from external variables.

4.4. Simultaneous Test (F Test)

According to Ghazali (2016: 96) "The F statistical test basically shows whether all the independent variables included in the model have a simultaneous effect on the dependent variable". The form of research results are as follows:

ANOVA^a

Model		Sum of	df	Mean Square	F	Sig.
Squares						
1	Regression	28,409	3	9,470	22.411	,000 ^b
	Residual	28,310	67	,423		
	Total	56,719	70			

a. Dependent Variable: LAG_Y

b. Predictors: (Constant), LAG_X3, LAG_X2, LAG_X1

Based on the SPSS output table above, the significance value is smaller than 0.05 ($0.00 < 0.05$), it can be concluded that the independent variables CR (X1), CAR (X2), LDR (X3) have a simultaneous effect on the dependent variable, namely ROA (Y)

4.5. Partial Test (t Test)

According to Ghazali (2016: 97) "The statistical t-test basically shows how far the influence of one independent variable on the dependent variable is by assuming the other variables are constant." The results of the research are as follows:

Coefficients^a

Model		Unstandardized Coefficients	Std. Error	Standardized Beta Coefficients	t	Sig.
	B					
1	(Constant)	-,558	,235		-2,370	,021
	LAG_X1	,729	,123	,551	5,946	,000
	LAG_X2	0.080	,024	,302	3,300	,002
	LAG_X3	,009	,006	,133	1.522	,133

a. Dependent Variable: LAG_Y

1. TestIn the first hypothesis (H1)
Given the value of Sig. For the effect of X1 on Y is $0.000 < 0.05$ and the t value is $5.956 > t$ table 1.996, so it can be concluded that H1 is accepted, meaning that there is an effect of X1 on Y.
2. TestIn the first hypothesis (H2)
Given the value of Sig. For the effect of X2 on Y is equal to $0.002 < 0.05$ and the value of t count is $3.300 > t$ table 1.996, so it can be concluded that H2 is accepted, which means that there is an effect of X2 on Y.
3. TestIn the first hypothesis (H3)
Given the value of Sig. For the effect of X3 on Y is $0.133 > 0.05$ and the t value is $1.522 < t$ table 1.996, so it can be concluded that H2 is rejected, meaning that there is no effect of X3 on Y.

V. Conclusion

Based on the research data, the researcher can draw the following conclusions:

1. It is known that the value of t-count Cash Ratio: $5.956 > t\text{-table } 1.996$, so it can be concluded that there is an effect of X1 (Cash Ratio) on Y (ROA).
2. It is known that the t-count value of Cash Adequacy Ratio: $3.300 > t\text{-table } 1.996$, so it can be concluded that there is an effect of X2 (Cash Adequacy Ratio) on Y (ROA).
3. It is known that the t value of Loan to Deposit Ratio: $1.522 < t\text{ table } 1.996$, so it can be concluded that there is no effect of X3 (Loan to Deposit Ratio) on Y (ROA).
4. Cash Ratio, Cash Adequacy Ratio, Loan to Deposit Ratio have a simultaneous effect on Return On Assets in Banking sub-sector companies listed on the IDX for the 2016-2019 period. This is evidenced by the significance value of 0.00 indicating a value that is smaller than the predetermined significance value of 0.05.

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