Factors Affecting Return on Assets (ROA) in Banking Companies Listed in Indonesia Stock Exchange (IDX) Period 2015-2018

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ABSTRACT: Bank performance is a description of each economic results can be achieved by the banking company in a particular period through the activities of the company to generate profits effectively and efficiently. The performance level was good bank increase public confidence to use the financial services of banks. One indicator to assess the financial performance of a bank is ROA. The purpose of this research is to analyze the effect of CAR, NPL, LDR, NIM, BOPO, Inflation, and BI Rate on ROA of banking companies listed on the Stock Exchange partially and simultaneously. The analysis method used is Multiple Linear Regression Analysis, which is processed using the SPSS program version 25. The results showed that partially CAR, NPL, Inflation, and BI Rate did not significantly influence ROA of banking companies listed on the IDX, while LDR, NIM and BOPO significantly influence ROA on banking companies listed on the IDX. Simultaneously all independent variables have a significant effect on ROA in banking companies listed on the IDX, where the contribution of all independent variables is 95.80% and the remaining 4.20% influenced by other variables that have not been examined in this research.

Keywords - Bank Performace, BI Rate, Inflation.

I.   PRELIMINARY

In this modern era, such a society cannot be separated from the important role of banking. From saving, borrowing, to purchasing transactions, all use bank services as intermediaries, besides being easier and more practical, it can even be accessed anywhere and anytime. The bank is mentioned as a business entity that collects funds from the public in the form of deposits and distributes them to the public in the form of credit and or other forms in order to improve the standard of living of the people (Law Number 10 of 1998 concerning Banking).

Bank performance is a description of each economic results can be achieved by the banking company in a particular period through the activities of the company to generate profits effectively and efficiently, whose development can be measured using an analysis of financial data reflected in financial statements. Therefore it is very important for a bank to maintain a good level of performance. The performance level was good bank increase public confidence to use the financial services of banks.

One indicator used to measure profitability is Return on Assets (ROA). ROA is important for banks because ROA is used to measure the effectiveness of the company in generating profits by utilizing its assets. ROA is the ratio between profit before tax to total assets. The greater the ROA which shows a better company improvement, because the higher the return the greater. Return on Assets (ROA) is one of the profitability ratios that can measure the company's ability to generate profits from the assets used obtained by the company related to resources or total assets so that the efficiency of a company in managing its assets can be seen from the percentage of this ratio. ROA is able to measure the company's ability to generate profits in the past and then projected in the future.

Bank profit growth slowed. This is reflected in the Return on Assets (ROA) printed by ten major banks until the third quarter of 2018. This tenth ROA data comes from published financial statements and is sorted by total assets. The results of the 10 largest banks until the third quarter of 2018 recorded a 5 basis point (bps) ROA of 2.24%. The growth rate was smaller than the growth in the same period last year, which was 33 bps to 2.19%. Of the 10 large banks, only Bank Rakyat Indonesia (BRI), Bank Central Asia (BCA) and Bank OCBC NISP scored ROA growth.

Factors that influence bank profitability are the characteristics of the bank, meaning how the bank runs its operations that have an impact on profitability. Bank characteristics are measured using its financial ratios. The ratio used in this study is the Capital Adequacy Ratio (CAR), Non Performing Loans (NPL), Loan to Deposit Ratio (LDR), Net Interest Margin (NIM), and Operational Income Operating Costs (BOPO) as well as other influential factors such as inflation and the BI Rate.

II. LITERATURE REVIEW

2.1 Financial Statements

According to Munawir (2010) the definition of financial statements are two lists compiled by accountants at the end of the period for a company. The second list is a list of balance sheet or list of financial positions and a list of income or income statement. According to Harahap (2007) the financial statements describe the financial condition and results of operations of a company at a certain time or a certain period of time.

2.2 Financial Statement Analysis

Analysis of financial statements is an analysis of financial statements consisting of a study or study rather than relationships and tendencies or tendencies (trens) to determine position. According to Kasmir (2014), states that the analysis of financial statements is an index that connects two accounting numbers and is obtained by dividing one number by another number. Financial and operating results and the development of the company concerned.

2.3 Profitability

Profitability is the ability of banks to generate or earn profits effectively and efficiently, and in general profit generated by the company comes from sales and investment income made by the company. Profitability is an indicator to assess the good and bad performance of a company through its financial statements and reflects the company's ability to generate profits through operational activities carried out by the company. A high level of profitability indicates that the performance of a company can be said to be good. The level of profitability can be measured using two ratios, namely Return on Equity (ROE) and Return on Assets (ROA). ROE is the ratio that shows the ratio between profit after tax and the bank's core capital, while ROA is the ratio that shows the ratio between profit before tax and the total assets of the bank. ROA ratio shows the level of efficiency of asset management carried out by the bank concerned, because ROA is more focused on the company's ability to obtain earnings in its operations as a whole and some of its financial assets come from public deposits, so ROA is more representative in measuring the level of profitability. According to Taswan (2010), the greater ROA shows the better company performance.

2.4 Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio (CAR) is a ratio that shows the extent of the capital capacity of a bank to be able to absorb the risk of credit failure that may occur so that the higher the ratio, the bank shows the healthier and vice versa. According to the Circular of Bank Indonesia Number 13/24/DPNP/2011 concerning the Assessment of Commercial Banks, the Bank has stated that in assessing capital adequacy, banks must link capital adequacy with the bank's risk profile. The higher the bank's risk, the greater the capital that must be provided to anticipate the risk.

2.5 Non Performing Loans (NPL)

According to Bank Indonesia Regulation Number 11/25/PBI/2009, credit risk is the risk due to the failure of the debtor and / or other parties in meeting obligations to the bank. Credit risk comes from fund distribution activities and other commitments, this risk arises because the borrower is unable to fulfill his financial obligations to the bank when due. Non-fulfillment of the customer's obligations to the bank results in a loss by not receiving the estimated revenue. (Rahman and Deannes, 2019).

2.6 Net Interest Margin (NIM)

Net Interest Margin (NIM) is one indicator that is taken into account in evaluating profitability aspects. Net Interest Margin (NIM) is a ratio used to measure the ability of bank management to manage their productive assets in order to generate net interest income.

2.7 Loan to Deposit Ratio (LDR)

Loan to Deposit Ratio (LDR) is a traditional measurement of futures, current accounts, savings, etc. that is used in fulfilling clients' loan requests. This ratio is used to measure the level of liquidity. A high ratio shows that a bank lends all of its funds or is relatively illiquid. Conversely, a low ratio shows a liquid bank with excess capacity of funds ready to lend. This ratio is also an indicator of the vulnerability and ability of a bank. Some banking practitioners agree that the safe limit of a bank's Loan to Deposit Ratio is around 80%. However, the tolerance range ranges from 85% to 100%. (Susilowati and Erna, 2019)

2.8 Operating Costs and Operating Income (BOPO)

According to Pandia (2012), BOPO is a ratio that is often called the efficiency ratio that is used to measure the ability of bank management in controlling operational costs to operating income.

2.9 Inflation

Abdullah (2010), defines inflation as a condition that indicates the weakening of purchasing power which is followed by the decline in the real value of a country's currency.

2.10 BI Rate

According to the Bank Indonesia dictionary, the BI Rate is a reference rate for monetary policy and is set at a monthly Board of Governors' Meeting and is implemented in monetary operations conducted by Bank Indonesia through liquidity management on the money market to achieve monetary policy operational targets.
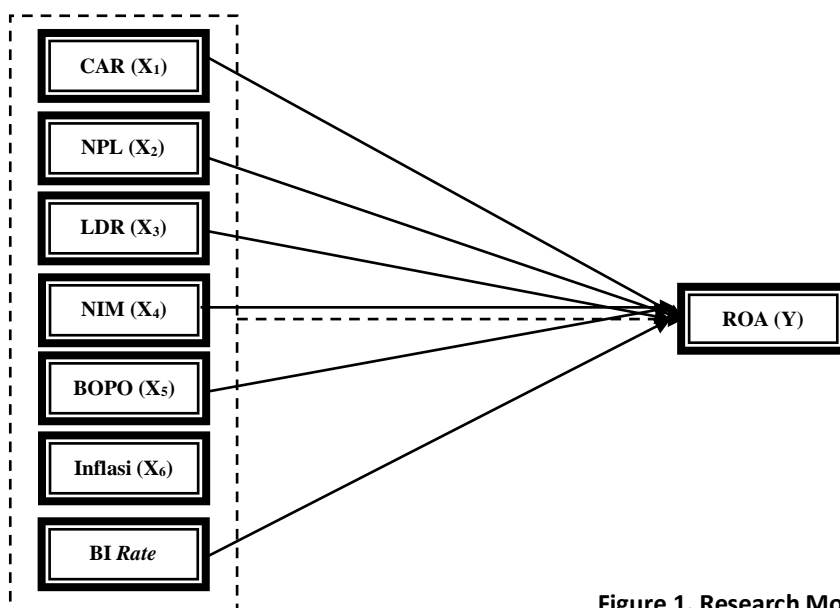
Research Model

Figure 1. Research Model

Information :

———————▶ : The effect of independent variables on partially dependent variables.

- - - - - ▶ : Effect of independent variables on the dependent variable simultaneously

Research Hypothesis

Based on the framework described in the previous section, this research has the following hypotheses:

H_1 = Capital Adequacy Ratio affects Return on Assets.
H_2 = Non Performing Loan affects the Return on Assets.
H_3 = Loan to Deposit Ratio affects Return on Assets.
H_4 = Net Interest Margin affects the Return on Assets.
H_5 = BOPO affects the Return on Assets.
H_6 = Inflation affects Return on Assets.
H_7 = BI Rate influences Return on Assets.
H_8 = Capital Adequacy Ratio, Non Performing Loans, Loan to Deposit Ratio, Net Interest Margin, BOPO, Inflation, and BI Rate simultaneously affect the Return on Assets.

III.   RESEARCH METHODS

The population used in this study is the banking companies listed on the Indonesia Stock Exchange (IDX) in 2015 - 2018 as many as 44 banking companies. Sampling in this study was carried out using a non random sampling method. Based on predetermined criteria, a sample of 26 banking companies was obtained, with a total sample of 4 samples totaling 104 samples (26 X 4 years). The type of data in this study is quantitative data, which is information in the form of numbers from company data provided in the form of financial reports and annual reports. The data source used in this study is secondary data, that is data that includes annual financial statements that present the data needed by researchers.

3.1 Variable Identification

The variables used in this study are the dependent and independent variables. The dependent variable is the variable that is affected as a result of the presence of the independent variable. The dependent variable in this research is Return on Assets (Y). The independent variable is the variable that influences or causes changes in the occurrence of the dependent variable. The independent variables used in this study are Capital Adequacy Ratio (X_1), Non Performing Loans (X_2), Loan to Deposit Ratio (X_3), Net Interest Margin (X_4) Operational Costs Operating Income (X_5), Inflation (X_6), BI Rate (X_7).

3.2 Data Analysis Technique

Hypothesis testing is done with a path analysis tool that is assisted with SPSS software (Statistical Package for the Social Sciences) version 25 for windows. Path analysis is used to examine how the influence of Capital Adequacy Ratio (CAR), Non Performing Loans (NPL), Loan to Deposit Ratio (LDR), Net Interest Margin (NIM), Operational Costs Operating Expenses (BOPO), Inflation, and BI Rate against Return on Assets (ROA). However, the condition before the regression is carried out is the fulfillment of classical assumptions. To obtain an efficient and unbiased examiner value or BLUE (Best Linear Unbias Estimator), a test is performed to determine the resulting regression model meets the classical assumption requirements. tests conducted include normality test, multicollinearity test, heteroscedasticity test, and autocoreation test. To find out whether there is a significant effect of the independent variables on the dependent variable, multiple linear regression models are used which are formulated as follows.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e$$

Information :
α : Constants
β : Regression Coefficient
Y   : Return on Assets (ROA)
X_1 : Capital Adequacy Ratio (CAR)
X_2 : Non Performing Loans (NPL)
X_3 : Loan to Deposit Ratio (LDR)
X_4 : Net Interest Margin (NIM)
X_5 : Operational Costs Operating Income (BOPO)
X_6 : Inflation
X_7 : BI Rate
e   : epsilen

IV.   RESULTS AND DISCUSSION

4.1 Descriptive statistics

Table 1. Descriptive Statistics Test Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CAR	104	10.52	66.43	21.5655	7.23429
NPL	104	.21	8.54	2.6716	1.35896
LDR	104	41.99	145.26	85.7664	14.77910
NIM	104	1.53	12.00	5.4111	1.97571
BOPO	104	66.48	101.01	84.3092	9.15805
INFLASI	104	3.20	6.38	4.2300	1.26604
BI RATE	104	4.58	7.56	5.8275	1.13550
ROA	104	.09	4.19	1.6773	.98000
Valid N (listwise)	104				

Source: Data processed with SPSS 25, 2019

The following is an explanation of the results of descriptive statistical tests of each variable in table 1 :

1. The lowest value on CAR was 10.52% which occurred in 2017 at Bank Bukopin. While the highest CAR value was 66.43% in 2017 at the Bank Ina Perdana.
2. The lowest value on the NPL was 0.21% which occurred in 2015 at the Bank Ina Perdana. While the highest NPL value was 8.54% in 2017 at Bank Bukopin.
3. The lowest value on the LDR is 41.99% which occurred in 2018 at Bank Mitraniaga. While the highest LDR value was 145.26% in 2018 at Bank Woori Saudara Indonesia.
4. The lowest value on the NIM was 1.53% which occurred in 2016 at Bank Victoria International. While the highest NIM value was 12.00% in 2016 at Bank BTPN.
5. The lowest value at BOPO was 66.48% which occurred in 2018 at Bank Mandiri (Persero). While the highest value of BOPO is 101.01% in 2018 at Bank Dinar Indonesia.
6. The lowest value in inflation was 2.79% which occurred in August in 2016. While the highest value was 7.26% in June and July in 2015.
7. The lowest value of the BI Rate was 4.25%, which occurred from September 2017 to April 2018. While the highest value of the BI Rate was 8.00% in July in 2015.
8. The lowest value on ROA of 0.09% which occurred in 2017 at Bank Bukopin. While the highest value of ROA was 4.19% in 2015 at Bank Rakyat Indonesia.

4.2 Results of Classical Assumptions

The normality of the Kolmogorov-Smirnov test

Table 2. Kolmogorov-Smirnov Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		104
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.09751179
Most Extreme Differences	Absolute	.061
	Positive	.049
	Negative	-.061
Test Statistic		.061
Asymp. Sig. (2-tailed)		.200[c,d]

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

Source: Data processed with SPSS 25, 2019

From the results of the normality test in table 2 above, it can be seen that the significance value is 0.200. This value is greater than alpha 5% (0.05). So it can be concluded that the data are normally distributed.

P-P normality plot

Normal P-P Plot of Regression Standardized Residual
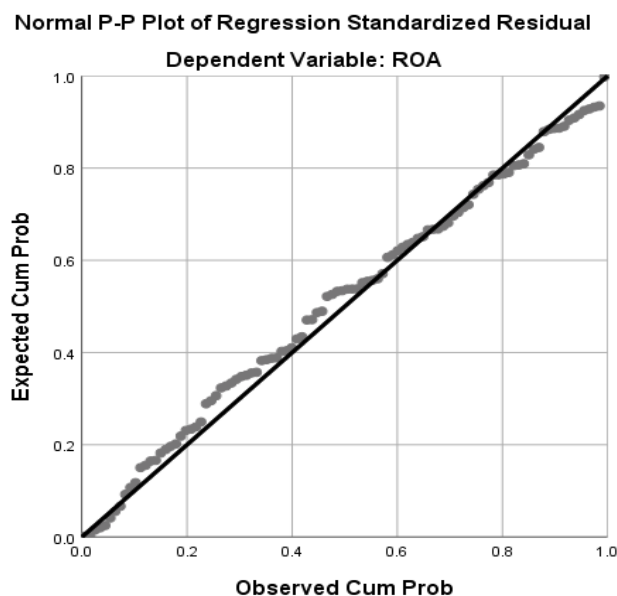
Dependent Variable: ROA

Figure 2. P-P Normal Test Results

Source: Data processed with SPSS 25, 2019

From the results of the normality test in Figure 2 above, it can be seen that the points spread around the diagonal line, and the distribution follows the direction of the diagonal line. So it can be concluded that the data are normally distributed.

Multicollinearity

Table 3. Multicollinearity Test Results

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	8.690	.364		23.888	.000		
	CAR	-.002	.003	-.017	-.752	.454	.905	1.105
	NPL	-.025	.016	-.035	-1.555	.123	.890	1.123
	LDR	-.003	.002	-.049	-2.042	.044	.757	1.321
	NIM	.130	.012	.262	10.396	.000	.695	1.438
	BOPO	-.089	.003	-.834	-30.748	.000	.599	1.670
	INFLASI	-.008	.031	-.011	-.273	.785	.282	3.544
	BI RATE	.041	.035	.047	1.174	.243	.275	3.631

a. Dependent Variable: ROA

Source: Data processed with SPSS 25, 2019

From the results of the multicollinearity test in Table 3 above, it can be seen that the data in this study do not have a multicollinearity problem between each independent variable. That is because the value of Variance Inflation Factor (VIF) in the above data is still between 1 to 10 and the tolerance value is greater than 0.10.

Autocorrelation

Table 4. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.979[a]	.958	.955	.20866	1.367

a. Predictors: (Constant), BI RATE, NIM, CAR, NPL, LDR, BOPO, INFLASI
b. Dependent Variable: ROA

Source: Data processed with SPSS 25, 2019

From the autocorrelation results in table 4. above, it can be seen that the value of Durbin Watson (D-W) is 1.367. Where the value is between -2 and +2. So it can be concluded that autocorrelation did not occur.
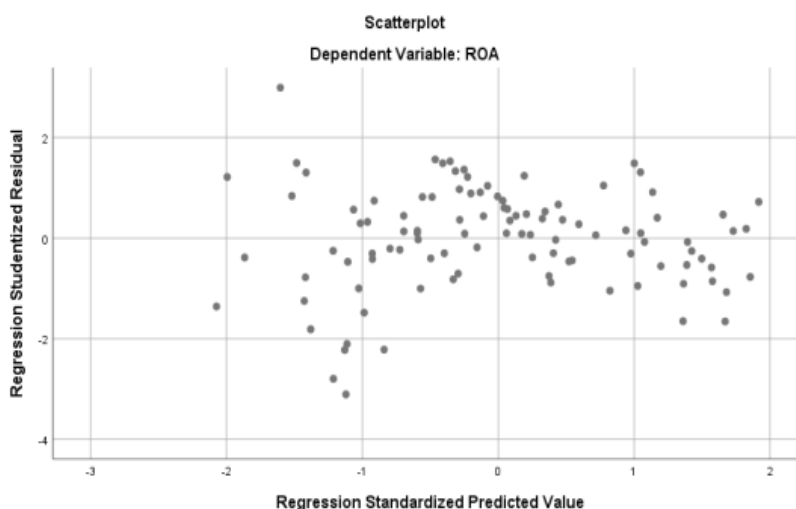
Heteroscedasticity

Figure 3. Heteroscedasticity Test Results

Source: Data processed with SPSS 25, 2019

From the results of the heteroscedasticity test in Figure 3. above, it can be concluded that the image obtained has no clear pattern, and the points spread randomly above and below the number 0 on the Y axis. So it can be concluded that there was no heteroscedasticity.

Multiple Linear Regression

Table 5. Results of Multiple Linear Regression Tests

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	8.690	.364		23.888	.000
	CAR	-.002	.003	-.017	-.752	.454
	NPL	-.025	.016	-.035	-1.555	.123
	LDR	-.003	.002	-.049	-2.042	.044
	NIM	.130	.012	.262	10.396	.000
	BOPO	-.089	.003	-.834	-30.748	.000
	INFLASI	-.008	.031	-.011	-.273	.785
	BI RATE	.041	.035	.047	1.174	.243

a. Dependent Variable: ROA

Source: Data processed with SPSS 25, 2019

From the calculation of multiple linear regression in table 5 above, the regression equation results are obtained as follows:

ROA = 8,690 − 0,002 CAR − 0,025 NPL − 0,003 LDR + 0,130 NIM − 0,089 BOPO − 0,008 Inflasi + 0,041 BI Rate + e

From the above equation can be explained as follows:

1. A constant value of 8.690% states that if there are no CAR, NPL, LDR, NIM, BOPO, Inflation and BI Rate variables, the ROA variable value is 8.690%.
2. The regression coefficient of the CAR variable shows a value of -0.002%, meaning that if the other independent variables are of fixed value and the CAR variable has an increase of 1% it will reduce the value of ROA by 0.002%.
3. The regression coefficient of the NPL variable shows a value of -0.025%, meaning that if the other independent variables are of fixed value and the NPL variable has an increase of 1% then it will reduce the value of ROA by 0.025%.
4. The regression coefficient of the LDR variable shows a value of -0.003%, meaning that if the other independent variables are of fixed value and the LDR variable has an increase of 1%, it will reduce the value of ROA by 0.003%.
5. The regression coefficient of the NIM variable shows a value of 0.130%, meaning that if other independent variables have a fixed value and the NIM variable has an increase of 1%, it will add to the ROA value of 0.130%.
6. The regression coefficient of the BOPO variable shows a value of -0.089%, meaning that if the other independent variables are of fixed value and the BOPO variable has an increase of 1%, it will reduce the value of ROA by 0.089%.
7. The regression coefficient of the Inflation variable shows a value of -0.008%, meaning that if the other independent variables are of fixed value and the Inflation variable has an increase of 1% then it will reduce the value of ROA by 0.008%.
8. The regression coefficient of the BI Rate variable shows a value of 0.041%, meaning that if the other independent variables have a fixed value and the BI Rate variable has an increase of 1% then it will add to the ROA value of 0.041%.

Partial Hypothesis (Statistical Test t)

From table 5 above, the following statistical t praise results are obtained:

1. CAR (X_1) has sig. 0.454 above 0.05. This means that CAR does not have a significant effect on ROA partially, where the effect is negative. So testing the research hypothesis for H1 was rejected.
2. NPL (X_2) has sig. 0.123 above 0.05. This means that NPL does not have a significant effect on ROA partially, where the effect is negative. So testing the research hypothesis for H2 was rejected.
3. LDR (X_3) has sig. 0.044 below 0.05. This means that LDR has a significant effect on ROA partially, where the effect is negative. So testing the research hypothesis for H3 is accepted.
4. NIM (X_4) has sig. 0,000 below 0.05. This means that LDR has a significant effect on ROA partially, where the effect is positive. So testing the research hypothesis for H4 was accepted.
5. BOPO (X_5) has a sig value. 0,000 below 0.05. This means that BOPO has a significant effect on partial ROA, where the effect is negative. So testing the research hypothesis for H5 was accepted.
6. Inflation (X_6) has a sig. 0.785 above 0.05. This means that inflation has no significant effect on ROA partially, where the effect is negative. So testing the research hypothesis for H6 was rejected.
7. BI Rate (X_7) has a value of sig. 0.243 above 0.05. This means that the BI Rate has no significant effect on ROA partially, where the effect is positive. So testing the research hypothesis for H7 was rejected.

Effect of CAR on ROA

The results of testing the first hypothesis (H_1) is the coefficient of the variable CAR (X_1) has a sig value. 0.454 above 0.05. This means that CAR does not have a significant effect on ROA partially, where the effect is negative. The results of this study indicate that the size of the bank's capital adequacy does not affect the size of the ROA it gets. CAR does not affect ROA because the operating banks do not optimize the existing capital. This occurs because Bank Indonesia regulations require a minimum CAR of 8%, resulting in banks always trying to keep their CAR in accordance with the provisions. This is the reason why in this study CAR did not have a significant effect on ROA. The results of this study are consistent with the results of research conducted by Dewi and I Gede (2015), Prasanjaya and I Wayan (2013), Prasetyo (2015), Wijaya and Aulia (2016), Rahman and Deannes (2019), Susilowati and Erna (2019) , Alper and Adem (2011), Rachmawati and Sofyan (2019) which stated that CAR had no significant effect on the bank's Return on Assets (ROA). And contrary to the results of research

conducted by Christiano, et al (2014), Pranata (2015), Khan, et. al. (2015), Helhel (2014), Shabani, et. al. (2019), Ramadhanti, et al (2019), Suganya and Kengatharan.L (2018), where CAR has a significant effect on ROA.

Effect of NPL on ROA

The second hypothesis testing result (H₂) is the coefficient of the variable NPL (X₂) has a sig value. 0.123 above 0.05. This means that NPL does not have a significant effect on ROA partially, where the effect is negative. NPL is a comparison between total non-performing loans and total loans granted to debtors. Banks are said to have a high NPL if the number of problem loans is greater than the amount of credit given to debtors. If a bank has a high NPL, it will increase costs, both the cost of providing productive assets and other costs, in other words the higher the NPL of a bank, then it will interfere with the performance of the bank. The high level of problem loans causes delays in bank revenues that should be acceptable, thereby reducing the level of ROA of a bank. Poor credit quality will increase risk, especially if credit purchases are not made using the precautionary principle, and another possibility is that the average in bad loans is found when the mid-final period of the loan repayment installments. With this condition, the bank can still get most of the funds along with the installment interest paid by the customer. So that this can reduce bad loans with interest capital added by customers so that there are still benefits to be gained by banks. Based on the results of the research above, the results of previous studies that are in line with this study are Susilowati and Erna (2019) where NPL has a positive but not significant effect on Return on Assets (ROA). Whereas the results of previous studies that contradicted were Prasetyo (2015), Wijaya and Aulia (2016), Rahman and Deannes (2019), Christiano, et al (2014), Helhel (2014), Shabani, et. al. (2019), Ramadhanti, et al (2019), Suganya and Kengatharan.L (2018), Rachmawati and Sofyan (2019), where NPL has a significant effect on Return on Assets (ROA).

Effect of LDR on ROA

The results of testing the third hypothesis (H₃) is the coefficient of the variable LDR (X₃) has a sig value. 0.044 below 0.05. This means that LDR has a significant effect on ROA partially, where the effect is negative.of CAR on ROA. Excess funds or liquidity is also one of the triggers why banks do not carry out their functions properly. On the liability side, banks must be able to meet obligations to customers each time their savings in the bank are withdrawn, on the asset side the bank must be able to provide the promised credit disbursement. If both aspects or one of these aspects cannot be fulfilled, the bank will lose public trust. Bank liquidity is the ability of banks to meet the possibility of withdrawal of deposits or deposits by depositors or custodians of funds or meet public needs in the form of credit. If the bank is unable to extend credit while the funds raised a lot will cause the bank to suffer losses, because the bank must pay interest on deposits from customers. In addition there are more factors that make LDR influence, one of which is the expenditure of operational costs such as income, investment banking, where the expenditure affects the profit from the banking sector. If the bank has issued funds for all of the financing, then what happens is that indirect benefits can be obtained and can even be a loss for the bank itself, thus potentially causing harm to the bank and the value of ROA itself. The results of this study are in line with previous studies namely Dewi and I Gede (2015), Prasanjaya and I Wayan (2013), Wijaya and Aulia (2016), Rahman and Deannes (2019), Christiano, et al (2014), Susilowati and Erna (2013) 2019), Pranata (2015), Ramadhanti, et al (2019), where LDR has a significant effect on ROA. While research that is not in line with this research is Prasetyo (2015), Sinarti (2019), which states that LDR has no significant effect on ROA.

Effect of NIM on ROA

The fourth hypothesis testing result (H₄) is the coefficient of the variable NIM (X₄) has a sig value. 0,000 below 0.05. This means that LDR has a significant effect on ROA partially, where the effect is positive. NIM has a significant effect on ROA indicating that the ability of bank management in managing its productive assets to generate net interest income is getting greater and increasing, so as to enable a bank in a problem less and less. Because the greater the NIM of a bank, the greater the ROA which means better financial performance. The results of previous studies that are in line with this study are Prrasetyo (2015), Sinarti (2019), Christiano, et al (2014), where NIM has a significant effect on ROA. While previous studies that are not in line with this study are Alper and Adem (2011), which states that NIM has no significant effect on ROA

Effect of BOPO on ROA

The results of testing the fifth hypothesis (H₅) is the coefficient of variable BOPO (X₅) has a sig value. 0,000 below 0.05. This means that BOPO has a significant influence on ROA partially, where the effect is negative. The results of this study indicate that if the BOPO increases, it means that the efficiency of banking companies decreases, then the ROA obtained by banking companies will decrease. This is because the level of efficiency of the banking company in carrying out its operations affects

the income generated by the banking company. If operational activities are carried out efficiently (in this case the BOPO ratio value is low) then the revenue generated by the bank will increase. In addition, the large BOPO ratio is also due to the high cost of funds raised and the low interest income from investing funds. So the bigger the BOPO, the smaller the ROA. From the results of previous studies, which are in line with this research are research from Prasanjaya and I Wayan (2013), Prasetyo (2015), Wijaya and Aulia (2016), Susilowati and Erna (2019), Rachmawati and Sofyan (2019), where BOPO influences significant effect on ROA. While research that is not in line with this study is Christiano, et al (2014), where BOPO has a negative and not significant effect on ROA.

Effect of Inflation on ROA

The results of testing the first hypothesis (H_6) is the coefficient of the inflation variable (X_6) has a sig value. 0.785 above 0.05. This means that inflation has no significant effect on ROA partially, where the effect is negative. The results of this study indicate that the existence of inflation does not significantly influence ROA in banking companies. Inflation causes the value of savings to decrease, because people will use their assets to meet expenses due to price increases.

Effect of BI Rate on ROA Ratio

The results of testing the first hypothesis (H_7) is the coefficient of the variable BI Rate (X_7) has a sig value. 0.243 above 0.05. This means that the BI Rate has no significant effect on ROA partially, where the effect is positive. Basically, the increase in the BI Rate will increase loan interest rates and also increase the cost of loan interest, but the difference in increase in loan interest is small and fluctuations per year are also small or low. This is the reason why in this study the BI Rate did not significantly influence ROA. The results of previous studies that are in line with this study are Rachmawati and Sofyan (2019), Rachmawati and Sofyan, where the BI Rate does not significantly influence ROA. Whereas the research that contrasts with this research is Kalengkongan (2013), Swadayani and Rahmawati (2012), where the BI Rate has a significant effect on ROA.

Simultaneous Hypothesis Test (Statistical Test F)

Table 6. Simultaneous Hypothesis Test Results (F statistical test)

Model		Sum of Squares	df	Mean Square	F	Sig.
				ANOVA[a]		
1	Regression	94.741	7	13.534	310.853	.000[b]
	Residual	4.180	96	.044		
	Total	98.920	103			

a. Dependent Variable: ROA
b. Predictors: (Constant), BI RATE, NIM, CAR, NPL, LDR, BOPO, INFLASI

Source: Data processed with SPSS 25, 2019

The eighth hypothesis (H_8) states that CAR, NPL, LDR, NIM, BOPO, Inflation, BI Rate simultaneously (simultaneously) affect the Return on Assets (ROA). From the results of the hypothesis test in table 4.9 above, it can be seen that all independent variables have sig values. 0,000 below 0.05. This means that CAR, NPL, LDR, NIM, BOPO, Inflation, and BI Rate have an influence on ROA simultaneously (simultaneously). So testing the research hypothesis for H_8 was accepted.

Determination Coefficient Test (R2)

Table 7. Determination Coefficient Test Results (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
		Model Summary[b]		
1	.979[a]	.958	.955	.20866

a. Predictors: (Constant), BI RATE, NIM, CAR, NPL, LDR, BOPO, INFLASI
b. Dependent Variable: ROA

Source: Data processed with SPSS 25, 2019

From table 7 it is known that the result of R square is 0.958, this value indicates the ability of independent variables namely CAR, NPL, LDR, NIM, BOPO, Inflation, and BI Rate in explaining the variable ROA of 95.80% so that 4.20% is influenced by Other independent variable factors both from internal factors such as management policies, or policies set by the government.

V.   CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on the results of the study with the title "Analysis of Factors Affecting Return on Assets (ROA) in Banking Companies Listed on the Indonesia Stock Exchange Period 2015-2018", it can be concluded:

1. Partially, CAR, NPL, Inflation, and BI Rate variables have no significant effect on ROA in banking companies listed on the Indonesia Stock Exchange (IDX) during 2015 - 2018. While the LDR, NIM, BOPO variables have a significant effect on ROA in banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2015 - 2018.

2. Simultaneously all independent variables (CAR, NPL, LDR, NIM, BOPO, Inflation, and BI Rate) have a significant effect on Return on Assets (ROA) in banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2015 - 2018 . Where the contribution of all independent variables to Return on Assets (ROA) in banking companies on the Indonesia Stock Exchange (IDX) is 95.80% and the remaining 4.20% is influenced by other variables not examined in this research..

Recommendations

1. For Management

    To be able to increase the ROA of a banking company, banks must develop their operational activities so that they do not rely solely on interest income, and streamline the burden on the company so that the company runs effectively and efficiently. Banks must also pay attention to customers who have problematic bad credit risk because banks that have low credit risk will increase the company's ROA, and also banks must keep company assets stable and are expected not to decline.

2. For Investors

    Investors are required to be more careful in making investment decisions and are advised before investing in a bank in order to first analyze the financial performance of a bank such as the level of health and its ability to make a profit. In addition, information on macroeconomic conditions such as inflation and the BI Rate must also be considered. Because this information can be used to predict the performance conditions of a bank.

3. For Future Researchers

    This research is expected to be used as additional reference material for future researchers in the same field that will come to be developed and improved so that this research can be refined in subsequent studies.

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