

**Proceeding Universitas Muhammadiyah Gresik Social Science and Humanities  
Internasional Conference (UMGCINMATIC)**

---

**THE INFLUENCE OF LOAN YO DEPOSITE RATIO, OPERATIONAL COSTS  
AND OPERATIONAL REVENUE, NON PERFORMING LOANS ON  
PROFITABILITY IN BANKING COMPANIES LISTED ON THE INDONESIA  
STOCK EXCHANGE**

**Dina Islamiyah<sup>1</sup>  
Sukaris<sup>2</sup>**

**Management Department, Faculty of Economics and Business,  
Universitas Muhammadiyah Gresik, East Java Indonesia**

**Email : [sukaris21@umg.ac.id](mailto:sukaris21@umg.ac.id)**

**ABSTRACT**

Profitability is a ratio to assess a company's ability to achieve profits. This ratio also provides a measure of the level of effectiveness of a company's management. This is indicated by the profit generated from sales and investment income. To look at the effect of Loan to Deposit Ratio (LDR), Operating Expenses and Operating Income (BOPO), and Non Performing Loan (NPL) on Return On Assets (ROA) on banking companies listed on the Indonesia Stock Exchange (IDX ). The type of research used is the type of quantitative research and the analysis of data uses statistics and the research is in the form of numbers. Sampling method using purposive sampling, the data analysis method used is a method of multiple linear regression analysis. The results showed that the Loan to Deposit Ratio (LDR) had a positive effect on Return On Assets (ROA), Operating Expenses and Operating Income negatively and significantly on Return On Assets (ROA), and Non Performing Loans (NPL) negatively and significantly on Return On Assets (ROA).

**Keywords:** Loan to Deposite Ratio, Operating Costs and Operating Income, Non Performing Loans, Return On Assets.

**INTRODUCTION**

According to RI Law Number 10 of 1998 dated 10 November 1998 concerning Banking, what is meant by a Bank is a business entity that collects funds from the public in the form of savings 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 common people. After obtaining funds in the form of deposits from the public, then the banking funds are played back or resold to the public in the form of loans or better known as credit (lending). In giving credit, loans are also subject to loan services to credit recipients (debtors) in the form of interest and administration fees.

The ultimate goal to be achieved by a company that is most important is to obtain maximum profit or profit. One of them is a banking company. Current banking activities do not have to pay attention only to the health of the bank, it also has to pay attention to the aspect of profitability, because profitability itself is a bank's business in generating profits from all the capital and assets it owns. Therefore, management is able to meet the targets that have been set, meaning that the amount of profit must be achieved as expected.

According to Sudana (2011: 22), profitability is the company's ability to generate profits by using the sources that are already owned by the company, such as assets, capital, and company sales. Profitability can be measured using Return On Assets (ROA). By calculating ROA, it can be seen how big the company's management is in obtaining profit after tax with

total assets. In this study, researchers conducted research on 45 banking companies listed on the Indonesia Stock Exchange for the 2015-2019 period which consistently published their financial reports that had Return On Assets or profit values, namely 24 banking companies listed on the Indonesia Stock Exchange in 2015- 2019.

In investing in a company listed on the Indonesia Stock Exchange, investors first evaluate the bank's performance as reflected in published financial reports as a basis for making decisions. This is because investors have hopes that in the future they will get Return On Assets or the profits obtained will be an attraction for investors to invest in an issuer. The following graph shows the phenomenon of the increase in the average return on assets of banking companies listed on the Indonesia Stock Exchange for the 2015-2019 period.

According to Kasmir (2017: 221), that the bank's liquidity ratio is the ratio used to measure a bank's ability to fulfill its short-term obligations when billed. That way the bank can pay back the disbursement of the depositors' funds when billed and can fulfill the credit requests that have been submitted. The higher the LDR, the higher the company's profit with the assumption that the bank is able to extend credit effectively, so that the number of bad loans will be small. The purpose of calculating the Loan to Deposit Ratio is to find out and assess how far a bank is in sound condition in carrying out its operations.

Banks must also pay attention to the efficiency of operational costs to achieve maximum profitability. The ratio of Operational Expenses and Operating Income (BOPO) is used to determine the level of efficiency of a bank in carrying out its operational activities. Operational efficiency can affect the internal condition of a bank, considering that banks are agents of trust, agents of development and agents of service who always try to provide the best service to customers. The ratio of Operating Expenses and Operating Income (BOPO) is a ratio between operating expenses and operating income where the smaller the ratio of Operating Expenses and Operating Income (BOPO), the smaller the bank's efficiency in carrying out its business activities. A healthy bank has a BOPO ratio of more than 90% and vice versa a bank is said to be unhealthy if its BOPO ratio is more than 90%.

According to Bank Indonesia Regulation No. 6/10/PBI/2004 dated April 2004 concerning the Soundness Rating System for Commercial Banks, stipulates that the non-performing loan ratio is 5%. Non-Performing Loan (NPL) is a comparison of credit that cannot be returned by the debtor, aka bad credit, with credit that is distributed by banks to the public. NPLs can go up and down depending on the ability of the banking itself depending on the quality of the debtor or the condition of the economy.

Based on the description above, the researcher views how important it is for a company to maintain and know correctly the influence of a company's Loan to Deposit Ratio (LDR), Operational Income Operational Costs (BOPO), and Non Performing Loans (NPL), because it relates to the success or failure of a company. company in achieving the expected results, namely the level of profitability.

## **LITERATURE REVIEW**

### **Capital Market**

Understanding the capital market in general is a meeting place for sellers and buyers to conduct transactions in order to obtain capital. Sellers in the capital market are companies that need capital (issuers), so they try to sell securities on the capital market. Meanwhile, buyers (investors) are parties who want to buy capital in companies that they think are profitable. The capital market is known as the stock exchange and in Indonesia today there are two stock exchanges, namely the Jakarta stock exchange and the Surabaya stock exchange (Kasmir, 2018: 182).

In transactions on the capital market, investors can directly examine and analyze the benefits of each company that offers capital. Once they find it profitable they can immediately buy and resell it when the price goes up in the same market. So in this case investors can also become sellers to other investors.

### **Banks**

According to Kasmir (2018: 24) in his book Banks are companies engaged in finance, meaning that banking activities are always related to finance, so talking about banks is inseparable from financial problems.

The first banking activity is to collect funds from the wider community, known as the term in the banking world, is funding activities. Collecting funds is collecting or seeking funds by buying from the wider community. Banks buy funds from the public by installing various strategies so that people want to invest their funds in the form of savings. Types of savings that can be chosen by the public such as current accounts, savings, certificates of deposit, and time deposits.

After obtaining funds in the form of deposits from the public, the banking funds are then played back or resold to the community in the form of loans or better known as credit (lending). In granting credit, loan services are also subject to loan recipients (debtors) in the form of interest and administration fees. Meanwhile, for banks based on Sharia principles, it can be based on profit sharing or equity participation.

### **Return On Assets**

Return On Assets (ROA) is a profitability ratio that can be used to measure a company's ability to generate profits (Kurnawan, 2012; 7). Return on Assets (ROA) was chosen as an indicator for measuring banking financial performance because Return on Assets (ROA) is used to measure a company's effectiveness in generating profits by utilizing its assets. Return on Assets (ROA) is the ratio between profit before tax to total assets. Return On Assets (ROA) indicates that of the total assets used to operate, the company is able to provide profits for the company. Conversely, if Return On Assets (ROA) indicates that the total assets used, the company suffers a loss. So, if a company has a high ROA value then the company has a great opportunity to increase growth. But if the total assets used by the company do not provide profit, the company will experience losses and will hinder growth.

### **Loan to Deposit Ratio**

Loan to Deposit Ratio (LDR) is used to assess a bank's liquidity by dividing the amount of credit by the amount of funds. Loan to Deposit Ratio (LDR) is also a ratio that shows the ability of a bank to provide funds to its debtors with capital owned by the bank and funds that can be collected from the public (Almilia and Herdiningtyas, 2005).. Loan to Deposit Ratio (LDR) is a maximum of 110% (Achmad and Kusuno, 2003).

### **Operational Costs and Operating Income**

The ratio of Operational Costs to Operating Income (BOPO) is often called the efficiency ratio which is used to measure the ability of bank management to control operational costs to operating income. The smaller this ratio means the more efficient the operational costs incurred by the bank concerned (Almilia and Herdiningtyas, 2005). Bank success is based on a quantitative assessment of bank profitability which can be measured using the ratio of operating costs to operating income (Kuncoro and Suhardjono, 2002). According to Dendawijaya (2003) the ratio of operational costs is used to measure the level of efficiency and ability of a bank to carry out its operations.

### **Non Performing Loans**

The financial ratio used as a proxy for the value of a credit risk is the ratio of Non Performing Loans (NPL). This ratio shows that the ability of bank management to manage non-performing

loans provided by banks. Non Performing Loan (NPL) reflects credit risk, the smaller the Non Performing Loan (NPL), the smaller the credit risk borne by the bank. Banks in providing credit must conduct an analysis of the debtor's ability to repay its obligations. After credit is granted, the bank is required to monitor the use of credit and the debtor's ability and compliance in fulfilling obligations. Banks conduct reviews, assessments, and binding of collateral to minimize credit risk (Ali, 2004).

## RESEARCH METHODOLOGY

In this study, the researcher used a quantitative approach, which in this type of data analysis uses statistics and research in the form of numbers. This type of quantitative research can also be interpreted as a type of research based on the philosophy of positivism, which is used to examine certain populations and samples, collecting data using research instruments, statistical or quantitative data analysis, which has the aim of testing established hypotheses.

For data collection it is necessary to use research instruments. The data that has been collected is then analyzed quantitatively using descriptive statistics so that it can be concluded that the formulated hypothesis is proven or not (Sugiyono, 2017: 121).

This research was conducted at banking companies listed on the Indonesia Stock Exchange in the 2015-2019 period. The data is downloaded from the official website of the Indonesia Stock Exchange ([www.idx.co.id](http://www.idx.co.id)). In this study, the study population was 45 foreign exchange banking companies listed on the Indonesia Stock Exchange (IDX) for the 2015-2019 period.

Sampling in this study was carried out using a purposive sampling technique. Purposive sampling is done by taking samples from the population based on certain criteria.

After determining the criteria for selecting the sample, in this case the researcher used 24 samples of banking companies listed on the Indonesia Stock Exchange in 2015-2019.

The types and sources of data used in this study are secondary data, namely data obtained indirectly through intermediary media in the form of corporate financial reports obtained from the annual reports of banking companies listed on the Indonesia Stock Exchange for the 2015-2019 period. Because this research concerns a public company, the data used are published financial reports.

## Variable Operational Definitions

The following will explain the operational definitions of the variables to be used in the study. In this study the independent variable (X) consists of:

### 1. Loan to Deposit Ratio (LDR)

Loan to Deposit Ratio (LDR) is a comparison between credit and third party funds. The unit of measure is a percentage. Loan to Deposit Ratio in this study is measured by ratio data, namely (Budisantoso, 2014: 87):

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

### 2. Operational Costs and Operating Income (BOPO)

Operational Costs or Operating Income (BOPO) is the total operating expenses to total operating income. The unit of measure is a percentage. Operating Costs and Operating Income in this study are measured by ratio data, namely (Budisantoso, 2014: 86):

$$\text{BOPO} = \frac{\text{Total Operating Expenses}}{\text{Total Operating Income}} \times 100\%$$

**Total Operating Income**

3. Non Performing Loan (NPL)

Non Performing Loan (NPL) is a comparison between total loans problem with total credit. The unit of measure is a percentage. According to Bank Indonesia Circular No. 3/30/DPNP December 14, 2001 NPL in this study was measured by ratio data as follows:

$$\text{NPL} = \frac{\text{Total Problem Loans}}{\text{Total Credit}} \times 100\%$$

The dependent variable in this study is ROA. ROA is the ratio between profit before tax and average total assets. The unit of measure is a percentage. Return On Assets in this study is measured using a ratio measurement scale with data in financial statements, namely (Budisantoso, 2014: 85):

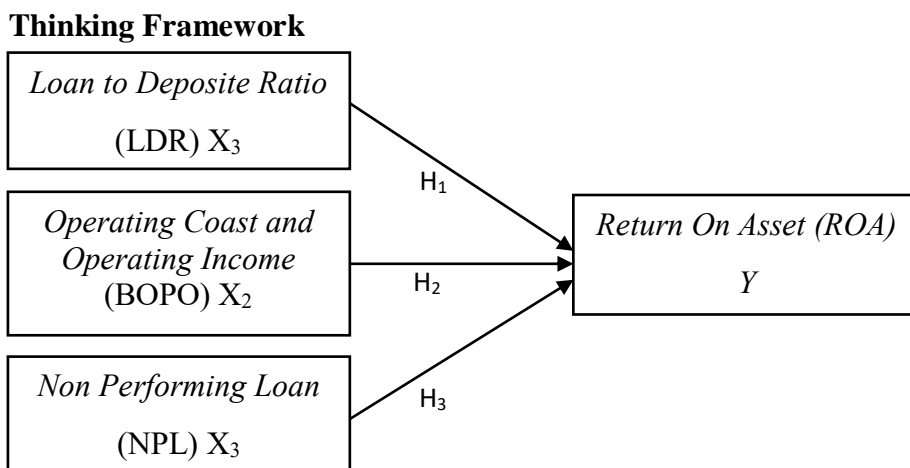
$$\text{ROA} = \frac{\text{Profit Before Tex}}{\text{Average Total assets}} \times 100\%$$

**Hypothesis**

Based on the description above, a hypothesis can be obtained as follows:

H<sub>1</sub> : It is suspected that the Loan to Deposite Ratio (LDR) has a positive effect on Return On Assets (ROA). H<sub>2</sub> : It is suspected that Operational Costs and Operating Income (BOPO) have a negative effect on Return On Assets (ROA).

H<sub>3</sub> : It is suspected that Non Performing Loans (NPL) have a negative effect on Return On Assets (ROA).



**Figure 2.1 Thinking Framework**

**RESULTS AND DISCUSSION**

**Test Normality**

The normality test aims to test whether in the regression model, the confounding variables or residuals have a normal distribution, to detect whether the residuals are normally distributed or not, namely by using the Kolmogorov-Smirnov statistical test analysis (Ghazali, 2018; 161). To fulfill the normality test if the Asymp. Sig (2-tailed) residual variable is above 0.05 or 5%. Conversely, if it is below 0.05 or 5%, the data is not normally distributed or does not meet the normality test. Tests carried out by the examiner in order to obtain a normal distribution of NPL, BOPO, LDR and ROA using the Kolmogorov Smirnov Variant test with the following results:

**Table 4.1 Uji Normalitas**

**Kolmogorov-Smirnov Test  
One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		120
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	.80250169
Most Extreme Differences	Absolute	.112
	Positive	.110
	Negative	-.112
Kolmogorov-Smirnov Z		1.224
Asymp. Sig. (2-tailed)		.100

a. Test distribution is Normal.

b. Calculated from data.

Source : SPSS Output Results (Processed)

Based on table 4.1 above shows that the data is normally distributed. This is shown by the Kolmogorov-Smirnov which shows results that have a significance level of 0.100 which is above 0.05.

### Multicollinearity

Test The multicollinearity test aims to test whether a regression model is determined by the correlation between independent variables. Following are the results of the Multicollinearity Test of each variable Loan to Deposite Ratio (X1), Operating Costs and Operating Income (X2), Non Performing Loans (X3) and Return On Assets (Y).

**Table 4.2 Multicollinearity Test**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Const)	4.215	.552		7.643	.000	
	LDR	.017	.005	.251	3.779	.000	.981 1.019
	BOPO	-.045	.006	-.592	-7.720	.000	.738 1.355
	NPL	-.171	.079	-.165	-2.173	.032	.750 1.333

From Dependent Variable: ROA

Source : SPSS Output Results (Processed)

table 4.2

meets the predetermined requirements, it can be seen that the tolerance column is higher than 0.10. The data above has a tolerance value of 0.981 for the LDR variable, 0.738 for the BOPO variable,

and 0.750 for the NPL variable. The three variables have a tolerance value of more than 0.10. The second condition is that the Variance Inflation Factor (VIF) value is less than 10. The data above

has a VIF value of 1.019 for the LDR variable, 1.355 for the BOPO variable and 1.333 for the NPL variable. All three variables have a VIF number less than 10. So it can be concluded that the research data does not have multicollinearity.

**Autocorrelation**

Test The autocorrelation test aims to test that in a linear regression model there is a correlation between confounding errors in period t and errors in period t-1 (previous). Autocorrelation arises because sequential observation data throughout the year are related to one another, this is often found in time series data. To determine whether there is autocorrelation, the Durbin-Watson test is used. If the Durbin-Watson value is between -2 to +2 ( $-2 < DW < 2$ ), then it can be said that there is no autocorrelation of the independent variables. The following are the results of the autocorrelation test:

**Table 4.3 Autocorrelation Test Results**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.705 <sup>a</sup>	.497	.484	.81281	1.313

a. Predictors: (Constant), NPL, LDR, BOPO

b. Dependent Variable: ROA

Source : SPSS Output Results (Processed)

Based on table 4.3 it shows that the DW value is 1.313 which means that there is no autocorrelation because the DW value is between  $-2 < 1.313 < 2$ .

**The heteroscedasticity**

test in this study was carried out using statistical tests. The selected statistical test is the Glacer test, the basis for making decisions on the heteroscedasticity test through the Glacer test is that if the sig result is  $> 0.05$ , there are no symptoms of heteroscedasticity (Ghozali, 2018; 134).

**Table 4.4 Heteroscedasticity Test Results**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.473	.424		1.117	.267
	LDR	-.003	.004	-.082	-.888	.376
	BOPO	.007	.004	.160	1.585	.116
	NPL	-.012	.011	-.110	-1.099	.274

a. Dependent Variable: ABS\_RES  
**Source : SPSS Output Results (Processed)**

Based on table 4.4 above it shows that the Glejser LDR value (X1) is 0.376, BOPO (X2) is 0.116 and NPL (X3) is 0.274. This indicates that there are no symptoms of heteroscedasticity because the sig > 0.05.

**Data Analysis Data**

analysis here uses multiple linear regression analysis. Linear regression analysis is used after the classic assumption test because it ensures in advance whether the model has no problems with normality, multicollinearity, autocorrelation and heteroscedasticity. The multiple linear regression equation is as follows:

$$Y = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \epsilon$$

Where Description:

Y = ROA (Profitability)

$\alpha$  = Constant Value

$\beta_1,2,3$  = Variable Regression Coefficient X1,2,3

X1 = Loan to Deposit Ratio (Liquidity)

X2 = Operating Costs to Operating Income

X3 = Non-Performing Loan (Asset Quality)

$\epsilon$  = Error

Tests carried out with the help of SPSS obtained the following results:

**Table 4.5 Linear Regression Test Results**

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4.226	.550		7.681	.000
LDR	.017	.005	.244	3.658	.000
BOPO	-.046	.006	-.610	-8.402	.000
NPL	-.032	.015	-.158	-2.194	.030

a. Dependent Variable: ROA

**Source : SPSS Output Results (Processed)**

Based on table 4.5, the results of the multiple linear regression equation are obtained as follows:

$$Y = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + e$$

$$Y = 4.226 + 0.017 - 0.046 - 0.032 + e$$

From this equation it can be seen that:

1.  $\alpha = 4.226$ , meaning that if the Loan to Deposit ratio (LDR), Operating Costs and Operating Income (BOPO), Non Performing Loans 0, then Return On Assets (ROA) is 4.226. This result is significant at  $\alpha = 5\%$ .



2.  $\beta_1 = 0.017$ , meaning that assuming the Loan to Deposit Ratio (LDR) is fixed (unchanged), then every Return On Assets 1% increase. So it can be concluded that the Loan to Deposit Ratio (LDR) has a positive effect on Return On Assets (ROA) and is significant at  $\alpha = 5\%$ .
3.  $\beta_2 = -0.046$ , meaning that assuming the Operational Costs and Operating Income (BOPO) are fixed, then every increase in Operating Costs and Operating Income (BOPO) by 1% will reduce Return On Assets (ROA) by 0.046%. So it can be concluded that Operational Costs and Operating Income (BOPO) have a negative effect on Return On Assets (ROA) and are significant at  $\alpha = 5\%$ .
4.  $\beta_3 = -0.032$ , meaning that assuming a non-performing loan (NPL), then every non-performing loans 1% return on assets (ROA) by 0.032%. So it can be concluded that Non Performing Loans (NPL) have a negative effect on Return On Assets (ROA) and are significant at  $\alpha = 5\%$ .

**Interpretation of the Results of the Effect of Loan to Deposit Ratio (LDR) on Return On Assets (ROA)** The results of the study stated that the Loan to Deposit Ratio (LDR) variable had a positive and significant effect on Return On Assets (ROA). Positive results indicate that the Loan to Deposit Ratio (LDR) increases, the Return On Assets (ROA) of banking companies will increase. If the Loan to Deposit Ratio (LDR) is higher, it indicates a greater amount of third party funds being disbursed in the form of credit. This provides greater interest income which will increase Return On Assets (ROA), assuming that the bank is able to extend credit effectively, so that the number of bad loans will be small.

These results are in line with research conducted by Sunyonto (2005) and Merkusiwati (2007) where the results of the study show that the Loan to Deposit Ratio (LDR) has a positive and significant effect on Return On Assets (ROA).

#### **Effect of Operational Costs and Operating Income (BOPO) on Return On Assets (ROA)**

The results showed that the variable Operating Costs and Operating Income had a negative effect on Return On Assets (ROA). Negative results mean that if there is an increase in Operational Costs and Operating Income (BOPO), the value of Return On Assets (ROA) will decrease. This is because any increase in bank operating income that is not accompanied by an increase in operating income will result in reduced profit before tax, which in turn reduces the value of Return On Assets (ROA).

The results of this study are in line with the results of research conducted by Egi and Deannes (2019) and Mawardi (2005) which state that Operational Costs and Operating Income (BOPO) have an effect on Return On Assets (ROA).

#### **Effect Non Performing Loans on Return On Assets (ROA)**

The results showed that Non Performing Loans (NPL) had a negative and significant impact on Return On Assets (ROA). Negative results mean that if there is an increase in Non-Performing Loans (NPL), the Return On Assets (ROA) will decrease. Where in this case the debtor fails to fulfill its obligations which have been determined, so that it can cause losses to the bank.

The results of this study are in line with research conducted by Gizaw (2015) Suci (2019) which states that Non-Performing Loans (NPL) have a negative and significant effect on Return On Assets (ROA).

## **CONCLUSIONS AND RECOMMENDATIONS**

### **CONCLUSION**

Based on the results of the analysis and discussion described in the previous chapter, the conclusions of this study are as follows:

1. Loan to Deposit Ratio (LDR) has a positive effect on Return On Assets (ROA). If a Loan to Deposit Ratio (LDR) is at the standard set by Bank Indonesia, then the profit earned by the bank will increase (assuming the bank is able to extend its credit effectively). Increasing profits, the Return On Assets (ROA) will also increase.
2. Operating Costs and Operating Income (BOPO) have a negative effect on Return On Assets (ROA). So that the greater the BOPO, the smaller or decreased the banking financial performance. Likewise, vice versa, if BOPO is getting smaller, it can be concluded that banking financial performance is increasing or improving.
3. Non-Performing Loans (NPL) have a negative effect on Return On Assets (ROA). During the study period, the level of Non-Performing Loans (NPL) in banking companies was still relatively low, namely below 5%. So it is necessary to be careful on the part of banks in carrying out their functions. Risks in the form of difficulties in repaying credit by debtors with a large enough number can affect the financial performance of banks.

## RECOMMENDATIONS

In the study there were recommendations put forward by researchers, while the recommendations are as follows:

1. For Investors and Potential Investors Investors are advised when making an investment to pay attention to the levels of LDR, BOPO, and NPL because these variables significantly affect the level of ROA ratio.

2. For Banking Companies

Based on research results, companies are expected to always maintain their level of capital, so that it will improve the financial performance of these banking companies. Looking at the Loan to Deposit Ratio (LDR) variable, it is expected that the company can maintain the Loan to Deposit Ratio (LDR), which is 80%-110% in accordance with the standards used by Bank Indonesia. If the LDR is 80%, the company will make a profit. At this time the bank can fulfill the credit request submitted. Meanwhile, if the amount is more than 110%, then the company is at risk, so that banks are currently advised not to fulfill credit requests because there are fears of delays in credit payments. So it can be concluded that the higher the Loan to Deposit Ratio (LDR) indicates the lower the bank's liquidity condition, conversely the lower the Loan to Deposit Ratio (LDR) indicates the bank's lack of opportunity to earn profits. The better the bank, the longer the sustainability of the bank, thus investors will be interested in investing in the bank because they believe that the investment made will always generate profits.

## REFERENCES

- Almilia, Luciana Spica and Herdiningtyas, Winny. (2005). Analysis of Camel's Ratio to Prediction of Troubled Conditions in Banking Institutions for the 2000-2002 period. *Journal of Accounting and Finance*, 7(2), 131-147.
- Budisantoso, Totok and Nuritomo. (2014). *Banks and Other Financial Institutions 3rd Edition*. Jakarta: Salemba Empat.
- Dendawijaya. (2003). *Banking management*. Jakarta: Ghalia Indonesia.
- Egi Pratama., and Deannes Isyuardhana. (2019). The Effect of CAR, NPL, LDR, and BOPO on Profitability in the Banking Industry (Case Study of State-Owned Banks listed on the Indonesia Stock Exchange (2012-2017). *E-Proceeding of Management*, 6 No.1, 634.
- Ghozali, Imam. (2018). *Aplikasi Analisis Multivariate dengan Program IBM SPSS23*. Semarang: Badan Penerbit Universitas Diponegoro.

- Gizaw, MM (2015). The Impact of credit risk on Profitability Performance of Commercial Banks in Ethiopia. *African*, 9(2), 59-66 .
- Indonesia, Ikatan Bankir. (2016). *Strategi Manajemen Risiko Bank*. Jakarta: Gramedia Pustaka Utama.
- Kasmir. (2017). *Analisis Laporan Keuangan*. Jakarta: Rajagrafindo.
- Kasmir. (2018). *Bank dan Lembaga Keuangan Lainnya*. Jakarta: Rajagrafindo .
- Mawardi, Wisnu. (2005). Analisis Faktor-Faktor yang mempengaruhi Kinerja Keuangan Bank Umum di Indonesia (Studi kasus pada Bank Umum dengan total aset kurang dari 1 Triliun). *Jurnal Bisnis Strategi*, 14(1), 83-94
- Mawardi, Wisnu. (2005). Analisis Faktor-Faktor yang mempengaruhi Kinerja Keuangan Bank Umum di Indonesia (Studi kasus pada Bank Umum dengan total aset kurang dari 1 Triliun). *Jurnal Bisnis Strategi*, 14(1), 83-94
- Merkusiwati, Ni Ketut Lely Aryani. (2007). Evaluasi Pengaruh Camel terhadap Kinerja Perusahaan. *Buletin Studi Ekonomi*, Vol. 12, No.1
- Suci, DP (2019). Pengaruh CAR, NPL, NIM, BOPO dan LDR terhadap Profitabilitas Perbankan di Indonesia yang terdaftar di BEI periode 2014-2017. Thesis.
- Sudana. (2011). *Manajemen Keuangan Perusahaan*. Jakarta: Erlangga.
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta.
- Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif dan Kombinasi (Mixed Methods)*. Cetakan Kesepuluh. Bandung: Alfabeta.
- Sunyonto, D. (2016). *Metodologi Penelitian Akuntansi*. Bandung: PT Refika Aditama.