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ANALYSIS OF THE EFFECT OF CAR, BOPO, NPL, LDR, AND SIZE ON PROFITABILITY OF BANKS LISTED ON IDX PERIOD 2016-2020

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ABSTRACT

Banking is a bank that has a role in the financial system in Indonesia. The existence of the banking sector has an important role, in which most people's lives involve services from the banking sector. Therefore banks in this case must maintain and improve the health of a bank. In doing their operations, one of them is the bank's goal is to get a high return that can be used to fund the development of the operation until with steady expansion in the future. The ability of the bank to earn profit can be assessed by using the ratio of profitability. One of them is Return On Assets (ROA). This study aims to analyze the influence of Capital Adequacy Ratio (CAR), Operational Efficiency (BOPO), Loan to Deposit Ratio (LDR), and Net Interest Margin (NIM) on Return On Assets (ROA) of banking companies listed in Indonesia Stock Exchange (IDX). Sampling in this study used purposive sampling method. The sample used is 36 companies from 46 companies listed on the IDX that publish annual reports complete from 2016-2020. The data were analyzed using multiple linear regression. Based on the results of the study found that the internal factors of the bankCapital Adequacy Ratio (CAR)andNon Performing Loan (NPL)have a significant effect on the profitability (ROA) of banking companies listed in Indonesia Stock Exchange (IDX) 2016-2020, while the Operational Efficiency (BOPO), Loan to Deposit Ratio (LDR) and Company Size (SIZE) do not have a significant effect on the profitability (ROA) of banking companies listed in Indonesia Stock Exchange (IDX) 2016-2020.

Keywords **:** *CAR, BOPO, NPL, LDR, SIZE, ROA*

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INTRODUCTION

The current economic growth is faster, so more capital is needed. One source of capital needed is from community savings. In order for capital to be optimally useful, a service company is needed that provides financial services to all levels of society, including banks.

Economic development cannot be separated from the banking sector, because banking has an important role in economic growth and because the banking sector is an institution that carries out the main function as a financial intermediary between parties who have funds (surplus funds) with parties who need funds (deficit funds) and as an institution that functions to facilitate the flow of payment traffic. The main goal of banking is to achieve maximum profitability. The point is that profitability shows the efficiency of the company(Beautiful & Arief, 2016).

Based on data sourced from the Indonesian Stock Exchange, PT BCA, Tbk experienced an increase in share prices of IDR 15,500/share in 2016, IDR 21,900/share in 2017, IDR 26,000/share in 2018, IDR 33,425/share in 2019, and IDR 33,850/share in 2020. PT Bank Mandiri, Tbk also experienced an increase in share price of IDR 5,788/share in 2016, IDR 8,000/share in 2017, experienced a decrease in share price in 2018 of IDR 7,375/share, then experienced an increase in share price of IDR 7,675/share in 2019, and experienced a decrease in share price again of IDR 6,325/share in 2020.

PT BNI, Tbkexperienced an increase in share price of IDR 5,525/share in 2016, IDR 9,900/share in 2017, experienced a decrease in share price in 2018 of IDR 8,800/share, IDR 7,850/share in 2019, IDR 6,175/share in 2020. PT BRI, Tbkexperienced an increase in share price of IDR 2,335/share in 2016, IDR 3,640/share in 2017, IDR 3,660/share in 2018, IDR 4,400/share in 2019, and experienced a decrease in share price of IDR 4,170/share in 2020. PT BNI, Tbkalso experienced an increase in share price of IDR 1,740/share in 2016, IDR 3,570/share in 2017, experienced a decrease in share price in 2018 of IDR 2,540/share, IDR 2,120/share in 2019, and IDR 1,725/share in 2020.

Based on this information, it can be seen that banking stock prices have fluctuated over the past 5 years. These changes in conditions require banking institutions to have better capabilities in managing their businesses in order to survive. The company's financial performance is a complete display of the company's condition during a certain period of time which is the result or achievement influenced by the company's operational activities in utilizing the resources it has. By analyzing the company's performance, investors can assess the company's prospects in the future. If the company's financial performance is considered good, the company's shares will be in demand by investors and their prices will increase. In other words, the company's financial performance has an influence on the company's stock price.

The concept of efficient markets is closely related to the availability of information. A market is said to be efficient if the value of a security at any time reflects all available information, resulting in the price of a security being at its equilibrium level. The current stock market has reflected historical information plus all published information. In the semi-strong form of market efficiency, the market is said to be efficient if the price of securities fully reflects all published information, including information contained in the financial reports of the issuing company, one of which is profit information.

If a certain financial ratio level increases, it can be concluded that the company's performance is considered good, investors should dare to invest their funds in the company and if many investors tend to want to buy shares in the company, the company's share price will experience an increasing trend, this is in accordance with the law of demand that if demand for the market increases, the selling price will increase outside of other external factors. One of the bank's goals is to obtain profitability which will later be used to finance all operational activities and banking activities carried out. With this profitability, the bank will be able to develop and survive until future activities. Measuring the level of profitability is one way used to measure the ability of bank management to manage available capital to obtain net profit.

Bank profitability can affect customer policies on investments made. The bank's ability to generate good profits or high profitability capabilities showsthe bank's ability through effective management in using existing resources to achieve or exceed profit targets. This can foster customer confidence in making investments. If the bank's profitability level is low, it means that management has failed to utilize existing resources to achieve profit targets. This will cause distrust in making investments and can even result in customers withdrawing their investment funds. Meanwhile, for the bank itself, profitability can be used as an evaluation of management performance on the effectiveness of bank management.

Profitability is a ratio to measure the company's ability to generate profits by using the company's resources such as assets, capital or company sales. Profitability has a causal relationship with the company's value. This causal relationship shows that if the company's management performance as measured using the profitability ratio is in good condition, it will have a positive impact on investors' decisions in the capital market to invest their capital in the form of capital participation. Likewise, it will also have an impact on creditors' decisions in relation to company funding through debt(Sudan, 2011).

The purpose of using profitability ratios for companies and for external parties is to assess profit development over time and to measure the productivity of all company funds used, both equity. In financial

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institutions, Banks, Profitability is used to evaluate the performance of Bank management. In general, the assessment of financial performance and profitability of a bank can be seen from its financial statements derived from its financial calculations. The financial ratio that can be used by the Bank to measure its ability to generate profits is Return on Assets (ROA).(Sudan, 2011)

Return On Asset is a tool to analyze or measure the level of business efficiency and profitability achieved by the bank concerned. Return on assets is used to measure the ability of bank management to obtain (profit) as a whole. Return on assets measures the comparison between net profit after deducting interest and tax expenses generated from the company's main activities with the total assets owned by the company to carry out overall activities

High and low*return on assets*depends on the management of the company's assets by management which illustrates the efficiency of the company's operations. The higher the return on assets, the more efficient the company's operations and vice versa, low return on assets can be caused by the large number of idle company assets, excessive investment in inventory, excess paper money, fixed assets operating below normal and others. (Fajari & Sunarto, 2017)

In this study, it is suspected that the Capital Adequacy Ratio (CAR), Operating Costs to Operating Income (BOPO), Non Performing Loans (NPL), Loan to Deposit Ratio (LDR), and Company Size (SIZE) have an effect on the Return on Assets (ROA) of banking companies on the Indonesia Stock Exchange in 2016-2020. The Capital Adequacy Ratio shows the bank's ability to maintain sufficient capital and control various risks that arise that can affect the amount of bank capital.

Capital Adequacy Ratio is a ratio used to measure capital and reserves in covering credit, especially the risk that occurs due to interest failure to be collected. Capital Adequacy Ratio compares capital with ATMR (Risk Weighted Assets). Capital Adequacy Ratio is related to ROA (Return On Asset) where ROA compares profit after tax with total assets, this means that if a bank has large capital, the greater the possibility that the bank can distribute the funds it has. Increased income will increase the bank's profits or profits. The better condition of the bank will cause the company's performance to also increase (Pranata, 2015). Research result(Saryani, 2013),(Pranata, 2015) And (Amalia & Mahardika, 2017) states that the Capital Adequacy Ratio (CAR) has an influence on the profitability of banking companies, whereas according to research (Dewi, 2018) And (Beautiful & Arief, 2016). Capital Adequacy Ratio (CAR) has no influence on the profitability of banking companies.

Operating Expenses to Operating Income (BOPO) is often called the efficiency ratio used to measure the ability of bank management to control operational costs against operational income. The smaller the Operating Costs to Operating Income (BOPO), the more efficient the operational costs incurred by the bank concerned, conversely, the greater the Operating Costs to Operating Income (BOPO), the less efficient the operational costs incurred by the bank so that it will cause profitability (ROA) to decrease (Wicaksono, 2014). Thus, the operational efficiency of a bank proxied by the BOPO ratio will affect the performance of the bank. The results of research conducted by (Saryani, 2013) states that Operating Costs to Operating Income (BOPO) has an influence on the profitability of banking companies, whereas according to (Ismadi & Irawati, 2019), (Dewi, 2018) And (Amalia & Mahardika, 2017) states that Operating Costs to Operating Income (BOPO) has no influence on the profitability of banking companies.

Non Performing Loan (NPL) reflects credit risk, the higher the Non Performing Loan (NPL) the higher the credit risk borne by the bank. The higher the credit risk reflects poor credit quality or the existence of bad debts. The existence of bad debts will hinder the profits that should be obtained from credit profits so that profitability (ROA) decreases (Ismadi & Irawati, 2019). Non Performing Loan (NPL) is a special concern for banks because the presence of Non Performing Loan (NPL) can have a negative impact on profitability, this was later proven by (Nayoan, 2018) in his research which shows that Non Performing Loan (NPL) has a negative influence on the profitability of banking companies. In contrast to the results of this study, in a study conducted by (Lestari et al., 2015a), (Ismadi & Irawati, 2019), And (Beautiful & Arief, 2016) it was concluded that Non Performing Loans (NPL) have no influence on the profitability of banking companies(Agustami, 2017).

Loan to Deposit Ratio (LDR) is the comparison between the amount of credit given and the total third party funds (DPK). Loan Deposit Ratio (LDR) is a ratio to measure the bank's ability to meet the repayment of deposits that are due to its depositors and can fulfill the credit applications submitted without any delay. The higher the Loan Deposit Ratio (LDR) indicates the riskier the bank's liquidity condition, and vice versa. If the bank's Loan Deposit Ratio (LDR) is at the standard set by Bank Indonesia, which is 80 percent to 110 percent and the bank is able to distribute credit effectively, then the profit obtained by the bank will increase, so that profitability will also increase (Ismadi & Irawati, 2019). (Dewi, 2018), (Pranata, 2015) And (Ismadi & Irawati, 2019) stated in the results of his research that the Loan to Deposit Ratio (LDR) has an influence on the profitability of banking companies. On the other hand, the results of the research conducted (Sudirgo & Stevani, 2019) concluded that the Loan to Deposit Ratio (LDR) has no influence on the profitability of banking companies.

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The size of a company (SIZE) can be seen from the assets owned by the company, because assets describe the availability of resources for company activities where these activities tend to be carried out to obtain profit. Company size (SIZE) is a scale on which the size of the company can be classified in various ways, including: total assets, market value, log size, stock market value, and others. According to research results (Lestari et al., 2015a), (Saryani, 2013), (Pranata, 2015) states that company size (SIZE) has an influence on the profitability of banking companies, whereas according to (Pinasti & Mustikawati, 2018) states that company size (SIZE) has no influence on the profitability of banking companies.

LITERATURE REVIEW

Return On Asset (ROA)

According to (Kasmir, 2012), return on assets is a measurement of the company's overall ability to make a profit with the total amount of assets available in the company. If the ROA ratio ≥ 1.5% it can be said to be very healthy, but if the ROA ratio ≤ 0% then it can be said that the bank is not healthy. ROA is also used to measure financial performance, especially profitability, so that by increasing ROA it means that the company's profit increases so that the final impact is an increase in profitability (Valentina, 2011). Return On Asset (ROA) is used as an indicator of the company's financial performance, because this variable in several previous studies shows better performance measurements and ROA better represents the interests of stakeholders. (Sudiyatno, 2010).

Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio is a ratio used to measure capital and reserves in covering credit, especially the risk that occurs due to interest failure to be collected (Kasmir, 2017). The greater the Capital Adequacy Ratio, the greater the bank's opportunity to generate profits because with large capital, bank management is very free to place its funds in profitable investment activities. Research conducted by (Afriyeni & Fernos, 2018) And (Almunawwaroh & Marliana, 2018) shows that the Capital Adequacy Ratio has a significant effect on banking profitability. Therefore, it can be concluded that the greater the Capital Adequacy Ratio shows the bank's ability to obtain good profits, so that the Capital Adequacy Ratio has a significant positive effect on profits and increases the ROA ratio. Thus, the following hypothesis can be formulated:

H1 : *Capital Adequacy Ratio*has a significant positive effect on banking profitability (ROA).

Operating Costs vs Operating Income (BOPO)

Operating Expense Ratio Operating Income (BOPO) shows the efficiency of the bank in running its operations. This ratio is often used to measure efficiency to measure the ability of bank management to control operating costs against operating income. The higher the cost of income, the inefficient the bank becomes. Thus it can be concluded that, the greater the ratio of Operating Costs Operating Income (BOPO) indicates the level of bank inefficiency in managing its activities which will reduce profits so that Operating Costs Operating Income (BOPO) has a significant negative effect on profitability. This is supported by research (Chatarine & Lestari, 2010) And (Beautiful & Arief, 2016) that Operating Costs Operating Income (BOPO) has a significant negative effect on ROA, thus the following hypothesis can be formulated:

H2 : The Influence of the Operating Cost Ratio on Operating Income has a significant negative effect on *profitability* banking (ROA).

Non Performing Loan(NPL)

Non Performing Loan (NPL) is a ratio used to measure the bank's ability regarding the risk of failure to repay credit by debtors. Non Performing Loan (NPL) provides the position of problematic credit in the banking industry which is classified into substandard, doubtful, and bad credit groups against the total credit distributed. According to research on the influence of Non Performing Loan (NPL) on bank performance by (Wicaksono, 2014) And (Edo & Wiagustini, 2014), Non Performing Loan (NPL) has a significant negative effect on bank profitability, thus the following hypothesis can be formulated:

H3 : *Non Performing Loan (NPL)*has a significant negative effect on banking profitability (ROA).

Loan to deposit ratio(LDR)

Loan to deposit ratio (LDR) used to assess the liquidity of a bank by dividing the amount of credit by the amount of funds. The loan to deposit ratio (LDR) is a ratio that shows the ability of a bank to provide funds to its debtors with capital that can be collected from the community. The higher the ratio, the higher the liquidity or the higher the funds that have been distributed compared to third party funds in the bank. It can be concluded that the greater the loan to deposit ratio (LDR), the greater the credit income received by the bank which then has an impact on the increasing ROA ratio. This means that the loan to deposit ratio (LDR) has a significant positive effect on the ROA ratio. This is supported by research (Hidajat, 2018) And (Hindarto, 2011), thus the following hypothesis can be formulated:

H4 : *Loan to Deposit Ratio (LDR*) has a significant positive effect on banking profitability (ROA).

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Company Size(SIZE)
Company size has a significant effect on profit growth. This condition occurs because the size of a company can be seen from the assets owned by the company, because assets describe the availability of resources for company activities where these activities tend to be carried out to obtain profit. This is supported by research (Lestari et al., 2015b) which proves that company size has a significant positive influence on profitability, thus the following hypothesis can be formulated:
H5 : Company Size (*SIZE*) has a significant positive influence on banking profitability (ROA).

Framework
Based on previous theories and research, the relationship between Capital Adequacy Ratio (CAR), Operating Costs Operating Income (BOPO), Non Performing Loan (NPL), Loan to Deposit Ratio (LDR), and Company Size (SIZE) on Return On Asset (ROA) can be seen in Figure 1:

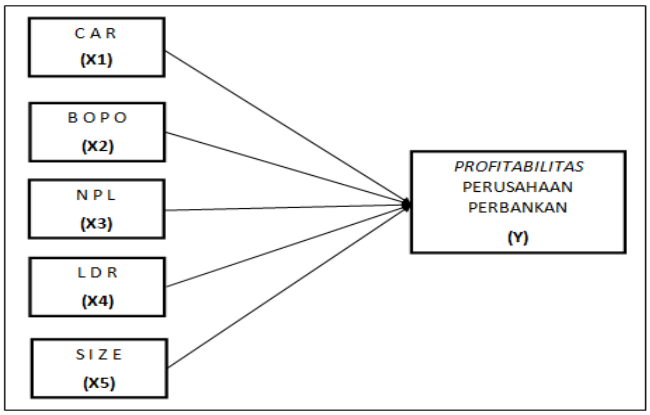

Figure 1. Framework of Thought.

DATA COLLECTION TECHNIQUE
The data collection technique used is by usingdescriptive analysis is used to describe and describe the variables used in this study. Descriptive analysis is carried out using descriptive statistics that produce average, maximum, minimum, and standard deviation values to describe the research variables so that they are contextually easy to understand.

RESEARCH METHODS
Place and Time of Research
This research was conducted by taking secondary data from the Indonesia Stock Exchange (IDX) published and obtained through the official IDX website (www.idx.co.id) for the period 2016-2020. The research period is from September 2021 to February 2022.

Population and Sample
The population used in this study was all banking companies listed on the Indonesia Stock Exchange (IDX) for the 2016 – 2020 period, totaling 46 companies. The sampling technique used was the purposive sampling method. The sample selection criteria determined were: (1) Banking companies listed on the IDX consecutively from 2016 – 2020 (2) Banking companies that consecutively reported financial statements in the period 2016 – 2020 (3) Banking companies that experienced profits in the period 2016 – 2020

Operational Research Variables
In this study, the independent variables and dependent variables that will be used consist of:

***Capital Adequacy Ratio* (CAR) (X1)**
Capital Adequacy Ratio (CAR) or known as the capital adequacy ratio is a ratio that represents the bank's ability to provide funds used as reserves to overcome the possibility of risk of loss. all assets owned by banking institutions, whether in the form of credit, participation, securities, or bills on other banks contain risks that must be financed from their own capital and also funds obtained from other sources such as funds from the community in the form of savings, current accounts, deposits, and others. CAR calculation according to SE BI Number 13/24/DPNP dated October 25, 2011. Based on SE BI No.13/30/DPNP dated December 16, 2011 as follows:

$$Capital\ Adequacy\ Ratio = \text{Modal Bank} / \text{Total ATMR}$$

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Operating Costs Operating Income (BOPO) (X2)
Operating costs operating income is the ratio of operating costs to operating income. The lower the ratio of operating costs to operating income, the better the performance of the bank's management, so that it can make the expenditure of cost burdens more efficient. The purpose of the BOPO ratio is to measure the management's ability to control operating costs to operating income. BOPO calculation according to (SE BI No.13/30/DPNP dated 16 December 2011) as follows :

Biaya Operasional Pendapatan Operasional = Total Beban Operasional / Total Pendapatan Operasional

***Non Performing Loan (*NPL) (X3)**
The non-performing loan ratio is a ratio that measures a company's bad debts, which occur due to two elements, namely the banking party in analyzing or the customer who intentionally or unintentionally does not make payments in their obligations. Based on SE BI Number 13/30/DPNP dated December 16, 2011, the calculation of Non-Performing Loans (NPL) can be obtained in the following way:

Non Performing Loan = Kredit Bermasalah/ Total Kredit

***Loan to Deposit Ratio*(LDR)(X4)**
This ratio describes the comparison of the amount of credit given with the amount of third party funds. LDR shows the level of bank's ability to distribute third party funds collected by the bank concerned. LDR calculation according to(SE BI No.13/30/DPNP dated 16 December 2011)as follows :

Loan to Deposit Ratio = Kredit / Dana Pihak Ketiga

Company Size*(SIZE*) (X5)
Company size is the amount of wealth or assets owned by the company. Company size is measured by the natural logarithm of total assets. The size of a company can be seen from the assets owned by the company, because assets describe the availability of resources for company activities where these activities tend to be carried out to obtain profit. This proves that the size of a company indirectly also determines the profit obtained by the company. Calculation of SIZE according to(SE BI No. 13/30/DPNP)as follows :

Company size = Total Assets (LN)

***Return On Assets*(ROA) (Y)**
*Return on assets*measuring the comparison between net profit after deducting interest and tax expenses resulting from the company's main activities with the total assets owned by the company to carry out overall activities. Calculation of ROA according to SE BI No.13/30/DPNP dated December 16, 2011are as follows :

Return On Asset = Laba Bersih / Total Aktiva

Multiple Linear Regression Analysis
Multiple linear regression analysis is used to determine the magnitude of the influence of the independent variables Capital Adequacy Ratio (CAR), Operating Expense to Operating Income Ratio (BOPO), Loan to Deposit Ratio (LDR), and Net Interest Margin (NIM) on the dependent variable, namely Return On Asset (ROA). The multiple linear regression equation model is as follows:

$$Y = a + \beta1X1 + \beta2X2 + \beta3X3 + \beta4X4 + e$$

Where :
Y =Bank profitability is measured by Return On Assets
a = Constant
β1, β2, β3,β4 = Regression Coefficient of each independent variable
X1=*Capital Adequacy Ratio*(CAR)
X2= Operating Costs - Operating Income (BOPO)
X3=*Loan to Deposit Ratio*(LDR)
X4=*Net Interest Margin*(NIM)
e = Term Of Error

RESULT AND DISCUSSION
Classical Assumption Test
Normality Test
The normality test is carried out to test whether in a regression model, an independent variable and a dependent variable or both have a normal or non-normal distribution.(Ghozali, 2016).Graphical analysis is the easiest way to see the normality of residuals, namely by looking at the histogram graph that compares observation data with a distribution that approaches a normal distribution. The use of normality is carried out using the PP Plots graphic test and the Kolmogorov-Smirnov statistical test (KS test). According toGhazali

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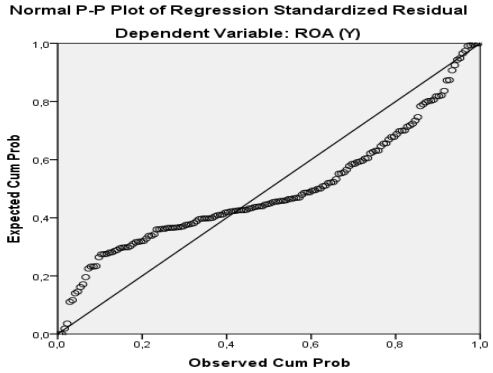
(2016)Detection of normality in Kolmogorov-Smirnov data statistics can be done if the significance value (probability) is ≥ 0.05 or 5 percent, then the data is normally distributed.



Source: SPSS processed data, 2021

Figure 1. Probability Plot

Based on Figure 4.1, it can be seen that the points spread far from the diagonal line and do not follow the direction of the diagonal line so that it can be concluded that the data in this study are not normally distributed. To see the normality of the data using the Kolmogorov-Smirnov Test can be seen from table 1 as follows:

Table 1

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		160
Normal Parametersa,b	Mean	,0000000
	Std. Deviation	,47971605
Most Extreme Differences	Absolute	,169
	Positive	,133
	Negative	-,169
Kolmogorov-Smirnov Z		2,132
Asymp. Sig. (2-tailed)		,000

Source: SPSS Processed Data, 2021

Based on table 1, it can be seen that the significance value is below 0.05 so it can be concluded that the data in this study are not normally distributed.

SmartPLS

Previously, it was explained that this study would conduct data analysis using SPSS software. After processing the data using SPSS, the results showed that the data was not normally distributed. Therefore, data analysis in this study will use nonparametric statistics, namely Partial Least Square (PLS). Partial Least Square is a powerful analysis method which is not based on many assumptions.

Multicollinearity Test

Multicollinearity testaims to test whether the regression model finds a correlation between independent variables(Ghozali, 2016).

Table 2

Multicollinearity Test

No	Variables	VIF	Information

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No	Variables	VIF	Information
1	CAR	1,417	There is no multicollinearity
2	BOPO	1,656	There is no multicollinearity
3	NPL	1.178	There is no multicollinearity
4	LDR	1.986	There is no multicollinearity
5	SIZE	1,024	There is no multicollinearity

Source: SmartPLS Processed Data, 2021

Based on the multicollinearity test table, it shows that each independent variable, namely CAR, BOPO, NPL, LDR and SIZE has a Centered Variance Inflation Factor (VIF) value <10. The results of the multicollinearity test in this study can be concluded that the research data does not experience multicollinearity.

Multiple Linear Regression Analysis

Multiple linear regression analysis is used to determine the magnitude of the influence of the independent variables Capital Adequacy Ratio (CAR), Operating Expense to Operating Income Ratio (BOPO), Loan to Deposit Ratio (LDR), and Net Interest Margin (NIM) on the dependent variable, namely Return On Asset (ROA). The multiple linear regression equation model is as follows:

Table 3
Hypothesis Test Results

	Original Sample (O)	Conclusion
CAR -> ROA	0.187	Positive influence
BOPO -> ROA	-0.028	Negative influence
NPL -> ROA	-0.498	Negative influence
LDR -> ROA	0.219	Positive influence
SIZE -> ROA	-0.017	Negative influence

Source: SmartPLS Processed Data, 2021

The figures in the multiple linear regression equation above can show that: 1) The regression coefficient of variable X1 is 0.187. This shows that CAR has a positive relationship direction of 0.187 to ROA. This means that if CAR increases by one unit, it will affect ROA with an increase of one unit, which is 0.187. 2) The regression coefficient of variable X2 is -0.028. This shows that BOPO has a negative relationship direction of 0.028 to ROA. This means that if BOPO increases by one unit, it will affect ROA with a decrease of one unit, which is 0.028. 3) The regression coefficient of variable X3 is -0.498. This shows that NPL has a negative relationship direction of -0.498 to ROA. This means that if NPL increases by one unit, it will affect ROA with a decrease of one unit, which is -0.498. 4) The regression coefficient of variable X4 is 0.219. This shows that LDR has a positive relationship direction of 0.219 to ROA. This means that if LDR increases by one unit, it will affect ROA with an increase of one unit, which is 0.219. 5) The regression coefficient of variable X5 is -0.017. This shows that SIZE has a negative relationship direction of -0.017 to ROA. This means that if SIZE increases by one unit, it will affect ROA with a decrease of one unit, which is -0.017.

Coefficient of Determination (R2)

The coefficient of determination (R2) is a coefficient that shows the percentage of influence of all independent variables on the dependent variable. This percentage shows how much the independent variables (CAR, BOPO, NPL, LDR and SIZE) can explain the dependent variable (ROA). If the coefficient of determination is getting closer to 1, then the influence of the independent variables provides almost all the information needed to predict the variation of the variable.(Ghozali, 2011)

Table 4
Coefficient of Determination (R2)

	R Square	Adjusted R Square
Profitability	0.258	0.234

Source: SmartPLS Processed Data, 2021

From Table 4, it can be seen that the Adjusted R Square value on the CAR, BOPO, NPL, LDR, and SIZE variables on Profitability is 0.234 or 23.4%. This shows that CAR, BOPO, NPL, LDR, and SIZE have an effect of 23.4% on Profitability, while the remaining 76.6% is influenced by other variables not used in this study.

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Hypothesis Test (t-Test)

Hypothesis Test (t-Test) shows how far the influence of each independent variable consisting of Capital Adequacy Ratio (CAR), Operating Cost to Operating Income Ratio (BOPO), Loan to Deposit Ratio (LDR), Net Interest Margin (NIM) and Non Performing Loan (NPL) on the dependent variable, namely Return On Asset (ROA).

If t count < t table, then H0 is accepted and H1 is rejected, which means that the independent variable has no effect on the dependent variable.

If t count > t table, then H0 is rejected and H1 is accepted, which means that the independent variable has an effect on the dependent variable.

Table 5
Partial Test (t-Test)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics(|O/STDEV|)	P Values	Note
CAR -> ROA	0.187	0.183	0.063	2,948	**0.003**	**Accepted**
BOPO -> ROA	-0.028	-0.041	0.137	0.207	**0.836**	**Rejected**
NPL -> ROA	-0.498	-0.491	0.086	5,765	**0,000**	**Accepted**
LDR -> ROA	0.219	0.231	0.125	1,749	**0.081**	**Rejected**
SIZE -> ROA	-0.017	-0.011	0.045	0.374	**0.709**	**Rejected**

Source: SmartPLS Processed Data, 2021

From table 5 it can be concluded that: 1) Variable X1 (CAR) has a Tstatistics of 2.948 > ttable of 1.975 and a significance of 0.003 < 0.05, it is concluded that the first hypothesis (H1) is accepted and H0 is rejected. The results of this study indicate that CAR has a partial significant effect on ROA. 2) Variable X2 (BOPO) has a Tstatistics of 0.207 < ttable of 1.975 and a significance of 0.836 > 0.05, it is concluded that the second hypothesis (H2) is rejected and H0 is accepted. The results of this study indicate that BOPO does not have a partial significant effect on ROA. 3) Variable X3 (NPL) has a Tstatistics of 5.765 > ttable of 1.975 and a significance of 0.000 < 0.05, it is concluded that the third hypothesis (H3) is accepted and H0 is rejected. The results of this study indicate that partially NPL has a significant effect on ROA profitability. 4) Variable X4 (LDR) has a Tstatistics of 1.749 <ttable of 1.975 and a significance of 0.081 > 0.05, it is concluded that the fourth hypothesis (H4) is rejected and H0 is accepted. The results of this study indicate that partially LDR does not have a significant effect on ROA. 5) Variable X5 (SIZE) has a Tstatistics of 0.374 < ttable of 1.975 and a significance of 0.709 > 0.05, it is concluded that the fourth hypothesis (H5) is rejected and H0 is accepted. The results of this study indicate that partially SIZE does not have a significant effect on ROA.

Discussion of Research Results

The Influence of Capital Adequacy Ratio (CAR) on Return on Assets (ROA) of Banking Companies

According to (Kuncoro and Suhardjono, 2011), that the Capital Adequacy Ratio shows the bank's ability to maintain sufficient capital and control various risks that arise which can affect the size of the bank's capital.

The results of the hypothesis test show that capital adequacy (CAR) is proven to have a positive and significant effect on banking profitability (ROA) because it has at Statistic value (2.948) > tTable (1.975) and the resulting significance value of 0.003 is still below 0.05. This means that the greater the CAR, the greater the ROA obtained by the bank. This is because CAR is a ratio that shows the capital capacity of a bank. If the CAR value is low, the bank is unable to finance operational activities and cannot make a significant contribution to profitability.

If the CAR value is high, the bank is able to finance operational activities and provide a significant contribution to profitability. But if the CAR value is high, the bank is able to finance operational activities and provide a significant contribution to profitability.

These results are in accordance with research conducted by (Beautiful & Arief, 2016) And (Kuntari, 2014) which states that CAR has a positive and significant influence on banking profitability (ROA).

The Influence of Operating Expenses on Operating Income (BOPO) on Return on Assets (ROA) of Banking Companies

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The operating expense ratio is a comparison between operating expenses and operating income. This ratio is often referred to as the efficiency ratio which is used to measure the ability of bank management to control operating expenses against operating income.(Fajari & Sunarto, 2017).

The results of the hypothesis test show that Operating Expenses to Operating Income (BOPO) are proven to have a negative effect and do not have a significant effect on banking profitability (ROA) because it has a tStatistic value (0.207) < tTable (1.975) and the resulting significance value of 0.836 is above 0.05. The lower the level of the operating expense ratio to operating income means the better the performance of the bank's management so that it can make the expenditure of cost expenses more efficient, and vice versa. The higher the level of the operating expense ratio to operating income means the worse the performance of the bank's management because it cannot make the expenditure of cost expenses more efficient.

This is in accordance with research conducted by (Saryani, 2013) And (Sofyan, 2019) which states that Operating Expenses Operating Income (BOPO) has a negative influence and does not have a significant influence on banking profitability (ROA).

The Influence of Non Performing Loans (NPL) on Return on Assets (ROA) of Banking Companies

The non-performing loan ratio is a ratio that calculates the level of non-performing loans when compared to the total loans that have been given to third parties but does not include loans given to other banks. Non-performing loans are loans that are classified as substandard, doubtful, and bad loans. While non-performing loans themselves are calculated grossly without deducting the allowance for productive asset write-offs.(Kasmir, 2017).

The smaller the Non Performing Loan (NPL) value, which means that the bank management is tightening the analysis of losses that will be suffered, can result in a decrease in the number of financing requests (assuming that the greater the financing, the greater the amount of uncollected financing) and vice versa.

The results of the hypothesis test show that Non Performing Loan (NPL) is proven to have a negative and significant effect on banking profitability (ROA). because it has a tStatistic value (5.765) > tTable (1.975) and the resulting significance value of 0.000 is still below 0.05. NPL has a negative and significant effect on ROA indicating that during the research period, commercial banks have been able to apply the principle of prudence in distributing credit to debtors, although there are still a small number of banks that have not applied the principle of prudence, this is also seen that there are still several commercial banks that are close to the maximum value set by Bank Indonesia (5%).

This is in accordance with research conducted by (Dewi, 2018) And (Asnawi et al., 2018) which states that Non Performing Loans (NPL) have a negative and significant influence on banking profitability (ROA).

The Influence of Loan to Deposit Ratio (LDR) on Return on Asset (ROA) of Banking Companies

LDR (Loan to Deposit Ratio) is a ratio that describes the comparison between credit issued by a bank and the total third party funds collected by a bank. Third party funds consist of current accounts, savings, and deposits. The amount of third party funds collected by a bank is directly proportional to the amount of credit issued, meaning that the more third party funds, the more credit is issued.

The results of the hypothesis test show that the Loan to Deposit Ratio (LDR) is proven to have a positive effect and does not have a significant effect on banking profitability (ROA) because it has a tStatistic value (1.749) < tTable (1.975) and the resulting significance value of 0.081 is above 0.05. This means that the increase in the amount of credit successfully distributed by the bank will not necessarily have an impact on the success of bank management in obtaining its profits. However, the impact of excessive credit distribution will increase the risk of risk exposure that the bank will face. Therefore, it is also necessary to be selective in providing credit because inappropriate credit distribution can trigger problematic credit.

This is in accordance with research conducted by (Wicaksono, 2014) And (Hasbullah, 2020) which states that the Loan to Deposit Ratio (LDR) has a positive influence and does not have a significant effect on banking profitability (ROA).

The Influence of Company Size (SIZE) on Return on Assets (ROA) of Banking Companies

Company size is the amount of wealth or assets owned by the company. Company size is measured by the natural logarithm of total assets. One of the ways a company can be seen is from the assets owned by the company. The greater the total assets, sales and market capitalization, the greater the size of the company. The greater the assets, the more capital invested, the more sales, the more money turnover and the greater the market capitalization, the greater the company is known in society.(Hery, 2017).

The results of the hypothesis test show that the company size (SIZE) on the Return On Asset (ROA) of banking companies is proven to have a negative influence and does not have a significant effect on banking profitability (ROA) because it has a tStatistic value (0.374) < tTable (1.975) and the resulting significance value of 0.709 is above 0.05. The larger the company size means the greater the total assets owned, but the large total

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assets are not balanced with operational cost efficiency which will cause the profit to be received by the bank to be smaller, therefore profitability decreases.

This is in accordance with research conducted by(Hasbullah, 2020)And(Ismadi & Irawati, 2019)which states that company size (SIZE) on Return On Assets (ROA) of banking companies has a negative influence and does not have a significant influence on banking profitability (ROA).

CLOSING

Based on the results of the research and discussion and description of the previous chapters, it can be concluded as follows: CAR (Capital Adequacy Ratio) has a significant influence and is positively correlated to bank profitability as measured by ROA, BOPO (Operational Costs to Operating Income) does not have a significant influence and is negatively correlated to bank profitability as measured by ROA, NPL (Non Performing Loan) has a significant influence and is negatively correlated to bank profitability as measured by ROA, LDR (Loan to Deposit Ratio) does not have a significant influence and is positively correlated to bank profitability as measured by ROA, SIZE (Company Size) does not have a significant influence and is negatively correlated to bank profitability as measured by ROA.

For further research, as input for further research, further research can use more varied financial ratios because there are still many financial ratios that can be used outside of this research which are indicated to have an influence on ROA and extend the research period to see the consistency of the research results and more convincing results.

REFERENCES

Afriyeni, A., & Fernos, J. (2018). Analisis Faktor-Faktor Penentu Kinerja Profitabilitas Bank Perkreditan Rakyat (Bpr) Konvensional Di Sumatera Barat. *Jurnal Benefita*, *3*(3), 325. https://doi.org/10.22216/jbe.v3i3.3623

Agustami, S. (2017). *Pengaruh Non Performing Loan terhadap Profitabilitas (Studi Kasus PT Bank OCBC NISP,Tbk Tahun 2002-2010)*. 112–122.

Almunawwaroh, M., & Marliana, R. (2018). Pengaruh Car,Npf Dan Fdr Terhadap Profitabilitas Bank Syariah Di Indonesia. *Amwaluna: Jurnal Ekonomi Dan Keuangan Syariah*, *2*(1), 1–17. https://doi.org/10.29313/amwaluna.v2i1.3156

Amalia, R. A., & Mahardika, D. P. K. (2017). *Pengaruh Capital Adequacy Ratio (CAR), Biaya Operasional dan Pendapatan Operasional (BOPO), Non Performing Loan (NPL), Loan to Deposit Ratio(LDR), Terhadap Return On Asset (ROA) Studi Kasus pada Bank Umum Konvensional di Bursa Efek Indonesia (Periode*. 18–33.

Asnawi, W. A., Rate, P. Van, Sam, U., & Manado, R. (2018). Pengaruh Kinerja Keuangan Bank Terhadap Return on Asset (Roa) Studi Pada Bank Umum Devisa Buku 4. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, *6*(4), 2898–2907. https://doi.org/10.35794/emba.v6i4.21198

Chatarine, A., & Lestari, V. P. (2010). *Fakultas Ekonomi dan Bisnis Universitas Udayana (Unud), Bali , Indonesia Menurut Undang-Undang Republik Indonesia Nomor 10 Tahun 1998 menyimpan dananya di bank . Dana yang bersumber dari masyarakat ini*. 561–577.

Dewi, A. S. (2018). Pengaruh CAR, BOPO, NPL, NIM, dan LDR terhadap ROA pada Perusahaan di Sektor Perbankan yang Terdaftar di BEI Periode 2012-2016. *Jurnal Pundi*, *1*(3), 223–236. https://doi.org/10.31575/jp.v1i3.55

Edo, D. S. R., & Wiagustini, N. L. P. (2014). Pengaruh dana pihak ketiga, Non Performing Loan, dan Capital adequacy ratio terhadap Loan to Deposit Ratio dan Return On Assets pada sektor perbankan di bursa efek Indonesia Delsy Setiawati Ratu Edo 1 Fakultas Ekonomi dan Bisnis Universitas Udayana (Un. *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana 3.11*, *11*, 650–673.

Fajari, S., & Sunarto. (2017). Pengaruh CAR, LDR, NPL, BOPO terhadap Profitabilitas Bank (Studi Kasus Perusahaan Perbankan yang Tercatat di Bursa Efek Indonesia Periode Tahun 2011 sampai 2015). *Prosiding Seminar Nasional Multi Disiplin Ilmu & Call for Papers UNISBANK Ke-3*, *3*(Sendi_U 3).

Ghozali, I. (2011). Aplikasi Analisis Multivariate Dengan Program SPSS. *Semarang, Universitas Diponegoro*, *IX*, 490.

Ghozali, I. (2016). *Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23* (Kedelapan). Universitas Diponegoro.

Hasbullah, I. I. K. (2020). Pengaruh CAR , LDR , NPL , NIM , BOPO dan Size Perusahaan Terhadap Profitability di Sektor Perbankan Yang Terdaftar di Bei Pada Tahun 2014 – 2016. *TIN: Terapan Informatika Nusantara*, *1*(1), 29–39.

Hery. (2017). Kajian Riset Akuntansi. *Jakarta : Grasindo*, *III*, 120.

Hidajat, K. (2018). Analisis Pengaruh Kecukupan Modal, Efisiensi, Likuiditas, Npl, Dan Ppap Terhadap Roa Bank. *Majalah Ilmiah Bijak*, *14*(1), 1–18. https://doi.org/10.31334/bijak.v14i1.56

Hindarto, C. (2011). Analisis pengaruh CAR,NIM,LDR,NPL,BOPO dan KAP terhadap ROA (Studi Perbandingan pada Bank dengan Total Aset diatas 1 Trilyun dan dibawah 1 Trilyun Periode Tahun 2005-

ISSN: 2828-7975

2008). *Jurnal Bisnis Strategi*, *20*(2), 15–40. https://doi.org/10.14710/jbs.20.2.15-40

Indah, D., & Arief, P. (2016). Pengaruh Non Performing Loan (NPL) dan Capital Adequacy Ratio (CAR) terhadap Profitabilitas (Studi Kasus pada Perusahaan Perbankan yang Terdaftar di BEI Periode 2010-2013). *Management Analysis Journal*, *5*(2), 110–115. https://doi.org/10.15294/maj.v5i2.7622

Ismadi, & Irawati, Z. (2019). Analisis Pengaruh Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), Non Performing Loan (NPL), Biaya Operasional Terhadap Pendapatan Operasional (BOPO), Loan to Deposit Ratio (LDR), dan SIZE Terhadap Profitabilitas. *Proceeding Of The URECOL*, *10*, 55–68.

Kasmir. (2012). Pengertian dan Jenis - jenis Laporan Keuangan. *Depok, PT Raja Grafindo Persada*, *53*(9), 328.

Kasmir. (2017). Analisis Laporan Keuangan. Edisi Kesatu. Cetakan Kedelapan. *Depok, PT Raja Grafindo Persada*, *VIII*, 337.

Kuncoro dan Suhardjono. (2011). Manajemen Perbankan (Teori dan Aplikasi), edisi kedua. *Yogyakarta, BPFE*, *2*, 332.

Kuntari, D. (2014). Pengaruh rasio keuangan terhadap return on asset perbankan (studi pada bank umum yang terdaftar di bursa efek Indonesia periode 2007-2013). *Proceedings of the 8th Biennial Conference of the International Academy of Commercial and Consumer Law*, *1*(hal 140), 43. http://www.springer.com/series/15440%0Apapers://ae99785b-2213-416d-aa7e-3a12880cc9b9/Paper/p18311

Lestari, T., Andini, R., & Raharjo, K. (2015a). Dampak Rasio CAR, NPL, NPM, ROA, LDR, IRR, dan Ukuran Perusahaan Dalam Memprediksi Pertumbuhan Laba pada Perusahaan Sektor Perbankan yang Go Publik di BEI Periode Periode Tahun 2009-2013. *Jurnal Ilmiah Mahasiswa S1 Akuntansi Universitas Pandanaran*, *1*(1), 1–24.

Lestari, T., Andini, R., & Raharjo, K. (2015b). Dampak Rasio CAR, NPL, NPM, ROA, LDR, IRR, dan Ukuran Perusahaan Dalam Memprediksi Pertumbuhan Laba pada Perusahaan Sektor Perbankan yang Go Publik di BEI Periode Periode Tahun 2009-2013. *Jurnal Ilmiah Mahasiswa S1 Akuntansi Universitas Pandanaran*, *vol 1*(No 1), 1–24. https://jurnal.unpand.ac.id/index.php/AKS/article/view/202

Nayoan, F. (2018). *Pengaruh Non Performing Loan, Biaya Operasi Pada Pendapatan Operasi, Dan Interest Margin Terhadap Pertumbuhan Laba (Studi Pada Perusahaan Perbankan Yang Terdaftar Di Bursa Efek Indonesia Periode 2007-2011)*. *6*, 9–19.

Pinasti, W. F., & Mustikawati, R. I. (2018). Pengaruh Car, Bopo, Npl, Nim Dan Ldr Terhadap Profitabilitas Bank Umum Periode 2011-2015. *Nominal, Barometer Riset Akuntansi Dan Manajemen*, *7*(1). https://doi.org/10.21831/nominal.v7i1.19365

Pranata, A. . A. W. D. (2015). Pengaruh Capital Adequacy Ratio, Loan To Deposit Ratio Dan Ukuran Perusahaan Pada Profitabilitas Bank di Bursa Efek Indonesia. *E-Jurnal Akuntansi Universitas Udayana*, *11*(1), 235–251.

Renaldo, N., Rozalia, D. K., Musa, S., Wahid, N., & Cecilia. (2023). Current Ratio, Firm Size, and Return on Equity on Price Earnings Ratio with Dividend Payout Ratio as a Moderation and Firm Characteristic as Control Variable on the MNC 36 Index Period 2017-2021. Journal of Applied Business and Technology, 4(3), 214–226. https://doi.org/10.35145/jabt.v4i3.136

Renaldo, N., Sally, Musa, S., Wahid, N., & Cecilia. (2023). Capital Structure, Profitability, and Block Holder Ownership on Dividend Policy using Free Cash Flow as Moderation Variable. Journal of Applied Business and Technology, 4(2), 168–180. https://doi.org/https://doi.org/10.35145/jabt.v4i2.132

Renaldo, N., Suhardjo, Putri, I. Y., Juventia, J., & Nur, N. M. (2021). Penilaian Harga Saham Hijau Perusahaan Sektor Industri Barang Konsumsi Tahun 2015-2019. Procuratio: Jurnal Ilmiah Manajemen, 9(3), 283–298.

SE No.13/30/DPNP Tanggal 16 Desember 2011 Perihal Perubahan Ketiga atas Surat Edaran Bank Indonesia Nomor 3/30/DPNP tanggal 14 Desember 2001 perihal Laporan Keuangan Publikasi Triwulanan dan Bulanan Bank Umum serta Laporan Tertentu yang Disampaikan kepada. (2011).

Sofyan, M. (2019). Faktor-Faktor Yang Mempengaruhi Profitabilitas Bank Perkreditan Rakyat (BPR) di Provinsi Jawa Timur. *Jurnal Inspirasi Bisnis Dan Manajemen*, *3*(1), 63. https://doi.org/10.33603/jibm.v3i1.2093

Sudana, I. M. (2011). Manajemen Keuangan Perusahaan Teori & Praktik. *Surabaya, Airlangga University Press*, *1*, 261.

Sudirgo, T., & Stevani. (2019). *Analisis CAR, BOPO, NPL, dan LDR Terhadap ROA Perusahaan Perbankan*. *I*(3), 863–871.

Sudiyatno, B. (2010). *Peran Kinerja Perusahaan Dalam Menentukan Pengaruh Faktor Fundamental Makroekonomi, Risiko Sistematis, Dan Kebijakan Perusahaan Terhadap Nilai Perusahaan*.

Sugiyono. (2010). *Metode Penelitian Administrasi:Pendekatan Kuantitatif, Kualitatif dan R&D.Penerbit:Alfabeta.Bandung*.

Syamsuddin. (2013). *Pengaruh Capital Adequacy Ratio (CAR), Non Performing Loan (NPL), Biaya Operasional Pendapatan Operasional (BOPO), Loan to Deposit Ratio (LDR), dan Net Interest Margin (NIM) Terhadap Profitabilitas (ROA)*. *X*, 14.

Valentina, E. (2011). *Analisis Pengaruh CA, KAP, NIM, BOPO, LDR Dan Sensitivity To Market Risk Terhadap*

ISSN: 2828-7975

Tingkat Profitabilitas Perbankan.

Wicaksono, A. P. (2014). *Pengaruh CAR, LDR, NPL, Terhadap Profitabilitas Perusahaan Yang Terdaftar Di Bursa Efek Indonesia*. *4*(1), 32–39. http://www.albayan.ae

Website:

www.bps.go.id

www.idx.co.id