# DETERMINANTS OF BANKING PROFITABILITY LISTED ON THE INDONESIA STOCK EXCHANGE BEFORE AND DURING COVID-19

**Rodyah Widyarini, Bambang Santoso Marsoem**
Universitas Mercu Buana Jakarta, Indonesia
Email: rodyahwidyarini199166@gmail.com, b_marsoem@gmail.com

| INFO ARTIKEL | ABSTRACT |
|---|---|
| | *This study aims to determine the effect of Capital Adequacy Ratio (CAR), Operational Efficiency (BOPO), Net Interest Margin (NIM), Loan to Deposit Ratio (LDR), Non Performing Loan (NPL) and Covid-19 on profitability of banking companies listed on Indonesia Stock Exchange (IDX during 2019 quartal 2 to 2021 quartal 1. While, from the population of* |
| | *45 companies, it took 36 companies as sample. The study utilized panel data obtained from the financial reports listed in banking listed in IDX. By using Fixed Effect Model, The results are CAR, NIM, LDR and Covid-19 had no effect on ROA. BOPO and NPL had a negatif and significant effect on ROA. Prediction capability from these six variables toward ROA is 93.41%. Meanwhile, the remaining 6,59% is explained by other factors outside the model.* |

## Introduction

The Corona Virus Disease (Covid-19) pandemic has become a global health issue. Covid-19 was first reported on December 31, 2019 in Wuhan, China. Covid-19 continues to spread to all countries including Indonesia because of its very fast spread. The spread of Covid-19 has been declared a pandemic by the World Health Organization (WHO). In Indonesia, the first case was officially announced by the President on March 2, 2020. Since it was officially announced in Indonesia, the number of positive cases has been increasing rapidly, resulting in various policies issued by the government, such as the work from home (WFH) policy, physical distancing which urges the public to stay at home, wear masks, use hand sanitizers and spray disinfectants, prohibit Eid homecoming in 2020 and 2021, and large-scale social restrictions (PSBB). Covid-19 has had an impact on all aspects of life, social, political and economic, including banking. In the banking context, Covid-19 has had an impact on slowing financing growth, increasing non-performing financing caused by many people who have lost their livelihoods.

The current pandemic condition is a threat to all business sectors, especially banking in Indonesia. In order to survive, it is necessary to have policies made to

minimize the impact of the pandemic faced. Banks are required to improve their performance, especially financial performance and maintain the soundness of banks. The bank's performance can be seen by assessing the financial performance (financial performance) and non-financial performance (non-financial performance). In terms of financial performance there is profitability.

The reason for choosing banking companies in this study is banking companies that offer shares on the Indonesia Stock Exchange (IDX). banking services and banking companies are companies that have a significant contribution to state revenues.

Bank Indonesia as the supervisor and supervisor of banking uses the Return On Assets (ROA) ratio as a relevant profitability analysis tool because it prioritizes assets whose funds come from the public. In addition, ROA is the most objective measurement method based on available accounting data and the amount of ROA can reflect the results of a series of company policies, especially banking. Based on the above, this study uses ROA as a proxy for profitability to assess banking performance.

The condition of banking resilience in general until the first quarter of 2020 was still stable, but the decline in profitability began to be felt in the 2nd quarter of 2020 in line with the decline in economic activity as a result of the Covid-19 pandemic. The decline in the profitability of Conventional Commercial Banks (BUK) can be seen from the decline in ROA from the previous year by 2.47% to 1.92%. The decline was caused by the contraction in profit growth in the reporting period by -30.98% (yoy) compared to the previous year which grew 4.28% (yoy). The decline in ROA continues to be felt during the pandemic starting from the 2-2020 quarter to the 4-2020 quarter. At the beginning of 2021, signs of economic improvement were seen, this condition was reflected in the increase in ROA in the period 1-2021 by 1.88%. To maintain the resilience of the banking industry in the midst of the Covid-19 pandemic, OJK continuously strives to improve risk mitigation in a sustainable manner by improving the quality of supervision along with strengthening regulations, while maintaining the security and quality of services in the financial services sector to consumers. The following is a graph of the development of the ROA of the Banking Industry in the period of quarter 2-2019 to the period of quarter 1-2021:
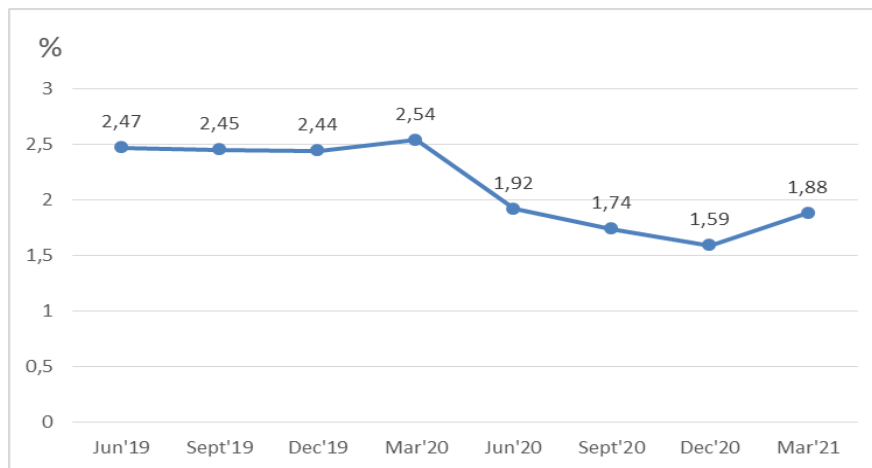
**Figure 1**
**ROA of the Banking Industry**
**in the period of quarter 2-2019 to the period of quarter 1-2021**

The year observed in this study is 2019 quarter 2 to 2021 quarter 1 the reason is because the researcher wants to see the impact of the pandemic on banking performance, so they choose a period of 4 quarters before covid-19 and 4 quarters after covid-19.

In addition to the year studied, the differences in the variables to be studied, research previously used independent variables for micro and macro factors on company profitability, while this study only used micro variables. The reason is because this ratio is often used in previous studies and in general it is always a concern of investors because it is basically considered to represent an initial analysis of the condition of a company.

This research was conducted because there are inconsistencies from previous research. Therefore, the current study tries to re-examine the inconsistency of the results of previous studies and prove their truth. Based on the background described above, the author is interested in taking the title "Determinants of Banking Profitability Listed on the Indonesia Stock Exchange Before and During Covid-19".

Based on the above background, the formulation of the problem in this study is: (1) Does CAR have any affect the ROA of banks listed on the IDX before and during Covid-19. (2) Does BOPO have any effect on ROA in Banks listed on the IDX before and during Covid-19. (3) Does NIM have any effect on ROA in Banks listed on the IDX before and during Covid-19. (4) Does LDR affect ROA in Banks listed on the IDX before and during Covid-19. (5) Does NPL affect ROA in Banks listed on the IDX before and during Covid-19. (6) Does Covid-19 affect ROA in Banks listed on the IDX before and during Covid-19. Research Objectives want to test how the influence CAR, BOPO, NIM, LDR, NPL and Covid-19 on ROA in Banks listed on the IDX before and during Covid-19.

Broadly speaking, signaling theory is closely related to the availability of information about financial statements that can be used to make decisions for investors,

financial statements are the most important part of a company's fundamental analysis. Financial ratio analysis is carried out to facilitate the interpretation of the financial statements that have been presented by management. This information is in the form of an ROA ratio, if the ROA is high it will be a positive signal for investors. High ROA reflects the company's good financial performance, it will attract investors to invest their funds in the form of securities or shares.

(Jensen & Meckling, 1976) Agency theory tries to explain the determination of the most efficient contract that can limit agency conflicts or problems companies that face low contract costs and supervision costs tend to report lower profits or in other words will incur costs for the benefit of management, one of which is costs that can improve the company's reputation in the eyes of the public.

Capital Adequacy Ratio is the ratio of bank performance to measure the adequacy of capital owned by banks to support assets that contain or generate risks, for example loans (Lukman, 2009). Based on the provisions of Bank Indonesia, a bank declared to be a healthy bank must have a CAR of at least 8% of the RWA. This is based on the provisions set by BIS (Bank for International Settlements). The greater the CAR, the greater the bank's profit. In other words, the smaller the risk of a bank, the greater the profit earned by the bank.

$$CAR : \frac{\overset{\text{Owned equity}}{\text{Core Capital} + \text{Complementary Capital}}}{ATMR} \times 100\%$$

BOPO is the ratio of operational costs used to measure the level of efficiency and ability of the bank in carrying out its operations (Lukman, 2009). The increasing BOPO ratio reflects the bank's lack of ability to reduce its operational costs which can cause losses because banks are less efficient in managing their business. This ratio, which is often called the efficient ratio, is used to measure the ability of bank management to control operational costs against operating income. The smaller the BOPO means the more efficient the operational costs incurred by the bank concerned. Vice versa, the greater the BOPO means the less efficient the operational costs incurred by the bank concerned.

$$BOPO : \frac{\text{Operating Costs}}{\text{Operational Income}} \times 100\%$$

Net Interest Margin is used to measure the ability of bank management in managing its productive assets to generate net interest income. Net interest income is derived from interest income minus interest expense. This ratio shows the bank's ability to obtain operating income from funds placed in the form of loans (credit). The higher the NIM, the more effective the bank in placing earning assets in the form of credit. The standard set by Bank Indonesia for the NIM ratio is 6% and above. The greater this ratio, the higher the interest income on productive assets managed by the bank so that

the probability of the bank being in trouble is getting smaller. So it can be concluded that the greater the NIM of a company, the greater the ROA of the company, which means that the financial performance is getting better or increasing.

$$NIM : \frac{Net\ Interest\ Income}{Productive\ Activa}\ X\ 100\%$$

The Loan to Deposit Ratio is used to measure how much the bank's ability to fulfill the loan request submitted without any suspension occurs. The standard used by Bank Indonesia for the LDR ratio is 80% to 110%. If the LDR ratio of a bank is below 80% (say 70%), it can be concluded that the bank can only distribute 70% of the total funds raised. If the bank's LDR ratio reaches more than 110%, it means that the total credit extended by the bank exceeds the funds raised. The higher the LDR indicates the riskier the bank's liquidity conditions, on the contrary, the lower the LDR indicates the bank's lack of effectiveness in channeling credit so that the bank's opportunity to earn profits is lost. A change in a bank's LDR is at the standard set by Bank Indonesia (80% - 110%), then the change in profit earned by the bank will increase (assuming that the bank is able to channel its credit effectively).

$$LDR : \frac{Credit}{Third-party\ fund}\ X\ 100\%$$

Non-Performing Loans indicate that the ability of bank management to manage non-performing loans provided by banks. So that the higher this ratio, the worse the quality of bank credit which causes the number of non-performing loans to be greater, the greater the possibility of a bank in troubled conditions. So if the greater the NPL will result in a decrease in ROA, which also means the bank's financial performance decreases.

$$NPL : \frac{Bad\ credit}{Total\ credit}\ X\ 100\%$$

According to (Kasmir & Carbonella, 2008) Profitability is the ability of a company to earn profits based on operating activities generated from business activities during a certain period. The indicator used is Return On Assets (ROA) which is a comparison between profit before tax and total assets in one period. The greater the profitability (ROA) of a company, the greater the level of profit achieved by the bank and thus the better the position of the bank in terms of asset use.

$$ROA = \frac{After\ Tax\ Profit}{Total\ Assets}\ x\ 100\ \%$$

Based on (Chandra & Anggraini, 2020) in their research entitled analysis of the effect of car, bopo, ldr, nim and npl on profitability of banks listed on idx for the period of 2012-2018. The results show that CAR has no effect on ROA, BOPO has a significant negative effect on ROA, NPL has a significant negative effect on ROA, NIM has a positive effect on ROA, LDR has a significant negative effect on ROA.

Based on (Endri & Marlina, 2021) in their research on the Impact of internal and external factors on the net interest margin of banks in Indonesia. The results showed that the ratio of bad loans (NPL) and the exchange rate had a negative and significant effect on the performance of the bank's NIM ratio, while the LDR, ROA, and SBI interest rates had a positive effect on the bank's NIM ratio. The ratio of CAR, BOPO, and inflation has no effect on the performance of banking NIM. With regard to the joint effect, it is said that all the determinants observed in the study affect the performance of the bank's NIM. Of the factors that have a significant effect, the exchange rate, macroeconomic variables are the dominant factors that affect the banking NIM ratio, while the NPL ratio has the lowest effect.

Based on (Putri, 2019) in his research on the effect of CAR, NPL, BOPO, LDR and NPL on profitability in banking. The variables used are CAR, NPL, BOPO, LDR, and NIM. The research method used is multiple linear regression equation. From the analysis results show that CAR has no effect on profitability. NPL has no effect on profitability. BOPO has an effect on profitability. LDR has no effect on profitability. NIM has an effect on profitability.

Based on (Susilowati et al., 2019) in their research on the analysis of capital adequacy, efficiency and liquidity on profitability. The research method used is Multiple linear regression. The results show that CAR has no significant positive effect on ROA. BOPO costs have a significant negative effect on ROA. LDR has no significant negative effect on ROA.
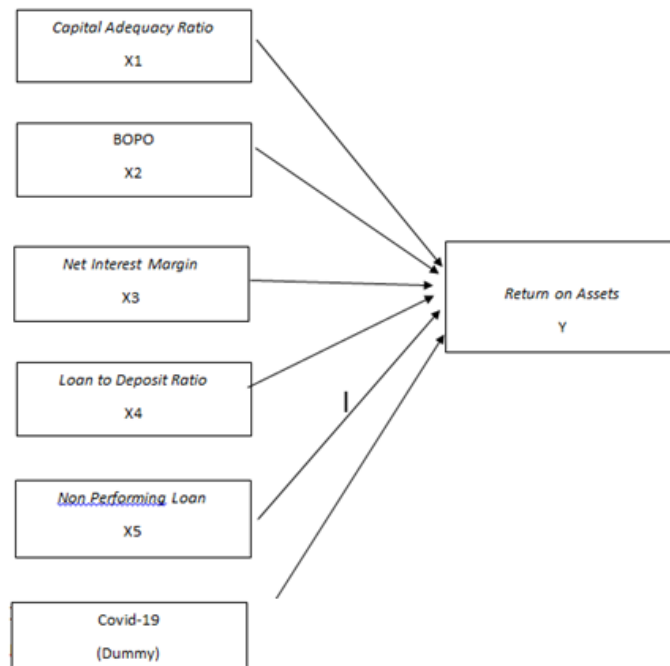
**Figure 2**
**Framework of Hypothesis**

Capital is one of the important factors for banks in developing their business (Siamat, 2001). Capital for banks, like companies in general, in addition to functioning as the main source of financing for their operational activities, also acts as a buffer against possible losses. Basically, the capital owned by a bank must be sufficient to cover all business risks faced by the bank. The capital adequacy ratio is a ratio that aims to ensure that banks can absorb losses arising from their activities. Based on the Basel I agreement, the minimum capital ratio for the banking industry is set at 8% (Idroes, 2008:40). Sufficient or large bank capital is very important because bank capital is intended to facilitate the operations of a bank (Siamat, 2001).

H1: It is suspected that CAR has a positive effect on ROA of banks listed on the IDX.

BOPO is the ratio of operational costs used to measure the level of efficiency and ability of banks in carrying out their operations (Lukman, 2009). The increasing BOPO ratio reflects the bank's lack of ability to reduce its operational costs which can cause losses because banks are less efficient in managing their business. This ratio, which is often called the efficient ratio, is used to measure the ability of bank management to control operational costs against operating income. The smaller the BOPO means the more efficient the operational costs incurred by the bank concerned. Vice versa, the greater the BOPO means the less efficient the operational costs incurred by the bank concerned.

H2: It is suspected that BOPO has a negative effect on the ROA of banks listed on the IDX.

Based on the provisions of Bank Indonesia Regulation No. 5/2003, one of the proxies of market risk is interest rates, thus market risk can be measured by funding interest rates with lending rates or in absolute terms, the difference between the total cost of funding interest and the total interest cost loans which in banking terms are called Net Interest Margin or NIM.

H3: It is suspected that NIM has a positive effect on ROA of banks listed on the IDX.

On the liability side, banks must be able to fulfill their obligations to customers every time their deposits in the bank are withdrawn, on the asset side, the bank must be able to disburse the credits that have been agreed upon. If these two aspects or one of these aspects cannot be fulfilled, the bank will lose public trust. Bank liquidity is the bank's ability to meet the possibility of withdrawing deposits or deposits by depositors or depositors of funds or meeting community needs in the form of credit (Kasmir & Carbonella, 2008).

H4: It is suspected that LDR has a positive effect on ROA of banks listed on the IDX.

The most unsatisfactory development of lending for the bank is when the credit it provides turns out to be a non-performing loan. This is mainly due to the failure of the debtor to fulfill its obligations to pay installments (installments) of the principal loan along with the interest that has been agreed upon by both parties in the credit agreement (Lukman, 2009).

H5: It is suspected that NPL has a negative effect on ROA of banks listed on the IDX.

Global economic growth was overshadowed by a sharp decline as a result of the COVID-19 pandemic. The COVID-19 pandemic not only affects the widespread deterioration of public health conditions but also triggers the potential risk of a global crisis marked by economic slowdown in various countries. Based on the description above, the following hypothesis can be formulated:

H6: It is suspected that Covid-19 has a negative effect on the ROA of banks listed on the IDX.

**Method**

This study aims to determine the relationship between two or more variables, this study uses a correlational or associative research design and according to the nature of the correlation, this study uses a causal relationship or commonly called causal. In this study the independent variables consist of Capital Adequacy Ratio, Loan to Deposit Ratio, Non Performing Loan, Net Interest Margin and Operating Costs to Operating Income and the dependent variable is Return On Assets (Oktaviani et al., 2019). The population used in this study are all conventional banking companies listed on the Indonesia Stock Exchange (IDX) in the study period (2019Q2 – 2021Q1) period as many as 36 banks. Banks listed on the IDX. The data analysis technique used in this

research is descriptive statistical analysis and panel data regression analysis using the fixed effect method. The equations of the panel data regression model in this study are:

Yit = α + β 1X1it + β 2X2it + β 3X3it+ β 4X4it + β 5X5it + β 6 Dummy 6it + ε

Note :

Y  = ROA

X1 = CAR

X2 = LDR

X3 = NPL

X4 = NIM

X5 = BOPO

X6 = Covid-19

α = constanta

β 1... β 5 = slope

**Result and Discussion**

**A. Result**

**1. Description Analysis**

The following is a summary of descriptive statistical data from the variables used in this study.

**In Table 1**
**shows the descriptive research with the number**
**of valid variable data as much as 288 data:**

|  | CAR | BOPO | NIM | LDR | NPL | Covid-19 | ROA |
|---|---|---|---|---|---|---|---|
| Mean | 0.2309 | 0.9094 | 0.0412 | 0.8874 | 0.0379 | 0.5000 | 0.0101 |
| Maximum | 0.5398 | 2.4044 | 0.0944 | 1.7128 | 0.1168 | 1.0000 | 0.0402 |
| Minimum | 0.1159 | 0.5909 | -0.0095 | 0.4746 | 0.0021 | 0.0000 | -0.1053 |
| Std. Dev. | 0.0821 | 0.1964 | 0.0159 | 0.2128 | 0.0213 | 0.5008 | 0.0164 |

The CAR variable has a maximum value of 0.5398 or 53.98%, a minimum value of 0.1159 or 11.59%). The mean value is 0.2309 with a standard deviation of 0.0821. (2) BOPO (Operational Cost of Operational Income) the maximum value is 2.4044 or 240.44%, the minimum value is 0.5909 or 59.09%. The mean value is 0.9094 with a standard deviation of 0.1964 which is in below the average value. (3) NIM (Net Interest Margin) Variable NIM has a maximum value of 0.0944 or 9.44%, a minimum value of -0.0095 or -0.09% The mean value is 0.0412 with a standard deviation of 0.0159 . (4) LDR (Loan to Deposit Ratio) has a maximum value of 1.7128 or 171.28, a minimum value of 0.4746 or 47.46%, a mean value of 0.8874 with a standard deviation of 0.2128.(5 ) NPL (Non Performing Loan) maximum value of 0.1168 or 11.68% minimum value of 0.0021 or 0.21%, Mean value of 0.0379 with standard deviation of 0, (6) Covid-19 Maximum value dummy in this research period is 1. The lowest value during the research year is 0. The mean value is 0.5000 with a standard deviation of 0.5008.

(7) ROA (Return on Assets) the maximum value of ROA in this research period is 0.0402 or 4.02% Meanwhile, the lowest ROA value during the research year is -0.1053 or -10.53%. Value -0 .1053 shows that the profit before tax owned is much smaller than the total assets.

2. **Classic Assumption Test**
   a) Multicollinearity Test

**Table 2**
**Result of Multicollinearity Test**

|  | CAR | BOPO | NIM | LDR | NPL | Covid-19 |
|---|---|---|---|---|---|---|
| CAR | 1.000000 | -0.112245 | 0.285225 | 0.115881 | -0.107822 | 0.089788 |
| BOPO | -0.112245 | 1.000000 | -0.509147 | -0.000572 | 0.620830 | 0.076077 |
| NIM | 0.285225 | -0.509147 | 1.000000 | 0.044380 | -0.394551 | -0.165620 |
| LDR | 0.115881 | -0.000572 | 0.044380 | 1.000000 | -0.100972 | -0.125107 |
| NPL | -0.107822 | 0.620830 | -0.394551 | -0.100972 | 1.000000 | 0.058697 |
| Covid-19 | 0.089788 | 0.076077 | -0.165620 | -0.125107 | 0.058697 | 1.000000 |

The hypotheses used in the multicollinearity test are:

H0 = There is no multicollinearity

H1 = There is multicollinearity

Through testing the following criteria:

If the value of the correlation coefficient < 0.8 then H0 is accepted, meaning that there is no multicollinearity.

Based on the test of the correlation coefficient value above, each variable has a coefficient value < 0.8, it can be concluded that the model does not occur multicollinearity.

   b) Hesteroskedastisitas Test

**Table 3**
**shows that all variables have a significance value > 0.05, so it can be concluded that the independent variable does not have heteroscedasticity problems.**

| Dependent Variable: RESABS | | | | |
|---|---|---|---|---|
| Method: Panel Least Squares | | | | |
| Date: 10/01/21   Time: 05:11 | | | | |
| Sample: 2019Q2 2021Q1 | | | | |
| Periods included: 8 | | | | |
| Cross-sections included: 36 | | | | |
| Total panel (balanced) observations: 288 | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 0.004047 | 0.002213 | 1.829218 | 0.0686 |
| CAR | -0.007055 | 0.004561 | -1.546967 | 0.1232 |
| BOPO | -0.001148 | 0.001159 | -0.990620 | 0.3228 |
| NIM | -0.017873 | 0.022658 | -0.788795 | 0.4310 |
| LDR | 0.000980 | 0.001460 | 0.671175 | 0.5027 |
| NPL | 0.017983 | 0.011691 | 1.538260 | 0.1253 |

| | | | | |
|---|---|---|---|---|
| Covid-19 | 0.000120 | 0.000272 | 0.442371 | 0.6586 |

**Effects Specification**

**Cross-section fixed (dummy variables)**

| | | | |
|---|---|---|---|
| Root MSE | 0.001746 | R-squared | 0.697553 |
| Mean dependent var | 0.002249 | Adjusted R-squared | 0.647146 |
| S.D. dependent var | 0.003181 | S.E. of regression | 0.001889 |
| Akaike info criterion | -9.571152 | Sum squared resid | 0.000878 |
| Schwarz criterion | -9.036970 | Log likelihood | 1420.246 |
| Hannan-Quinn criter. | -9.357084 | F-statistic | 13.83821 |
| Durbin-Watson stat | 1.899305 | Prob(F-statistic) | 0.000000 |

The hypotheses in the heteroscedasticity test are:

H0 = There is no heteroscedasticity

H1 = There is heteroscedasticity

Through testing the following criteria:

If the P value 5% then H0 is rejected, meaning that there is heteroscedasticity.

If the P value 5% then H0 is accepted, meaning that there is no heteroscedasticity

c) Fixed Effect Model

**Table 4**
**Fixed Effect Model**

| | | | | |
|---|---|---|---|---|
| Dependent Variable: Y | | | | |
| Method: Panel Least Squares | | | | |
| Sample: 2019Q2 2021Q1 | | | | |
| Periods included: 8 | | | | |
| Cross-sections included: 36 | | | | |
| Total panel (balanced) observations: 288 | | | | |

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| | 0.076137 | 0.004930 | 15.44310 | 0.0000 |
| CAR | -0.010401 | 0.010161 | -1.023551 | 0.3071 |
| BOPO | -0.069721 | 0.002582 | -27.00564 | 0.0000 |
| NIM | -0.027241 | 0.050486 | -0.539578 | 0.5900 |
| LDR | 0.004915 | 0.003252 | 1.511279 | 0.1320 |
| NPL | -0.076049 | 0.026048 | -2.919517 | 0.0038 |
| Covid-19 | -0.001151 | 0.000605 | -1.901425 | 0.0584 |

**Effects Specification**

**Cross-section fixed (dummy variables)**

| | | | |
|---|---|---|---|
| Root MSE | 0.003891 | R-squared | 0.943536 |
| Mean dependent var | 0.010102 | Adjusted R-squared | 0.934125 |
| S.D. dependent var | 0.016402 | S.E. of regression | 0.004210 |
| Akaike info criterion | -7.968815 | Sum squared resid | 0.004360 |
| Schwarz criterion | -7.434633 | Log likelihood | 1189.509 |
| Hannan-Quinn criter. | -7.754747 | F-statistic | 100.2624 |
| Durbin-Watson stat | 1.926508 | Prob(F-statistic) | 0.000000 |
| | t | | |

Based on the results of the multiple regression analysis above, a regression line equation can be obtained as follows.

ROA = 0,076137– 0,010401 CAR – 0,069721 BOPO-0,027141 NIM+ 0,004915 LDR – 0,076049 NPL -0,001151 Covid-19

These equations can be interpreted as follows:

1. Constant C 0,076137of states that if the variable CAR, BOPO, NIM, LDR, NPL and Covid-19 is constant, hence the variable ROA is 0,076137.
2. CAR regression coefficient of -0,010401 states that each increase in CAR by 1% will have an impact on the decrease in ROA of 0,010401 assuming the other independent variables are constant.
3. BOPO regression coefficient of  -0,069721 states that any increase in BOPO of 1% will have an impact on the decrease ROA of 0,0069721 assuming the other independent variables are constant.
4. The NIM regression coefficient of -0,027241 states that any increase in NIM of 1% will have an impact on the decrease ROA of 0,027241 assuming the other independent variables are constant.
5. LDR regression coefficient of 0,004915 states that each increase in LDR by 1% will have an impact on increasing ROA of 0,004915 assuming the other independent variables are constant.
6. The NPL regression coefficient of -0.076049 states that any increase in NPL of 1% will have an impact on the decrease ROA of 0,076049 assuming the other independent variables are constant.
7. Covid-19 regression coefficient of -0,001151 states that any increase in Covid-19 of 1% will have an impact on on the decrease ROA of 0,001151 assuming the other independent variables are constant.

d) Coefficient of Determination (R2)

The result of the calculation of the adjusted R square value is 0.934125 or 93.41%. This means that changes in ROA can be explained by the independent variables (CAR, BOPO, NIM, LDR, NPL, Covid-19) of 93.41%, while the remaining 6.59% is explained by other variables.

e) Simultaneous Significance Test (F Statistics Test)

F value of 100.2624 and a significance value of 0.000. A significance value smaller than 0.05 indicates that all independent variables (CAR, BOPO, NIM, LDR, NPL AND Covid-19) simultaneously and significantly affect the dependent variable Return on Assets (ROA).

f) Partial Test (t-test)

**Table 5**
**Partial Significant Test (t-Test)**

| Variable | Coeficient | T statistik | Prob | Regression Result |
|---|---|---|---|---|
| CAR | -0.010401 | -1.023551 | 0.3071 | Has No Effect |
| BOPO | -0.069721 | -27.00564 | 0.0000 | Negative Significant |
| NIM | -0.027241 | -0.539578 | 0.5900 | Has No Effect |
| LDR | 0.004915 | 1.511279 | 0.1320 | Has No Effect |
| NPL | -0.076049 | -2.919517 | 0.0038 | Negative Significant |
| Covid-19 | -0.001151 | -1.901425 | 0.0584 | Has No Effect |

## B. Discussion
### 1. Effect of CAR on ROA

The effect of CAR on ROA when viewed from the results of panel regression analysis table shows that CAR has a negative effect on ROA. This means that for every 1% increase in CAR, ROA will decrease by 0,010401. Based on the results of hypothesis testing that has been carried out, it can be interpreted that the CAR and ROA variables are not correlated with each other, contrary to the hypothesis statement built earlier in chapter 2 that CAR has a positive effect on ROA. The hypothesis test performed shows the results that the Capital Adequacy Ratio (CAR) variable has no significant effect on the Return On Asset (ROA) variable, which means that every increase in CAR is not always followed by an increase in ROA. From the results of the explanation above, it can be concluded that the funds owned by banks do not only come from their own capital, but can also come from other parties, for example from loans. The level of capital adequacy has no significant effect on ROA because banks have not been fully effective in using their capital potential to increase bank profitability, such as developing products and services outside of loans that can increase fee-based income.

The value of CAR or capital adequacy has no effect on ROA, where on average all banking companies have very healthy capital but do not make a significant contribution to profitability. Preferably, the capital of a banking company is balanced, where if the capital is excessive then the bank will be considered unproductive in the use of that capital, and if the capital is not in accordance with BI provisions, the bank will not be able to bear the risks.

The results of this study are consistent with research conducted by Octaviani et al (2019) which stated that CAR had no effect on ROA. In contrast to the results of research by (Yulianto et al., 2020) which states that CAR has a positive effect on ROA.

### 2. Effect of BOPO on ROA

Based on table, it is known that BOPO has a negative effect on ROA. Faced with the hypothesis in chapter 2 which says that BOPO has a negative effect on ROA, the results of this analysis accept the hypothesis. Furthermore, based on table it is known that BOPO has a significant effect on ROA. Thus the results of the analysis found that BOPO had a significant negative effect on ROA. This means that for every 1% increase in BOPO, ROA will decrease by 0.069721 where the decrease is at a significant level. This research is in line with the research of (Chandra & Anggraini, 2020) which states that BOPO has a negative and significant effect on ROA, but is not in line with research conducted by (Lestari & Setianegara, 2020) which states that BOPO has a positive effect on ROA.

BOPO is obtained by comparing operating costs with operating income. BOPO is indicated to have a negative and significant effect on ROA, because

operational activities carried out efficiently (in this case a low BOPO ratio value) can increase bank profits. If there is an increase in the BOPO ratio, it can be caused by the high cost of funds collected and the low interest income from investing funds so that in the end it can reduce the level of profitability/ROA

The test results between BOPO and ROA show a negative regression coefficient and there is a significant effect between Operating Costs and Operating Income on ROA. The negative regression coefficient indicates that when the value of Operating Costs to Operating Income (BOPO) increases, it will be followed by the value of Return On Assets (ROA) which has decreased while a significant value indicates that the ROA variable has an influence on the ROA variable.

BOPO value or operational costs have a negative impact on ROA. Where the average value of the operational costs of all companies tends to be very high and not in accordance with the provisions of BI. The high growth in operating costs is one of the causes of the decline in the profitability of banking companies. The increase in operational costs could be caused by the management's lack of efficiency in reducing bank operating costs, rising interest rates, low growth in interest income compared to interest expense, increasing non-performing loans, and others.

3. **Effect of NIM on ROA**

The effect of NIM on ROA when viewed from the results of panel regression analysis table, shows that NIM has a negative effect on ROA. This means that for every 1% increase in NIM, ROA will decrease by 0.027241. Based on the results of hypothesis testing that has been carried out, it can be interpreted that the CAR and ROA variables are not correlated with each other, contrary to the hypothesis statement built earlier in chapter 2 that NIM has a positive effect on ROA. The hypothesis test in Table 4.8 shows that the NIM variable has no significant effect on the ROA variable. which means that every increase in NIM is not always followed by an increase in ROA. The results of this study are consistent with research conducted by (Salim & Mundung, 2020) which states that NIM has no effect on ROA. This is different from the results of research by (Susilowati et al., 2019) which states that NIM has a positive effect on ROA.

NIM is a ratio used to measure the ability of bank management to manage their productive assets in order to generate net interest income. This ratio indicates the bank's ability to generate net interest income by placing earning assets. The greater this ratio, the higher the interest income obtained from productive assets managed by the bank, so that the probability of the bank being in a problematic condition is getting smaller. The NIM standard set by Bank Indonesia is 2%.

4. **Effect of LDR on ROA**

The effect of LDR on ROA when viewed from the results of panel regression analysis table,shows that LDR has a negative effect on ROA. This means that for every 1% increase in LDR, ROA will decrease by 0,004915. Based on the results of hypothesis testing that has been carried out, it can be interpreted

that the CAR and ROA variables are not correlated with each other, contrary to the hypothesis statement built earlier in chapter 2 that NIM has a positive effect on ROA. The hypothesis test in Table 4.8 shows the results that the LDR variable has no significant effect on the ROA variable. which means that every increase in LDR is not always followed by an increase in ROA. The results of this study are consistent with the results of (Endri & Marlina, 2021) which states that LDR has no effect on ROA. However, it is different from the research conducted by (Pertiwi & Susanto, 2019) which states that LDR has a positive effect on ROA.

The LDR ratio is the ratio between the amount of funds channeled to the public (loans/credit) with the amount of public funds and own capital used. The high LDR ratio indicates the amount of income that will be received from the number of loans/credits given. Banks must also maintain their LDR so that they do not exceed the limits set by Bank Indonesia. This is because if the bank provides all of its funds without paying attention to the principle of prudence, it causes liquidity difficulties due to the high non-performing loans arising from the provision of these funds. The use of funds that have not been optimal will cause a decrease in profits.

Judging from the results of the hypothesis testing conducted, it shows that regardless of the value of the LDR ratio, it does not affect the size of ROA because the addition of credit extended by banks has the potential to increase the risks faced by banks, therefore banks also need to be selective in lending because in addition to providing credit benefits in the form of interest income. However, improper lending can also trigger non-performing loans (Anatasya & Susilowati, 2021).

5. **Effect of NPL on ROA**

Based on table, it is known that NPL has a negative effect on ROA. Faced with the hypothesis in chapter 2 which says that NPL has a negative effect on ROA, the results of this analysis accept the hypothesis. Furthermore, based on table, it is known that NPL has a significant effect on ROA. Thus the results of the analysis found that BOPO had a significant negative effect on ROA. This means that for every 1% increase in NPL, ROA will decrease by 0.076049 where the decrease is at a significant level. The results of this study are consistent with the results of (Ariesta et al., 2019) research which states that NPL has a negative effect on ROA. However, this is different from the research conducted by (Arif et al., 2019) which stated that NPL had no effect on ROA.

The NPL ratio describes credit risk where the higher the NPL ratio, the greater the credit risk borne by the bank. The lower the NPL at the Bank, the higher the ROA will be and vice versa. NPL is a form of financing where the higher the NPL, the lower the return on credit provided by the bank. An increase in NPL will worsen the quality of bank credit which causes the number of non-performing loans to increase and therefore the bank must bear losses in its operational activities so that it affects the decrease in profits obtained by the bank.

A low NPL indicates the bank's performance is getting better. If the bank gets a low NPL, then the bank does not have to think about how to bear losses in lending operations which directly affect the decrease in profits earned by the bank.

Judging from the results of the hypothesis testing conducted, it shows that the higher the level of the NPL ratio indicates the amount of bad loans experienced by banks and results in losses. The increase in NPL results in higher asset write-off costs. This will affect the profitability of the bank because the income that should have been received by the bank failed to be received because of bad loans.

6. **Effect of Covid-19 on ROA**

The effect of Covid-19 on ROA when viewed from the results of panel regression analysis table shows that Covid-19 has a negative effect on ROA. This means that for every 1% increase in Covid-19, the ROA will decrease by 0.001151. Based on the results of the hypothesis testing that has been carried out, it can be interpreted that the Covid-19 and ROA variables are not correlated with each other, contrary to the hypothesis statement built earlier in chapter 2 that Covid-19 has a negative effect on ROA. The hypothesis test in Table 4.8 shows the results that the Covid-19 variable has no significant effect on the ROA variable. which means that every increase in Covid-19 is not always followed by an increase in ROA.

Based on the results of the study with a probability of $0.0584 > 5\%$, it means that Covid-19 has no effect on ROA, but if you use 10% then Covid-19 has an effect on ROA. Covid-19 statistically has an inverse relationship with banking performance (ROA), for this reason it is recommended that banks expand and strengthen digital expectations throughout Indonesia considering that currently people are required to limit direct physical contact to minimize the spread of COVID-19 faster, public acceptance of large non-cash payments and the trend of accelerating digitization.

**Conclusion**

Partial test (t-test) shows that the Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), Loan to Deposit Ratio (LDR), Covid-19 variable partially does not significantly affect the ROA in Bank listed on the IDX before and during Covid-19. Operating Expenses to Operating Income (BOPO), and Non-performing Loan (NPL) variables partially have a significant negative effect on ROA in Bank listed on the IDX before and during Covid-19.

Rodyah Widyarini

**BIBLIOGRAFI**

Anatasya, A., & Susilowati, E. (2021). Pengaruh Bank Size, NIM, dan CAR terhadap Profitabilitas Periode 2015-2019. *Seminar Nasional Akuntansi Dan Call for Paper (SENAPAN)*, *1*(1), 271–281. Google Scholar

Ariesta, V. E., Marlina, M., & Hidayati, S. (2019). Financial Ratio Analysis of Bank Performance. *Journal of Economics, Business, and Government Challenges*, *2*(2), 119–127. https://doi.org/10.33005/ebgc.v2i2.80. Google Scholar

Arif, D., Putra, E., & Salim, A. (2019). *Effect of Third Party Funds , CAR , LDR and NPL on Performance The Banking Companies Listed in Indonesia Stock Exchange ( IDX )*. *2*(2), 165–173. Google Scholar

Chandra, S., & Anggraini, D. (2020). Analysis of the Effect of CAR, BOPO, LDR, NIM and NPL on Profitability of Banks Listed on IDX for the Period of 2012-2018. *Bilancia: Jurnal Ilmiah Akuntansi*, *4*(3), 298–309. Google Scholar

Endri, E., & Marlina, A. (2021). *Impact of internal and external factors on the net interest margin of banks in Indonesia*. Google Scholar

Jensen, M., & Meckling, W. (2012). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *The Economic Nature of the Firm: A Reader, Third Edition*, 283–303. https://doi.org/10.1017/CBO9780511817410.023. Google Scholar

Kasmir, S., & Carbonella, A. (2008). Dispossession and the anthropology of labor. *Critique of Anthropology*, *28*(1), 5–25. Google Scholar

Lestari, W. D., & Setianegara, R. G. (2020). Analisis Pengaruh Nim, Bopo, Ldr, Dan Npl Terhadap Profitabilitas (Studi Kasus Pada Bank Umum Yang Listed Di Bursa Efek Indonesia Periode 2014-2018). *Keunis*, *8*(1), 82. https://doi.org/10.32497/keunis.v8i1.2136. Google Scholar

Lukman, D. (2009). Manajemen Perbankan. *Jakarta: Ghalia Indonesia*. Google Scholar

Oktaviani, S., Suyono, S., & Mujiono, M. (2019). Analisis Pengaruh Car, Bopo, Ldr, Nim Dan Ukuran Perusahaan Terhadap Profitabilitas Bank Yang Terdaftar Di Bursa Efek Indonesia Tahun 2012-2017. *Bilancia: Jurnal Ilmiah Akuntansi*, *3*(2), 218–231. Google Scholar

Pertiwi, L., & Susanto, L. (2019). Faktor Yang Mempengaruhi Profitabilitas Pada Perbankan Yang Terdaftar Di Bei. *Jurnal Multiparadigma Akuntansi*, *1*(2), 282–291. https://journal.untar.ac.id/index.php/jpa/article/view/4701. Google Scholar

Putri, A. S. (2019). Pengaruh Car, Npl Bopo, Ldr Dan Nim Terhadap Profitabilitas Pada Perbankan. *Jurnal Ilmu Dan Riset Manajemen (JIRM)*, *8*(7). Google Scholar

Salim, M. N., & Mundung, L. O. (2020). Roa Determinants And Impacts On Car (Study In The Five Largest Private Banks In Indonesia 2009-2018). *Dinasti International Journal of Economics, Finance & Accounting*, *1*(4), 629–641. Google Scholar

Siamat, D. (2001). Manajemen Lembaga Keuangan. Edisi 2. *Jakarta: Penerbit Fakultas Ekonomi Universitas Indonesia*. Google Scholar

Susilowati, Y., Aini, N., Poerwati, T., & Rahayuningsih, R. (2019). *Analisis Kecukupan Modal, Efisiensi Dan Likuiditas Terhadap Profitabilitas*. Google Scholar

Yulianto, M., Nurlaela, S., & Masitoh, E. (2020). Determinan Kinerja Keuangan Pada Perbankan Yang Terdaftar Di Bursa Efek Indonesia Tahun 2013-2018. *Jurnal RAK (Riset Akuntansi Keuangan)*, *5*(1), 45–60. Google Scholar