

Analysis Of Bank Performance Before And After Covid 19 In Banking Companies Listed On Idx

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Abstract

This study aims to analyze the banking performance before and after covid 19 in banking companies listed on the IDX. In this study, the banking performance indicators analyzed are the CAR (Capital Adequacy Ratio), BOPO (Operating Expenses to Operating Income), NIM (Net Interest Margin), LDR (Loan to Deposit Ratio), and ROA (Return On Assets). The sample used is banking companies listed on the Indonesia Stock Exchange (IDX) in 2019 and 2020 with the total of 43 banks. This study an event to examine the differences or changes in banking financial performance, before covid 19 and after covid 19. The data analysis technique used is the average difference test using SPSS program. Based on the test results, it was found that the COVID-19 pandemic caused the BOPO, NIM, LDR and ROA ratios to decrease or worsen, while the CAR ratio increased.

Keywords: covid 19, bank performance, capital, profitability, liquidity

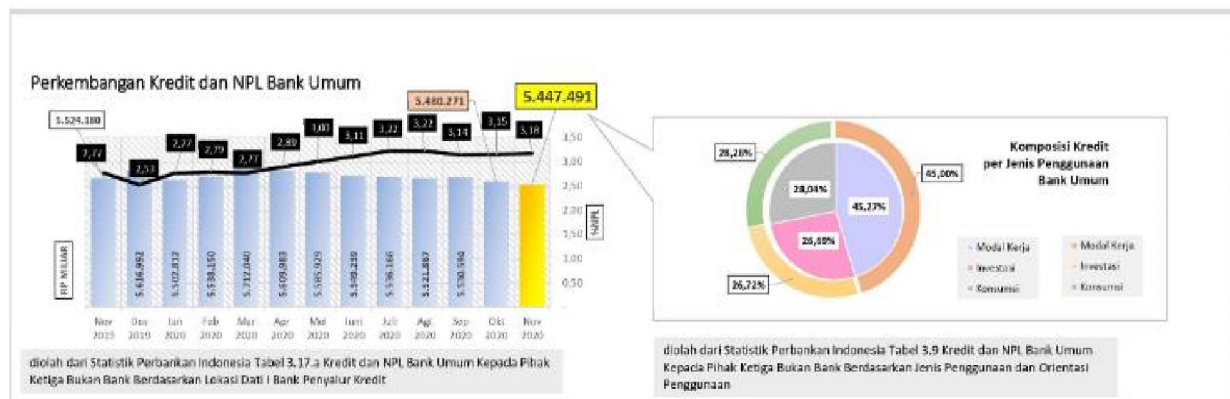
I. INTRODUCTION

A. Background

At the end of 2019, the world was shocked by the emergence of an outbreak of infectious diseases that attacked the respiratory tract namely COVID-19 which stands for Corona Virus Disease 2019. This type of disease is caused by a virus originating from bat animals, and was first discovered in Wuhan, China. This virus is transmitted between humans through droplets or splashes of liquid when talking or coughing.

In less than three months, COVID-19 outbreak had spread to various countries worldwide. Furthermore, World Health Organization (WHO) declared COVID-19 outbreak as a global pandemic in March 2020. Indonesian Government, on the other hand, officially reported the first case of COVID-19 on March 2nd, 2020 with two people were exposed to that virus.

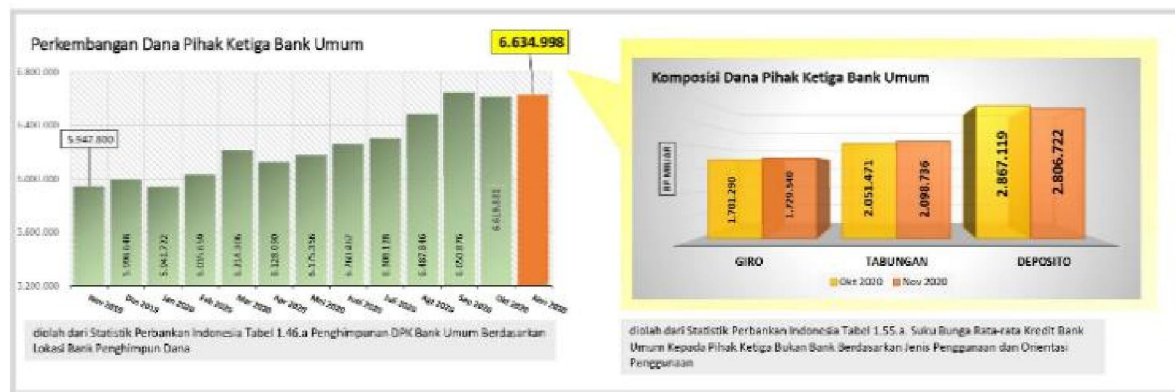
Various efforts have been made by several countries to prevent the rapid spread of COVID-19, including implementing a regional lockdown by the Government of Indonesia. Efforts made by the government at the beginning corona virus detection were through encouraging to maintain physical distance, work from home, study at home and worship at home. Along with the rising number of people infected to corona virus and with the increasing rate of death, the Government of Indonesia issued PP No. 21 of 2020 regarding Large-Scale Social Restrictions (PSBB) which aimed to accelerate the handling of the pandemic. The PSBB has an impact on social and business activities which ultimately affect the community's economy. The banking sector as an intermediary institution, although indirectly, cannot be separated from pressure due to the pandemic as well. As the economic activity is not running, it can lead to an increase in non-performing financing and difficulties in distributing loans. This can be seen from the following graph:



Source: OJK Indonesian Banking Statistics

Fig 1. Development of Commercial Bank Credit and NPL

From the graph above, it can be seen that credit disbursement has decreased, while NPL has increased. In contrast, the growth of Third Party Funds collection during the COVID-19 pandemic is still increasing, as can be seen in the following graph:



Source: OJK Indonesian Banking Statistics

Fig 2. The Growth of Commercial Bank Third Party Funds

This condition can lead to an increase in the BOPO ratio because banks must pay the cost of funds while income decreases because of a drop in lending and an increase in non-performing financing. In addition, it also allows for an increase in costs that have not occurred so far, such as costs for preventing the spread of COVID-19 in carrying out operational activities. All of these things can certainly affect the banking performance.

In order to protect the banking sector from COVID-19 impact, several policy and stimulus measures have been issued by the government. Bank of Indonesia issued a policy in the form of monetary easing by reducing the fulfillment of Statutory Reserves (GWM), so that additional bank liquidity is expected. Meanwhile, Financial Services Authority (OJK) issued a stimulus related to credit quality assessment as follows:

1. The assessment of credit quality/financing/other provision of funds is only based on the accuracy of principal and/or interest payments for loans of up to Rp10 billion; and
2. The credit/financing quality improvement is expected to be smooth after restructuring. This restructuring provision can be applied by the Bank without a credit limit or type of debtor (Non-MSME and MSME).
3. The relaxation of this arrangement is valid for up to one year after its stipulation.

With the issuance of the stimulus by the OJK in the form of relaxation and restructuring, it is intended that banks can maintain the quality of lending.

Even though the vaccination program is currently running, the risks faced by banks due to COVID-19 outbreak are not expected to end soon, because the vaccination program does not automatically stop the

spread of the COVID-19, so economic activities need time to run normally. In addition, there is a risk that the restructured credit will fail to make installment payments. Based on OJK data, as many as 101 banks have provided restructuring to 7.55 million debtors with total loans reaching Rp. 934.8 trillion. Based on this, the author is interested in conducting research related to banking performance before and after the covid 19 pandemic in banking companies listed on the Indonesia Stock Exchange.

II. LITERATURE REVIEW

A. Covid-19 Pandemic

Covid-19 is an infectious disease that attacks the respiratory tract caused by a new type of virus. *World Health Organization* named it as *Severe acute respiratory syndrome coronavirus-2* (SARS-Co V-2), so the disease was named Coronavirus Disease 2019 (Covid 19) (WHO, 2020). Corona virus is an RNA virus with a particle size of 120-160 nm. This virus mainly infects animals, including bats and camels. Before the COVID-19 outbreak, there were 6 types of coronavirus that could infect humans, namely alphacoronavirus 229E, alphacoronavirus NL63, betacoronavirus OC43, betacoronavirus HKU1, *Severe Acute Respiratory Illness Coronavirus* (SARS-CoV), and *Middle East Respiratory Syndrome Coronavirus* (MERS-CoV) (Riedel et al, 2019).

Most coronaviruses infect animals and circulate in animals, so they are called zoonotic viruses, i.e. viruses that are transmitted from animals to humans. Many wild animals can carry pathogens and act as vectors for certain infectious diseases (Yuliana, 2020). Corona virus in bats is the main source for the incidence of *severe acute respiratory syndrome* (SARS) and *middle east respiratory syndrome* (MERS) (PDPI, 2020).

Covid-19 is a new virus that has never happened to humans. It was announced by WHO on March 13, 2020, declared a pandemic, a pandemic is defined as an outbreak that occurs in various countries, the pandemic itself has criteria for the virus to cause death, transmission of the virus from human to human and then continues until it cannot be controlled and the virus almost spread to various countries in the world (CNN, 2020).

A. Banking Performance

Bank performance is a representation of achievements achieved by a bank in carrying out its operations, such as finance, fundraising, fund channeling, and technology and human resources. Bank performance is also a description of a bank's financial condition in a period. Bank's financial performance is usually measured by capital adequacy, liquidity and profitability of the bank.

The measurement of banking performance is conducted by observing results achieved with the standards set by Bank of Indonesia, or results of the calculation average. The indicators commonly used are capital adequacy ratio (CAR), Operational Costs compared to operational income (BOPO), loan to deposit ratio (LDR), net interest margin (NIM), and return on assets (ROA).

1. Capital Adequacy Ratio (CAR)

Bank capital has a very important role because apart from being used for expansion purposes, it is also used as a buffer to absorb losses caused by business activities. In terms of capital, banks are required to comply with the provisions of Minimum Capital Adequacy Requirement (KPMR) applicable to capital increase (SE. Internal BI, 2004). Analysis of capital can be categorized as solvency analysis, or also called *capital adequacy analysis*, which has the aim of knowing whether the existing bank capital is sufficient to support bank activities that are carried out efficiently, whether the bank's capital will be able to absorb unavoidable losses, and whether the bank's wealth will get bigger or smaller (Muljono, 1999).

According to Muljono (Muljono, 1999), *Capital Adequacy Ratio* (CAR) is a ratio that shows the extent to which a bank's capital capacity is able to absorb the risk of credit failure that may occur, so the higher this ratio, the healthier a bank is as well and vice versa. While according to Bank Indonesia Regulations, CAR is a ratio that describes the amount of bank assets that contain risks such as credit, investments, securities, claims on other banks, are also financed from their own capital in addition to obtaining funds from other sources outside the bank. Bank of Indonesia sets a minimum CAR of 8%.

2. Operating Income to Operating Expenses (BOPO)

According to Bank of Indonesia regulations, BOPO is a comparison between total operating expenses and operating income. The BOPO ratio is used to measure the efficiency level of banking operations. The operating efficiency of a bank projected by BOPO affects the performance of the bank. The lower the BOPO Ratio, the more efficient the bank is in its operations, and vice versa.

BOPO ratio aims to measure the ability of operating income to cover operational costs. The increasing ratio reflects the bank's lack of ability to reduce operational costs and increase its operating income which can cause losses because banks are less efficient in managing their business (SE. Intern BI, 2004). In order for banks to carry out their operations more efficiently, OJK has set the best figure for the BOPO ratio, for banking categories 1 and 2 are below 95%, while book categories 3 and 4 are below 85% (SE OJK, 2016).

3. Loan to Deposit Ratio (LDR)

Loan to Deposit Ratio (LDR) is a comparison between the amount of credit disbursed and the amount of third party funds owned by the bank. The higher this ratio, the lower the liquidity capacity of the bank concerned, so the possibility of a bank in troubled conditions will be even greater. Loans disbursed do not include loans to other banks, while third party funds are in the form of demand deposits, savings and time deposits.

Availability of funds and sources of bank funds is an understanding of liquidity. According to Ali, (2006), liquidity regulation is primarily intended so that banks can at any time fulfill their obligations that must be paid immediately. According to Bank of Indonesia, the assessment of the liquidity aspect reflects a bank's ability to manage an adequate level of liquidity to meet its obligations in a timely manner and to meet other needs. In addition, banks must also be able to ensure that activities are managed efficiently in the sense that banks can reduce high liquidity management costs and at any time the bank can liquidate its assets quickly with minimal losses (SE. Intern BI, 2004).

Bank of Indonesia states that banks are required to maintain a minimum LDR of 78% and a maximum of 92%. When the LDR of a bank is below 78%, This means that from all the funds that have been collected by banks which are redistributed in the form of loans, less than 78%, it can be said that the bank is not carrying out its functions properly. Meanwhile, if the bank LDR is above 100%, it means that the amount of credit disbursed by the bank exceeds the funds raised, so that the bank in this case can also be said to have not carried out its function as an intermediary party properly.

4. Net Interest Margin (NIM)

Net Interest Margin (NIM) is used to distinguish between the interest income received by the bank and the amount of interest that must be paid to lenders. Based on the provisions of BI regulation No. 5/2003, this ratio is used to measure the ability of bank management in managing its productive assets to generate net interest income. NIM is derived from interest income minus interest expense. The higher the NIM, the more effective the bank in placing earning assets in the form of credit. Therefore, if a company's NIM is greater, the bank financial performance is getting better or increasing as well and conversely, if NIM is smaller, the company's performance is decreasing.

Each bank, certainly, will have a different NIM, and this is because the value of earning assets in one bank is different from another. High interest income can be obtained by the bank when it distributes more funds to public without any problems and interest rate. A high interest rates will produce high interest income and vice versa. However, interest income is also influenced by interest expense that must be borne by the bank. When interest rates change, this will affect interest income and interest costs. NIM will also change along with changes in interest rates and interest expense.

5. Return On Asset (ROA)

ROA is a ratio used to measure the bank management ability, as well as the effectiveness of a company in generating profits by utilizing its assets. ROA is also used to determine the relationship between organization and financial performance of retail banks, so that organizational strategies in order to face increasingly competition can be formulated (Adeyemi-Belo, 2000).

According to Bank of Indonesia, ROA is a comparison between profit before tax and the average total assets in one period. So, ROA is the ratio between profit before tax to total assets. The greater the ROA, the better the financial performance, because the returns are greater. If ROA increases, the company's profitability increases, so the final impact is an increase in profitability enjoyed by shareholders (Husnan, 1998).

B. The Relationship Between COVID-19 and Bank Performance

The COVID-19 outbreak has spread to various countries around the world, so the World Health Organization (WHO) in March 2020 declared COVID-19 as a global pandemic. This had an impact on all sectors and aspects of life, including the banking financial system. Various efforts have been made by the Government of Indonesia to prevent the rapid spread of the COVID-19, such as by implementing a lockdown. The existence of a regional quarantine causes the product to not be distributed properly. This caused the financial system to be disrupted.

The Indonesian Government issued PP No. 21 of 2020 regarding Large-Scale Social Restrictions (PSBB) which aims to accelerate the handling of COVID-19. It is undeniable that the PSBB implementation has an impact on social and business activities which ultimately affect the community's economy. The banking sector as an intermediary institution, although indirectly, also cannot be separated from pressure due to the pandemic. As a result, banks have difficulty channeling funds, because the economy has decreased as a result of companies reducing their production capacity and decreasing public consumption.

In contrast, the development of Third Party Funds collection during pandemic is still increasing. COVID-19 has forced people to hold back on their consumption activities, apart from activity restrictions, there are also concerns about economic conditions, so people prefer to save their money in banks.

The conditions experienced by the banking industry can have an impact on its financial performance. When economic activity is not running, it can lead to an increase in non-performing financing which in turn has an impact on bank profitability (ROA) and CAR. The unbalanced condition between fund-raising and disbursing funds can result in a decline in banking LDR. This will result in a decline in NIM. In addition, it can also lead to an increase in the BOPO ratio, because banks have to bear the cost of funds while income has decreased as a result of a decrease in lending and an increase in non-performing financing. in carrying out its operational activities.

Hence, the indicators used for measuring banking performance are CAR, BOPO, NIM, LDR, and ROA. Furthermore, the hypothesis taken in this study is:

H1: There are differences in banking performance indicators before and after the COVID-19 pandemic.

III. STUDY METHOD

A. Data Type and Source

This study is classified as descriptive and comparative study. According to Sugiyono (2016), descriptive research is research conducted to determine the existence of independent variables, either one or more variables (stand-alone variables) without making comparisons or looking for relationships between variables. Meanwhile, comparative research is research that compares the state of one or more variables in two or more different samples, or at two different times. This study explains the differences in banking performance by comparing the company's financial performance before the pandemic and after the pandemic.

A. Population and Sample

The population that will be the object of this study is a banking company of various types which publishes the annual financial statements (annually report) audited and listed in Indonesia Stock Exchange (BEI) in 2019 and 2020, accounting for 43 banks. The source of this research data is secondary data related to the performance of banking companies consisting of *Return on assets* (ROA), *Net interest margin* (NIM), *Capital adequacy ratio* (CAR), *Loan to deposit ratio* (LDR) and BOPO before and after COVID-19 pandemic.

IV. RESULT AND DISCUSSION

A. Study Result

The study results will be presented based on the data obtained. The analysis will start with descriptive analysis and continue with hypothesis testing with comparison tests. The purpose of this study was to analyze bank performance before and after COVID-19 pandemic in banking companies listed on the IDX.

1. Descriptive Analysis

Descriptive analysis was conducted to obtain an overview of bank performance before and after COVID-19 in banking companies listed on IDX.

Table 4.1. The Results of Descriptive Analysis of Bank Performance on Capital Adequacy Ratio (CAR) Parameters

Decriptive	CAR Before	CAR After
Mean	25.8	27.5
Std. Deviation	20.7	14.2
Median	21.4	24.3
Minimum	9.0	11.6
Maximum	147.4	90.5

Source: Secondary Data, 2021

Based on Table 4.1, it can be seen that the bank's performance on CAR parameter before covid 19 had a mean value of 25.8 ± 20.7 and an increase in the mean value after covid 19 by 2.3, so that the mean value of the Bank's performance on the *Capital Adequacy Ratio* (CAR) parameter after covid 19 is 27.5 ± 14.2 .

Table 4.2. The Results of Descriptive Analysis of Bank Performance on Loan to Deposit Ratio (LDR) Parameters

Decriptive	LDR Before	LDR After
Mean	89.2	85.5
Std. Deviation	20.5	25.8
Median	88.6	82.9
Minimum	47.5	39.3
Maximum	163.1	162.3

Source: Secondary Data, 2021

Based on Table 4.2, it can be seen that the bank's performance on the *loan to deposit ratio* (LDR) parameter before covid 19 had a mean value of 89.2 ± 20.5 and there was a decrease in the mean value after covid 19 by 3.7 so that the mean value of Bank Performance on the *Loan to Deposit Ratio* parameter (LDR) after covid 19 became 85.5 ± 25.8 .

Table 4.3. The Results of Descriptive Analysis of Bank Performance on Net Interest Margin (NIM) Parameters

Decriptive	NIM Before	NIM After
Mean	4.9	4.2
Std. Deviation	4.5	3.7
Median	4.4	4.0
Minimum	0.4	0.2
Maximum	31.3	24.8

Source: Secondary Data, 2021

Based on table 4.3, it can be seen that the bank's performance on the net interest margin (NIM) parameter before covid 19 had a mean value of 4.9 ± 4.5 and there was a decrease in the mean value after covid 19 by 0.7 so that the mean value of bank performance on the net interest margin (NIM) parameter after covid 19 becomes 4.2 ± 3.7 .

Table 4.4. The Results of Descriptive Analysis of Bank Performance on Operational Cost Parameters compared to Operational Income (BOPO)

Decriptive	BOPO Before	BOPO After
Mean	94.0	99.4
Std. Deviation	29.8	33.5
Median	93.2	92.2
Minimum	58.1	63.5
Maximum	258.1	261.1

Source: Secondary Data, 2021

Based on Table 4.4, it can be seen that the bank's performance on the operational cost parameter compared to operational income (BOPO) before covid 19 had a mean value of 94.0 ± 29.8 and there was an increase in the mean value after covid 19 by 5.4 so that the mean value of bank performance on the operational cost parameter was compared with operational income (BOPO) after covid 19 of 99.4 ± 33.5 .

Table 4.5. The Results of Descriptive Analysis of Bank Performance on Return on Assets (ROA) Parameters

Decriptive	ROA Before	ROA After
Mean	0.8	0.4
Std. Deviation	3.6	2.7
Median	0.6	0.6
Minimum	-15.9	-11.3
Maximum	13.6	7.2

Source: Secondary Data, 2021

Based on Table 4.5, it can be seen that the bank's performance on the *return on asset* (ROA) parameter before covid 19 had a mean value of 0.8 ± 3.6 and there was a decrease in the mean value after covid 19 by 0.4 so that the mean value of bank performance on the *return on asset* (ROA) parameter after covid 19 becomes 0.4 ± 2.7 .

2. Hypothesis Test

To test this hypothesis, a pairwise comparison test of bank performance before and after the Covid 19 pandemic will be conducted on banking companies listed on the IDX using the Wilcoxon test as follows:

Table 4.6. Hypothesis Test Results

Test Statistics ^a					
	CAR_Post - CAR_Pre	LDR_Post - LDR_Pre	NIM_Post - NIM_Pre	BOPO_Post - BOPO_Pre	ROA_Post - ROA_Pre
Z	-2.608 ^b	-2.343 ^c	-4.565 ^c	-2.475 ^b	-2.210 ^c
Asymp. Sig. (2-tailed)	.009	.019	.000	.013	.027
a. Wilcoxon Signed Ranks Test					
b. Based on negative ranks.					
c. Based on positive ranks.					

Source: Secondary Data Processing, 2021

Hypothesis 1:

$H_0: \mu_1 = \mu_2$: There is no significant difference in financial performance in CAR parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

$H_1: \mu_1 \neq \mu_2$: There are significant differences in financial performance in CAR parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

Hypothesis 2:

$H_0: \mu_1 = \mu_2$: There is no significant difference in financial performance in LDR parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

$H_1 : \mu_1 \neq \mu_2$: There are significant differences in financial performance in LDR parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

Hypothesis 3:

$H_0 : \mu_1 = \mu_2$: There is no significant difference in financial performance in NIM parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

$H_1 : \mu_1 \neq \mu_2$: There are significant differences in financial performance in NIM parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

Hypothesis 4:

$H_0 : \mu_1 = \mu_2$: There is no significant difference in financial performance in BOPO parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

$H_1 : \mu_1 \neq \mu_2$: There are significant differences in financial performance in BOPO parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

Hypothesis 5:

$H_0 : \mu_1 = \mu_2$: There is no significant difference in financial performance in ROA parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

$H_1 : \mu_1 \neq \mu_2$: There are significant differences in financial performance in ROA parameters before and after the COVID-19 pandemic in banking companies listed on the IDX.

Test Criteria: Accept H_1 if the significance value is <0.05 and accept H_0 in other terms.

Two data in the two groups are said to have a significant difference if the significance value of the calculation results is less than 0.05. Based on the results of calculations using the *Wilcoxon* test in Table 4.6, it can be seen that there are significant differences in financial performance between before the COVID-19 pandemic and after. This can be seen from the significance value for all parameters which is smaller than 0.05. Thus, it means that the COVID-19 pandemic has a significant impact on bank performance in banking companies listed on the IDX so that the hypothesis can be accepted.

4.2 Discussion

Based on the results of statistical analysis and hypothesis testing, it can be seen that the bank's performance on the Capital Adequacy Ratio (CAR) parameter increased the mean value after covid 19 by 2.3 with a significance value of 0.009. Where before covid 19 had a mean value of 25.8 ± 20.7 and after covid 19 it was 27.5 ± 14.2 . It can be concluded that the COVID-19 pandemic caused an increase in the value of banking CAR, this could happen because the COVID-19 pandemic caused banks to experience a decline or slowdown in lending, which resulted in an increase or improvement in CAR ratio.

The results of statistical analysis on the loan to deposit ratio (LDR) parameter before covid 19 had a mean value of 89.2 ± 20.5 while after covid 19 it decreased to 85.5 ± 25.8 or experienced a decrease in the mean value of 3.7 with a significance level of 0.019. So it can be concluded that the covid 19 pandemic resulted in a decrease in banking LDR, this happened because the covid 19 pandemic caused banks to experience a decline in lending while third party funds that were successfully collected by banks increased due to people tend to reduce their spending.

Bank performance on the *net interest margin* (NIM) parameter decreased by 0.7 with a significance value of 0.000, where the NIM ratio before covid 19 had a mean value of 4.9 ± 4.5 , while after the covid 19 pandemic it became 4.2 ± 3.7 . So it can be concluded that the COVID-19 pandemic caused a decline in banking NIMs. One of the reasons for this could be that banks experienced a decline in lending while the third party funds that were successfully collected by the banks had increased, so that the interest expense borne by banks increased while interest income fell.

The operational cost parameter compared to operational income (BOPO) before covid 19 had a mean value of 94.0 ± 29.8 while after the covid 19 pandemic it was 99.4 ± 33.5 , so that there was an increase in the mean BOPO value of 5.4 with a significance value of 0.013. The increase in banking BOPO means that when the COVID-19 pandemic occurs, the increase in operating income is not proportional to the increase in operating costs. This could be due to a decrease in lending and an increase in bank third party funds. In

addition, it can also be caused by additional expenditures to provide facilities and infrastructure to carry out health protocols in carrying out operational activities.

Furthermore, the results of statistical analysis and significance test can be seen that the bank's performance on the return on assets (ROA) parameter has a decrease in the mean value of 0.4 with a significance value of 0.027. So it can be concluded that the COVID-19 pandemic resulted in a decrease in the value of banking ROA, this condition occurred because the COVID-19 pandemic caused banks to experience a decline in lending, resulting in a decrease in income.

VI. CONCLUSIONS AND SUGGESTIONS

This study was conducted to analyze the performance of banks before and after the covid 19 pandemic. The samples in this study were banking companies listed on the Indonesia Stock Exchange (IDX) for the period 2019 and 2020. Based on the results, the conclusions can be drawn as follows:

1. There was an increase in the banking CAR (*Capital Adequacy Ratio*) ratio after the COVID-19 pandemic.
2. There was an increase in the ratio of operating expenses to banking operating income (BOPO) after the covid 19 pandemic
3. There was a decline in the value of the *Net Interest Margin* (NIM) of banking after the COVID-19 pandemic
4. There was a decline in the value of the *Loan to Deposit Ratio* (LDR) of banking after the COVID-19 pandemic
5. There was a decline in the value of the *Return on Assets* (ROA) of banking after the COVID-19 pandemic

As Covid-19 pandemic is still running; therefore, for further research, it is recommended that the sample data is changed to quarterly, or increasing sample duration for the study.

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