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## THE EFFECT OF FINANCIAL PERFORMANCE ON RETURN ON ASSETS IN BANKS BEFORE AND DURING THE COVID 19 PANDEMIC IN INDONESIA

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**Abstract:** The COVID-19 case began in Indonesia in 2020. This condition continues to spread throughout Indonesia and causes all companies not to run optimally. It can affect the company's performance, making it less than optimal. One of them is a service company such as a bank company that must carry out its operational activities in a limited manner, causing credit to the community to run less optimally. The decline in bank performance has an impact on the decline in profits earned by bank companies. The purpose of this study is to examine the financial performance of banks from 2018 to 2019, which was before the covid 19 pandemic. This study also examines the financial performance of banks during the covid 19 pandemic from 2020 to 2021 and provides several alternatives to create better banking performance in Indonesia. This study uses secondary data from audited bank annual reports from 2018 to 2021, accessed on the website [www.idx.co.id](http://www.idx.co.id). The analysis used in this study is multiple regression analysis to assess bank performance using several financial ratios, namely capital adequacy ratio, net interest margin, and loan deposit ratio to return on assets. The findings of this study show that the capital adequacy ratio, net interest margin, and loan deposit ratio have a significant positive effect on return on assets at commercial banks in Indonesia with the phenomenon before and during the COVID-19 pandemic. It proves that the capital adequacy ratio, net interest margin, and loan deposit ratio have a positive influence on company performance. Increasing financial ratios in banks can create banking conditions that are more effective and can attract investors to invest in bank companies.

**Keywords:** Capital Adequacy Ratio, Net Interest Margin, Loan Deposit Ratio, Return on Assets, Commercial Bank, Covid-19 Pandemic

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## INTRODUCTION

The COVID-19 pandemic has greatly impacted the economic decline in various countries, including Indonesia, which has experienced a significant decline. COVID-19 conditions made stock market and money market conditions globally experience a significant decline, and this also happened in Indonesia. The number of industries and businesses affected by covid 19, for example, the manufacturing industry, the financial industry, small and medium enterprises, and individual worker income. The covid 19 pandemic has caused a decline in company performance, including reducing the performance of the world economy, especially in the financial industry or service companies in banking.

The decline in financial performance in bank companies makes its financial ratios fluctuate. It means that banks must be able to condition their capabilities so that their financial performance does not experience a significant decline. The financial condition of bank companies in a certain period, both concerning aspects of raising funds and channeling funds, is usually measured by capital adequacy indicators. This study uses the capital adequacy ratio to track the development of return on assets in the amount of total bank assets, which there are several ratios (loans, securities, and bills to other banks) that are also financed with own capital and obtained from sources other than banks (Dao and Nguyen, 2020). Over the past four years, the development of the capital adequacy ratio (CAR) in commercial banks has been positive, remaining above 21% from 2018 to 2019. However, the capital adequacy ratio value continued to improve at 23% in 2020 and will remain above 27% in 2021. Over the past four years, the capital adequacy ratio of commercial banks has increased due to their ability to manage effectively, specifically by identifying, measuring, monitoring, and controlling risks that may affect the amount of bank capital (O-Abba et al., 2018). The capital adequacy ratio that has remained positive for the last four years has the potential to affect return on assets. It can be seen from the bank's return on assets from 2018 to 2019, which is still considered good. Still, in 2020, the return on assets experienced a decline due to the COVID-19 case in Indonesia. When the COVID-19 case impacted many bank companies, it did not run optimally, and there were still res-

trictions on carrying out its operational activities. In 2021, banking activities have begun to be relaxed so that bank performance can run more optimally. It has an impact on the acquisition of the capital adequacy ratio in banks increasing and directly has a positive effect on return on assets. The COVID-19 pandemic has a direct impact on the activities of service companies, especially bank companies, which can affect the ineffectiveness of bank performance in obtaining profits for the company.

Net interest margin is used to determine the amount of net profit in bank companies on the condition of return on assets (Choiriyah et al., 2021). The bank's ability to earn better profits can then cause the bank's performance to be said to be running optimally (Ndungu and Muturi, 2019). The development of the net interest margin in the last four years has been positive, above 5% from 2018 to 2019, but in 2020, the net interest margin ratio fell below 4.5%, and in 2021, the NIM ratio increased above 4.5%. The fluctuations in net interest margins at commercial banks in the last four years are due to their ability to manage their performance optimally. Still, the net interest margin ratio was corrected due to the Covid-19 pandemic. Net interest margin over the past four years also affects return on assets. It can be seen in Indonesia's condition of return on assets, which still fluctuates from 2018 to 2021. From 2019 to 2020, it decreased, but the return on assets increased in 2021. This is because COVID-19 cases continue to decline in Indonesia.

The decline in COVID-19 cases also has a direct impact on increasing bank performance. The improvement in bank performance is driven by policies from the central bank for recovery in banking sector, and activities in the banking sector have started to run normally (Battiston et al., 2021). Seeing the improvement in the net interest margin ratio at the bank will affect the increase in return on assets at the bank (Charmler et al., 2018). The loan deposit ratio is used to measure the composition of the amount of credit provided and compared to the amount of public funds and the use of own capital (Pradnyawati and Widhiastuti, 2020). This statement illustrates that banks are able to channel the level of credit to the public optimally (Didier et al., 2021). The more effective lending to the public can increase the loan deposit ratio on return on assets. Seeing the condition of lending to banks run-

ning quite well in the last four years it can have an impact on increasing return on assets at commercial banks. This condition is evident from the value of return on assets in 2021, which increased from the previous year. It is because, in 2020, the COVID-19 pandemic occurred, which had an impact on the less-than-optimal banking activities in channeling credit loans to the public, less than optimal in attracting funds from the public to save at the bank, less than the maximum bank in obtaining profits from its activities. The bank was less effective when the COVID-19 case occurred in Indonesia.

This research discusses commercial banks because banks are a financial industry or one of the service companies whose performance is to collect funds from the public in the form of savings and reinvest them in the form of loan funds to improve the sustainability of people's lives (Maune, 2018). The bank is one of the business institutions that aims to pursue the acquisition of the maximum possible margin in the ability to earn profits that can be measured from one's capital and funds invested in the company (Bernardin and Fitaloka, 2022). Banks must maintain effective performance during the COVID-19 pandemic until after the pandemic because banks have an essential role in economic growth in Indonesia. To realize the bank's performance running optimally during the covid 19 pandemic, the bank must conduct a series of analyses so that banking conditions continue to run.

The bank's capital adequacy ratio level can be seen from the capital owned by bank companies. The more minimum capital the bank must have, the more it can be declared to have good financial performance and the more it can support its liquidity (Erna and Joko, 2017). The increase in the capital adequacy ratio can have a positive effect on the return on assets at banks in Indonesia before and during the COVID-19 pandemic. This statement is supported by research conducted by (Haryanto et al., 2019) (Brastama and Yadnya, 2020), which also stated that the capital adequacy ratio has an effect on return on assets and loan deposit ratio to measure the amount of credit to Third Party Funds (DPK) collected by the bank. If the loan deposit ratio at the bank has increased, the bank is able to channel funds to the public effectively in the form of credit (Dhara and Maryono, 2020). The increasing number of loan credits to the public has

a positive impact on the financial performance of the tire (Sorongan, 2020). It can affect the increase in return on assets at banks in Indonesia during and after the COVID-19 pandemic. This statement is supported by the research conducted by Devitra (2013), Duy et al. (2020), and Marinkovic and Radovic (2010) stated that the loan deposit ratio affects the return on assets. The net interest margin ratio aims to assess the ability of bank management to generate net interest income through productive asset management (Erna and Joko, 2017). Effective and efficient management of productive assets managed by the bank to earn interest will make the risk faced by the bank smaller. It will earn interest income by generating a higher net interest margin. The acquisition of NIM, which is increasing, will provide a positive value for return on assets for banks in Indonesia before and during COVID-19 pandemic. This statement is supported by research conducted by Purwohandoko and Iriani (2021) and Elbadry (2018) stated that net interest margin can affect the return on assets.

Looking at some of the research previous researchers have conducted, several variables can still be developed again to determine the bank condition in Indonesia before and after the covid 19 pandemic. The COVID-19 pandemic has significantly impacted the decline in bank companies' performance in Indonesia. This statement can create a research novelty in this study, namely by looking at the condition of banking performance in Indonesia in obtaining profits from its activities during and after the covid 19 pandemic. This study seeks to explain how strong banking performance is in obtaining profits, especially by looking at several financial ratios. This statement can provide benefits for further research to determine the general banking conditions during the COVID-19 pandemic. The financial ratios used in this study include capital adequacy ratio, net interest margin, and loan deposit ratio. Some of these financial ratios are expected to have a positive influence on increasing profits at commercial banks listed on the Indonesia stock exchange before and during the covid 19 pandemic.

## LITERATURE REVIEW

### Agency Theory

Agency theory explains that managers must carry out activities properly to avoid conflicts in a

company's governance, and it is critical to implement (Eisenhardt, 1989). According to agency theory, owners or shareholders serve as principals and management as agents. Agency can be defined as a relationship between company members, with principals and agents serving as the primary actors. Principals can appoint management as agents to carry out duties in company performance activities (Endrianto, 2010). Good company management can improve company performance and increase shareholder trust, particularly in banking companies.

**Bank**

Banks are legal entities that collect funds from the public and return them to the public in the form of credit or loans for the community (Kasmir 2020). These activities can help to improve the community's economic situation. According to Triandaru and Santoso (2006), banks serve three functions: trust, service, and development. Banks' three functions are expected to be thoroughly and comprehensively described in terms of their contribution to Indonesian economic development.

**Capital Adequacy Ratio**

The capital adequacy ratio measures a bank's ability to maintain adequate capital as well as its management's ability to identify, monitor, measure, and control risks that may arise and affect capital size (Almilia and Herdiningtyas, 2005). The capital adequacy ratio is based on the principle that any risky investment requires a certain percentage of capital (Pandia, 2012). Banks in Indonesia must maintain a minimum capital ratio of 8% of RWA (Kuncoro and Suhardjono, 2002).

*Capital Adequacy Ratio (CAR) = Bank Capital x 100% divided by Risk-Weighted Assets*

**Net Interest Margin**

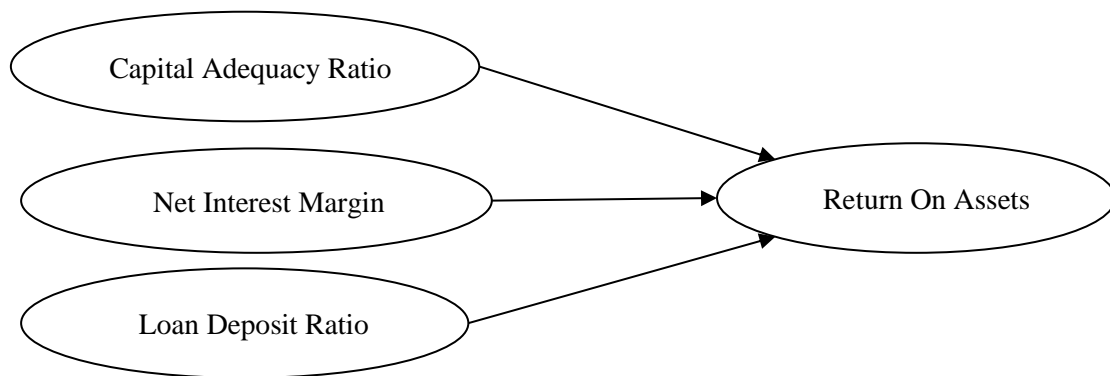
Net Interest Margin (NIM) is a parameter used to determine how much interest income banks can maximize (Kasmir 2020). The net interest margin calculates the bank's interest income and the interest costs that must be paid to depositors or fund providers. This ratio is calculated as the proportion of the difference between the bank's net interest earned and its total productive assets (Segev et al., 2022). The high NIM ratio can be interpreted as the bank's ability to generate significant interest income, indicating good profits for banks. The higher the NIM, the more influential the bank and the less chance of errors in the company's performance.

*Net Interest Margin (NIM) = Net interest income divided by average earning assets.*

**Loan Deposit Ratio**

The Loan to Deposit Ratio (LDR) is the ratio of a bank's total credit to its funds obtained. (Riyadi, 2017). The Loan Deposit Ratio compares loans made by third-party funds to demand deposits, savings, and other short-term liabilities (Kusmayadi, 2018). The amount of the credit disbursed can impact the bank's profits. If the bank is unable to extend the credit but receives a large amount of funds, it may suffer losses (Faizah and Saryadi, 2018).

*Net Interest Margin (NIM) = Credit x 100% divided by Third Party Funds*



**Figure 1. Research Design**

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e.$$

Note:

Y = Return on assets

$\beta_0$  = Konstan

$\beta_1-3$  = Koefisien regresi

X1 = Capital adequacy ratio

X2 = Net interest margin

X3 = Loan deposit ratio

e = error

## HYPOTHESIS DEVELOPMENT

The capital adequacy ratio can reveal how much of the bank's total assets, which contain various risk elements (securities, loans, investments, bills to other banks), can be financed with the bank's capital or funds obtained from various external sources (Setyarini, 2019). Raising the capital adequacy ratio will boost the return on assets (Rifansa and Pulungan, 2022). This is because commercial banks can optimize the capital adequacy ratio to increase their return on assets. To investigate the impact of the capital adequacy ratio on asset returns, the following hypothesis can be proposed:

**H1:** The higher the capital adequacy ratio, the higher the return on assets.

The net interest margin in banks is the ratio of net interest income derived from bank operational activities, such as interest issued by banks to account holders or certificates of deposit (Sugiantari and Dana, 2019). According to Ali and Triyuliawan (2017), the higher the NIM, the greater the profit for the bank. It is because the bank is able to maximize its performance, resulting in higher profits. Thus, this hypothesis can be proposed to test the effect of NIM on return on assets in the following way:

**H2:** The higher the net interest margin, the higher the return on assets.

The loan deposit ratio in banks can be determined by comparing the total lending amount to the total funds to be received (Ali and Triyuliawan, 2017). The bank's loan deposit ratio increases as credit is channeled to the public (Sugiantari and Dana, 2019). This condition exists because the bank's performance can be improved by increasing lending. Thus, the hypothesis proposed in this study to test the loan deposit ratio on return on as-

sets is as follows:

**H3:** The higher the loan deposit ratio, the higher the return on assets.

## METHOD

This study employs explanatory research, which entails testing hypotheses about the relationships between variables. The goal of this study is to assess banks' financial performance from 2018 to 2019, before the covid 19 pandemic. This study also looks at how banks fared financially during the COVID-19 pandemic in 2020 and 2021. This study makes use of secondary data from commercial bank companies' annual financial reports in 2018, 2019, 2020, and 2021, as well as data from [www.idx.co.id](http://www.idx.co.id).

This study's population has been adjusted to reflect the target population. It has banking requirements that have been registered with the Indonesia Stock Exchange, as well as audited bank financial statements for the years 2018-2021. The study's participants were drawn from 15 banks. This study includes 60 observations spanning four years from 2018 to 2021 (data from 15 banks multiplied by four years = 60 observations). Table 1 lists the bank companies used as research samples, as well as the data obtained from [www.idx.co.id](http://www.idx.co.id) between August 15 and 16, 2022, based on the study's population. The following information applies to the bank companies that served as research samples. The data will then be analyzed using the SPSS program and multiple linear regression to determine the relationship and impact of capital adequacy ratio, net interest margin, and loan deposit ratio on return on assets.

## RESULTS

After testing the hypothesis with significant values from each variable, the results are analyzed using multiple linear regression to determine the level of influence of the three independent variables (capital adequacy ratio, net interest margin, and loan deposit ratio) on the dependent variable. Tables 1 and 2 show the results of a multiple regression analysis conducted with the SPSS 22.0 for Windows program. In Table 1, the ANOVA test before the COVID-19 pandemic yielded a F value of 12,604 and a significance value of 0.000 (less than  $\alpha = 0.05$ ). These findings were derived from multiple regression analysis and Table 2.

During the covid 19 pandemic, the Anova test yielded a F value of 12,743 and a significance value of 0.000 (less than  $\alpha = 0.05$ ); these findings were based on multiple regression analyses.

This finding demonstrates that the independent variables of capital adequacy ratio, net interest margin, and loan deposit ratio all have a positive impact on return on assets. Based on the data analysis results, the described model and its realization are compatible. The significance value for the three independent variables capital adequacy ratio, net interest margin, and loan deposit ratio before the covid 19 pandemic is 0.017, 0.037, and 0.028, respectively, all less than  $\alpha = 0.05$ . The significance value for the three independent variables capital adequacy ratio, net interest margin, and loan deposit ratio during the covid 19 pandemic is 0.021, 0.037, and 0.033, respectively, all less than  $\alpha = 0.05$ . These findings demonstrate that each variable has a significant impact on asset returns. Table 3 can also be used to create multiple linear regression equations, as shown below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

$$Y = 2.598 + 0.035X_1 + 0.374X_2 + 0.148X_3 + e$$

The multiple linear regression equation can be arranged in Table 4 as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

$$Y = 2.694 + 0.043X_1 + 0.356X_2 + 0.167X_3 + e$$

Tables 1 and 2. The capital adequacy ratio, net interest margin, and loan deposit ratio all have a significant impact on asset returns. The capital adequacy ratio, net interest margin, and loan deposit ratio variables clearly show that they have a significant impact on the return on assets in Indonesian commercial banks before and during COVID-19. It is because some of these ratios can still be controlled, and the capital adequacy ratio, net interest margin, and loan deposit ratio appear to be in good shape prior to the Covid-19 pandemic in 2018-2019.

**Table 1. Inner Model Evaluation**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.744	3	5.879	12.604	.000 <sup>b</sup>
	Residual	14.252	26	443		
	Total	30.996	29			

a. Dependent variable: return on assets

b. Predictors: (Constant), capital adequacy ratio, net interest margin, loan deposit ratio

**Table 2. Test During Pandemic**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.659	3	5.564	12.743	.000 <sup>b</sup>
	Residual	14.371	26	483		
	Total	31.030	29			

a. Dependent variable: return on assets

b. Predictors: (Constant), capital adequacy ratio, net interest margin, loan deposit ratio

**Table 3. Multiple Linear Regression Before Pandemic**

		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	2.598	.739		3.683	.001
	CAR	.035	.014	.047	.263	.017
	NIM	.374	.034	.679	5.387	.037
	LDR	.148	.073	.327	1.793	.028

Dependent variable: return on assets

**Table 4. Multiple Linear Regression Before Pandemic**

		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	2.694	.727		3.753	.375
	CAR	.043	.012	.043	.257	.021
	NIM	.356	.068	.654	5.395	.037
	LDR	.167	.073	.373	1.866	.033

Dependent variable: return on assets

Similarly, the Covid-19 pandemic will continue before 2021. The capital adequacy ratio, net interest margin, and loan deposit ratio are all improving, indicating that this condition exists. Bank Indonesia, as the central bank, issued Bank Indonesia Regulation Number 22/15/PBI/2020, the third amendment to Bank Indonesia Regulation Number 19/3/PBI/2017, which governs commercial banks' short-term liquidity credit in order to maintain system economic stability. The government and related authorities are preparing financial policies in anticipation of the COVID-19 pandemic. Bank Indonesia, as the financial system authority, makes significant contributions to the financial system's stability, particularly in the banking sector, and helps to maintain public trust in banks, primarily by providing short-term liquidity loans to commercial banks. To overcome the ban, short-term liquidity loans must be adjusted. Bank Indonesia's various rules and policies in anticipating the financial system and banking ratios caused by the COVID-19 pandemic can then maintain or en-

courage an improvement in return on assets at Indonesian commercial banks.

## DISCUSSION

### Capital Adequacy Ratio and Return on Assets

According to the findings of this study, the capital adequacy ratio has a significant positive effect on asset returns both before and during the COVID-19 pandemic in Indonesia. According to the data, increased bank capital influences CAR growth (Brastama & Yadnya, 2020). It can also speed up public lending and enable banks to expand their operational activities (Yu et al., 2017). The banking sector's increasing capital adequacy ratio has a direct impact on the increase in return on assets at Indonesian commercial banks (Haryanto et al., 2019).

The capital adequacy ratio, according to (Sunaryo, 2020), is the amount of capital owned by the bank from the general public or customers in deposits, deposits, and savings accounts. The bank's capital decreases as its capital adequacy ra-

tio falls (Anggriani and Muniarty, 2020). A decrease in CAR in banks can be linked to a decline in the bank's ability to earn profits, an increase in the volume of public loans, and an increase in commercial bank non-performing loans (Badawi, 2017). A lower capital adequacy ratio (CAR) can have a negative impact on banking companies' performance and return on assets at Indonesian commercial banks.

### **Net Interest Margin and Return on Assets**

According to the test results, net interest margins had a positive and significant impact on the return on assets in Indonesian commercial banks before and during the COVID-19 pandemic. According to Devitra (2013), an increase in bank capital can influence NIM, and an increase in net interest margin can be used for public lending, allowing banks to expand their operational activities. The increasing net interest margin ratio in the commercial bank sector has a direct impact on the increase in return on assets at Indonesian commercial banks (Duy et al., 2020).

According to (Kurniadi, 2012), the net interest margin is calculated by dividing the bank's net interest income by the amount of interest that can be paid to the lender. The decrease in NIM at the bank can be attributed to a decrease in the bank's ability to obtain its net profit, an increase in non-performing loans of commercial banks, and a decrease in the level of lending to banks; thus, the impact of the decrease in the level of net interest margin at the bank can lead to a decrease in the performance of banking companies, resulting in a decrease in return on assets.

### **Loan Deposit Ratio and Return on Assets**

According to the study's findings, the loan deposit ratio has a positive and significant effect on the return on assets at commercial banks in Indonesia prior to and during the COVID-19 pandemic. According to (Elbadry, 2018), increasing the loan deposit ratio can have an impact on bank profits. The increase in the loan deposit ratio is attributed to the bank's ability to maintain or increase lending to the general public. This directly improves the bank's financial performance. The better the bank's financial performance, the higher the return on assets at commercial banks (Purwohandoko and Iriani, 2021).

The loan deposit ratio may fall due to inefficient credit distribution to the community, resulting in a large amount of idle funds in the bank. The fall in the loan deposit ratio reduces the bank's profit from its operations. Failure to maximize public lending has an impact on banks' financial performance (Kwashie et al., 2022). These conditions have an impact on Indonesian commercial banks' declining return on assets.

### **IMPLICATIONS**

**Theoretical Implications.** The capital adequacy ratio, net interest margin, and loan deposit ratio are all ways to assess a bank's short and long-term financial performance. A bank's financial ratios serve several functions, including determining its ability to generate profits, assessing its ability to face risks from its operational activities, and increasing the distribution of funds to the public via credit loans. Some of these functions can help banks improve their performance in managing financial ratios.

The findings of this study shed light on what happened at Indonesian commercial banks prior to and during COVID-19. It is clear that commercial banks in Indonesia continue to earn or increase profits year after year, which they consider adequate for carrying out their operational activities, and that banks continue to meet their short-term current obligations even during the COVID-19 pandemic. According to (Kasmir, 2020), with this explanation, businesses can carry out their operational activities more efficiently, resulting in increased profits.

**Practical Implications.** Return on assets is directly related to the banking sector and is one of the factors that influence commercial bank performance in Indonesia. Improved bank performance is evident in its financial ratios, which control the capital adequacy ratio, net interest margin, and loan deposit ratio, ensuring that bank operations run smoothly throughout the Covid-19 pandemic. This study also shows that the capital adequacy ratio, net interest margin, and loan deposit ratio all have a positive and significant impact on return on assets, with increases in the capital adequacy ratio, net interest margin, and loan deposit ratio all significantly increasing return on assets.

These findings can be used by banks to develop company policies and guidelines for increas-



ing profits in their performance reports. These findings can be used to inform future research on GCG and stock returns in Indonesia. Future research that includes GCG and stock returns is expected to yield more developed results.

### RECOMMENDATIONS

Companies must continue to monitor net profit while increasing the capital adequacy ratio and net interest margin to achieve optimal bank performance. In terms of the bank's loan deposit ratio, it must continue to selectively distribute its funds in the form of credit loans to the public, and there must be an agreement between the borrower and the bank to ensure that the loan is repayable to the bank.

To improve financial performance, banks must effectively manage their capital adequacy ratio, net interest margin, and loan deposit ratio. The bank's improved performance can have a direct positive impact on the bank's return on assets. GCG variables and stock returns should be included in future research.

### CONCLUSIONS

The capital adequacy ratio, net interest margin, and loan deposit ratio of commercial banks listed on the Indonesian stock exchange all have a positive and significant effect on return on assets. Capital adequacy ratio, net interest margin, and loan deposit ratio at commercial banks listed on the Indonesian stock exchange all have a positive and significant effect on return on assets, both before and during the COVID-19 pandemic.

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