

# Does Covid-19 Have an Impact on Bank Performance in Indonesia? A Comparative Analysis Based on BUKU

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#### Abstract

This study aims to determine whether there are differences in the financial performance of commercial banks in Indonesia before and during the Covid-19 pandemic, with a major focus on capital, asset quality, profitability, and management efficiency based on BUKU (*Bank Umum Kegiatan Usaha* - Commercial Bank Business Activities). The data used in this study is secondary data, which consists of the 2015-2019 financial statements and the 1st quarter 2020 - the 3rd quarter 2020 financial statements. The sample used in this study amounted to 38 banks. The analytical method used is the Kruskal-Wallis test using the IBM SPSS version 25 software. The results of data processing and data analysis using the Kruskal-Wallis test show that there are differences in the capital (CAR), asset quality (NPL), profitability (ROA), and management efficiency (BOPO) of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic. The results of this study indicate that in general, the Covid-19 pandemic has an impact on the performance of commercial banks in Indonesia.

Keywords: Bank Performance, BUKU, BOPO, Covid-19, CAR, NPL, ROA

## Introduction

The Covid-19 pandemic has weakened the world economy. According to most of the world's researchers and economists, this outbreak is considered the most severe cause of the global financial crisis when compared to the Asian financial crisis of 1997-1998, or the subprime mortgage crisis of 2008 (Yusuf & Ichsan, 2020). The impact of the Covid-19 pandemic is different from the crises that occurred in 1997 and 2008, the crisis caused by Covid-19 is much more complex because not only the health sector is affected, but the economic and business sectors are also affected, including the banking sector, which resulted in a decrease in the profitability of the banking industry and also a decrease in credit growth (Kuncara et al., 2020). Sourced from the Financial Services Authority (OJK), since the first announcement of the Covid-19 active cases in Indonesia in March 2020, the level of profitability (ROA) of banks in Indonesia has decreased by around 0.6% in the second quarter of 2020 figure 1.



Figure 1. Level of Bank Profitability in Indonesia from August 2019 to June 2020

Source: Financial Services Authority (OJK)

Not only at the level of profitability, but this pandemic also had an impact on increasing nonperforming loans (NPL) and operating cost to operating income (BOPO). During the Covid-19 pandemic, the Financial Services Authority (OJK) recorded an increase in NPL. In March 2020 the NPL ratio of commercial banks in Indonesia was 2.77%, however, during the Covid-19 pandemic, it increased to 3.22% in July 2020 (Fig.2). If a bank has a high NPL level, it will increase costs, potentially causing losses for banks and have an impact on the decline in bank performance (Purwoko & Sudiyatno, 2013). BOPO is also increased by 8.78% to 88.45%. BOPO is used to measure the ability of bank management to control bank operational costs against the bank's operating income received (Hasibuan et al., 2020). A low BOPO level indicates the more efficient a bank is in controlling its operational costs, with cost efficiency, the income earned by the bank will increase, and the bank's performance will be better. (Saputra & Budiasih, 2016).

On the other hand, in March 2020 the capital adequacy ratio (CAR) decreased by 0.66% to 21.67%. Capital Adequacy Ratio (CAR) is a ratio that shows how much all bank assets contain risk (credit, investments, securities, claims on other banks) and is also financed by your capital in addition to obtaining sources of funds from outside the bank. The low capital adequacy ratio indicates that the bank is unable to absorb losses that may arise from bank business activities (Purwoko & Sudiyatno, 2013).



Figure 2. Level of Non-Performing Loan (NPL) from August 2019 to July 2020 Source: Financial Services Authority (OJK)

Banks play critical roles in every economy. The banking system aids in allocating resources from those in surplus (depositors) to those in deficit (borrowers) by transforming relatively small liquid deposits into larger illiquid loans. This intermediation process helps match deposit and loan supply and provides liquidity to an economy. If intermediation is undertaken efficiently, then deposit and credit demands can be met at a low cost, benefiting the parties concerned as well as the economy overall (Berger et al., 2010). On the other hand, banks must have a variety of risks that can disrupt their operational processes. Risk in banking refers to the potential loss that may occur to a bank due to the happening of some events. Risk arises because of the uncertainty associated with events that have the potential to cause loss (Ghosh, 2012), including the covid-19 pandemic.

In Indonesia, banks are divided based on the amount of capital and type of business activity carried out, or also known as BUKU (Bank Umum Kegiatan Usaha - Commercial Bank Business Activities). Based on the regulation of the financial services authority (OJK) Number 6 / POJK.03 / 2016, banks are divided into four groups of BUKU, namely BUKU 1, BUKU 2, BUKU 3, and BUKU 4. BUKU 1 is a bank with an initial capital of up to less than 1 trillion rupiahs. BUKU 2 is a bank with an initial capital of at least 1 trillion rupiahs to less than 5 trillion. BUKU 4 is a bank with a core capital of at least 5 trillion rupiahs. Banks from the BUKU 4 group are the banks with the highest capital. The advantage of a BUKU 4 bank is that it can make capital participation in Islamic financial institutions both in Indonesia and in all regions abroad for a maximum of 35% of bank capital, besides that banks with BUKU 4 are required to channel credit or financing for at least 70% of total credit or financing. By carrying out these business activities, BUKU 4 banks will find it easier to obtain the capital needed for operational activities.

The importance of capital in banking encourages the Financial Services Authority (OJK) to issue OJK Regulation Number 12 / POJK.03 / 2020 which imposes new rules to fulfill the minimum core capital and CEMA (Capital Equivalent Maintained Assets), which is a minimum of IDR 3 trillion. The addition of core capital was carried out to strengthen banking resilience in facing increasingly fierce competition from time to time. Bank management must develop a strategy to obtain the additional capital needed. Plans for additional capital can be carried out in various ways so that bank capital remains strong. Low capital banks rely on their ability to raise capital using mergers or partnerships to achieve a core capital of at least Rp 3 trillion. Banks with large capitals will find it easier to get access to the capital market so that they have more options to choose the need for additional capital. The choice of banks with small capital is relatively limited and depends more on the willingness of bank owners to increase their capital. On the other hand, bank capital can be used to cover potential unexpected losses and as a reserve in the event of a banking crisis or unexpected events such as the current Covid-19 pandemic.

From the phenomenon that occurs in commercial banks, researchers are interested in conducting empirical research on whether there are differences in the performance of banks in Indonesia before and during the Covid-19 pandemic based on business activities (which in the next section will be referred to as BUKU). The bank performance referred to in this study is viewed in terms of capital, asset quality, profitability, and management efficiency.

### Hypothesis Development

The condition of capital in a bank represents the risk that comes to the adequacy of capital to cover current risks and anticipate future risk exposures. The capital ratio serves to absorb unavoidable losses. In this study, capital is measured by CAR (Capital Adequacy Ratio). CAR is a ratio that does not show all bank assets that carry the risk of being financed from the bank's capital funds in addition to obtaining funds from outside sources (Leon & Ericson, 2007). The Covid-19 pandemic is one of the unpredictable risks, this risk allows the CAR value of banking companies to decline because they have to cover various losses from bank operations. The difference in capital owned by banks shows the amount of resilience of banks to face bank operational risks that will reduce bank capital. The higher the bank's capital, the easier it is for management to determine strategies as well as activities to be carried out to obtain additional capital, therefore the capital conditions for each BUKU group before and during the Covid-19 pandemic are different. From this statement, the hypothesis proposed is as follows:

# H1: There is a difference in the capital of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic

Asset quality can show how much the bank can anticipate the risk of default from financing (credit risk) that will arise. During the Covid-19 pandemic, many of the bank customers were unable to pay the number of funds that had been borrowed from the bank, so the level of bad credit (NPL) increased and the risk of default faced by banks was high. The failure of these payments will affect the balance sheet and income statement because when the principal amount of the loan is written off and becomes an expense on the income statement, it will decrease the profit from the bank. This decrease in profits indicates a decrease in the performance of the bank (Kingu et al., 2018). A bank that has a high level of credit collectibility and has adequate productive assets will need capital to be obtained from the profit concerned, and conversely, if the bank continues to lose money, its capital will likely be eroded little by little (Fitrianto & Mawardi, 2006). Each BUKU group has a different core capital, during the Covid-19 pandemic the level of credit collectibility decreased and many credits were not paid, so that each BUKU group had differences in asset quality before and during Covid-19. From the statement above, the hypothesis proposed is as follows:

# H2: There is a difference in the asset quality of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic

Profitability analysis is an evaluation of a company's investment return. It focuses on the sources and profit level of the company. Profitability analysis also focuses on sustainability rather than company revenue, or it can be said that profitability is measured to see whether the assets owned by the company are productive or not. In this study, profitability is measured using ROA (return on assets). ROA is the ratio of the return on operating income divided by assets, or it can be said that ROA is the ratio of the return on total assets listed on the balance sheet (Subramanyam, 2014). The existence of the Covid-19 pandemic has significantly decreased bank revenues, this can be caused by many bank customers who have difficulty paying credit. When the bank cannot handle the crisis that arises, it will cause a decrease in cash which can reduce the profitability of the bank.

Bank capital has three main functions, one of which is the function of capital as a buffer to absorb

operational losses and other losses. The absorption of bank losses indicates that the bank will have the opportunity to make a profit. Therefore, the more capital the bank has, the bank's profitability will also increase (Widyaningrum & Septiarini, 2015). The Covid-19 pandemic can result in a decrease in the capital of each BUKU bank group because it absorbs losses from bank operational activities, this decrease in the capital will result in a decrease in the level of profitability so that the level of profitability in each BUKU bank group is different. From this statement, the hypothesis proposed is as follows:

# H3: There is a difference in the profitability of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic

Management efficiency eliminates the managerial ability of bank managers to run a business, the adequacy of risk management, and bank compliance with applicable regulations and commitments to Bank Indonesia and/or other parties. In this study, management efficiency is measured using operating cost to operating income (BOPO). BOPO is used to measure the ability of bank management to control the bank's operating expenses against the operating income received by the bank (Hasibuan et al., 2020). The covid-19 pandemic made the operations of banking companies not run as usual so that banks experienced a decrease in income, but operating costs still had to be paid by the bank. The bank management must conduct efficiently the operations carried out. This efficiency is carried out so that during the Covid-19 pandemic, banks can optimize all costs incurred by banks that are directly related to the bank's main business to increase bank income. Each bank's BUKU group has various activities, the higher the level of capital, the more diverse the bank's activities are. This diversity of activities causes high operational costs that must be borne by the bank. On the other hand, the Covid-19 pandemic caused a decrease in the level of bank income, this is reflected in an increase in the management efficiency ratio or BOPO. Therefore, the management efficiency described by the BOPO ratio for each BUKU group was different before and during the Covid-19 pandemic. From this statement, the hypothesis proposed is as follows:

# H4: There is a difference in the management efficiency of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic.

### Methods

This study is a quantitative study that aims to determine whether there are differences in the financial performance of commercial banks in Indonesia before and during the Covid-19 pandemic, with a major focus on capital, asset quality, profitability, and management efficiency. The data used in this study is secondary data, which consists of the 2015-2019 financial statements and the 1st quarter 2020 to the 3rd quarter 2020 financial statements.

The population in this study were all commercial banks listed on the Indonesia Stock Exchange (IDX). The sample selection is done by using the purposive sampling technique. Thus, the final sample in this study amounted to 38 banks which were grouped into 3 BUKU groups, namely BUKU 2, BUKU 3, and BUKU 4. The research method used is the Kruskal-Wallis test. The Kruskal-Wallis test is a nonparametric test that aims to determine statistically significant differences between two or more groups. This Kruskal-Wallis test is an alternative to the ANOVA test in parametric testing if the research data does not meet the assumption of normality. This research was processed using the IBM SPSS version 25 software.

#### **Results and Discussion**

#### **Descriptive Statistic Test**

Table 1 is the result of descriptive statistical tests of 38 research samples, which were conducted before the Covid-19 pandemic and during the Covid-19 pandemic. The average capital variable which is proxied by CAR (Capital Adequacy Ratio) before the Covid-19 pandemic in BUKU 2 is 23.20%, in BUKU 3 is 19.26%, and in BUKU 4 is 21.41%. Meanwhile, the average CAR during the Covid-19 pandemic in BUKU 2 was 24.02%, in BUKU 3 it was 21.23%, and in BUKU 4 it was 21.57%. These results indicate that both before the Covid-19 pandemic and during the Covid-19 pandemic the BUKU 2 group of banks had the highest average capital and the BUKU 3 group banks had the lowest average capital compared to other groups. Also, the average capital across all bank groups increased during the Covid-19 pandemic.

The maximum value of capital before the Covid-19 pandemic in BUKU 2 is 66.42%, in BUKU 3 is 44.56%, and in BUKU 4 is 25.60%. The minimum value of capital before the Covid-19 pandemic in BUKU 2 is 8.02%, in BUKU 3 is 10.52%, and in BUKU 4 is 16.15%. The maximum value of capital during the Covid-19 pandemic in BUKU 2 is 49.70%, in BUKU 3 is 43.08%, and in BUKU 4 is 28.14%. The minimum value of capital during the Covid-19 pandemic in BUKU 3 is 12.58%, and in BUKU 4 is 16.07%.

The average variable asset quality as measured by NPL (Non-performing Loans) before the Covid-19 pandemic in BUKU 2 was 3.77%, in BUKU 3 it was 3.06%, and in BUKU 4 it was 3.27%. Meanwhile, the average NPL during the Covid-19 pandemic in BUKU 2 was 4.97%, BUKU 3 was 3.54%, and BUKU 4 was 2.62%. These results indicate that both before the Covid-19 pandemic and during the Covid-19 pandemic the BUKU 2 bank group had the highest average NPL compared to other groups. Compared to the NPL before the pandemic, the BUKU 2 and BUKU 3 groups experienced an increase, while those in BUKU 4 experienced a decrease during the Covid-19 pandemic.

Variables			N	Min	Max	Mean	Standard
							Deviation
CAR	Before	BUKU 2	85	.08022	.66428	.2320781	.09854843
	Pandemic	BUKU 3	65	.10523	.44569	.1926149	.05607575
		BUKU 4	40	.16156	.25603	.2141798	.02283351
	During	BUKU 2	51	.08021	.49707	.2402267	.11002103
	Pandemic	BUKU 3	39	.12586	.43089	.2123236	.07240439
		BUKU 4	24	.16074	.28143	.2157392	.03255713
NPL	Before	BUKU 2	85	.00000	.15820	.0377260	.02727164
	Pandemic	BUKU 3	65	.00308	.08830	.0306725	.01784224
		BUKU 4	40	.00702	.13580	.0327663	.03083035
	During	BUKU 2	51	.01409	.15398	.0497098	.03367044
	Pandemic	BUKU 3	39	.01320	.08560	.0354221	.01899687
		BUKU 4	24	.00941	.04077	.0262383	.00985969
ROA	Before	BUKU 2	85	11728	.08536	0026246	.02768281

Table 1. Descriptive Statistic

	Pandemic	BUKU 3	65	05133	.09099	.0142085	.01889609
		BUKU 4	40	.00179	.03134	.0194205	.00700111
	During	BUKU 2	51	03158	.01592	0009449	.00872852
	Pandemic	BUKU 3	39	01319	.03274	.0061864	.00813057
		BUKU 4	24	.00356	.02004	.0073579	.00357387
BOPO	Before	BUKU 2	85	.59885	2.99310	.9969644	.35263228
	Pandemic	BUKU 3	65	.57229	1.51802	.8053374	.13373680
		BUKU 4	40	.48828	.97194	.7573115	.10514393
	During	BUKU 2	51	.70346	1.71077	1.0253508	.22067490
	Pandemic	BUKU 3	39	.54848	1.16759	.8221605	.13794602
		BUKU 4	24	.61723	.89336	.7946725	.06934599

Source: Output IBM SPSS ver. 25, primary data 2021

The maximum NPL value before the Covid-19 pandemic in BUKU 2 was 15.82%, in BUKU 3 it was 8.83%, and in BUKU 4 it was 13.58%. The minimum NPL value before the Covid-19 pandemic in BUKU 2 is 0%, BUKU 3 is 0.30%, and BUKU 4 is 0.70%. The maximum NPL value at the time of the Covid-19 pandemic in BUKU 2 was 15.39%, in BUKU 3 was 8.56%, and in BUKU 4 was 4.07%. The minimum NPL value during the Covid-19 pandemic was 1.40% in BUKU 2, 1.32% in BUKU 3, and 0.94% in BUKU 4.

The average profitability variable measured by ROA (Return on Assets) before the Covid-19 pandemic in BUKU 2 is -0.26%, in BUKU 3 is 1.42%, and in BUKU 4 is 1.94%. Meanwhile, the average ROA during the Covid-19 pandemic in BUKU 2 was -0.094%, BUKU 3 was 0.61%, and BUKU 4 was 0.73%. These results indicate that both before the Covid-19 pandemic and during the Covid-19 pandemic the BUKU 2 bank group had the lowest average ROA compared to other groups. Compared to the ROA before the pandemic, the entire BUKU group experienced a decline during the Covid-19 pandemic. The maximum ROA value before the Covid-19 pandemic in BUKU 2 is 8.53%, in BUKU 3 is 9.09%, and in BUKU 4 is 3.13%. The minimum ROA before the Covid-19 pandemic in BUKU 2 is -11.72%, BUKU 3 -5.13%, and BUKU 4 is 0.17%. The maximum value of ROA during the Covid-19 pandemic in BUKU 2 was 1.59%, in BUKU 3 was 3.27%, and in BUKU 4 was 2.00%. The minimum ROA value during the Covid-19 pandemic in BUKU 4 it was 0.35%.

The average management efficiency variable as measured by BOPO (Operational Costs to Operating Income) before the Covid-19 pandemic in BUKU 2 was 99.69%, in BUKU 3 it was 80.53%, and in BUKU 4 it was 75.73%. Meanwhile, the average BOPO during the Covid-19 pandemic in BUKU 2 was 102.53%, BUKU 3 was 82.21%, and BUKU 4 was 79.46%. These results indicate that both before the Covid-19 pandemic and during the Covid-19 pandemic the BUKU 2 bank group had the highest average BOPO compared to other groups. Compared to BOPO before the pandemic, the entire BUKU group experienced an increase during the Covid-19 pandemic.

The maximum BOPO value before the Covid-19 pandemic in BUKU 2 was 299.31%, in BUKU 3 it was 151.80%, and in BUKU 4 it was 97.19%. The minimum value of BOPO before the Covid-19 pandemic in BUKU 2 is 59.88%, BUKU 3 is 57.22%, and BUKU 4 is 48.82%. The maximum value of BOPO during the Covid-19 pandemic in BUKU 2 was 171.07%, in BUKU 3 it was 116.75%, and in BUKU 4 it was 89.33%. The minimum value of BOPO during the Covid-19 pandemic in BUKU 2

#### Hypothesis testing

Variables	CAR	NPL	ROA	BOPO	
Chi-Square	15.515	18.575	133.677	101.596	
df	5	5	5	5	
Asymp. Sig.	.008	.002	.000	.000	

Table 2. Kruskal-Wallis Test

Source: Output IBM SPSS ver. 25, primary data 2021

Table 2 shows the results of the study using the Kruskal-Wallis test to determine whether or not there is a difference between the performance of commercial banks in Indonesia in terms of capital (CAR), assets quality (NPL), profitability (ROA), and management efficiency (BOPO) in the period before the Covid-19 pandemic and during the Covid-19 pandemic based on BUKU. From these results, it can be seen that the significance value (Asymp. Sig.) for the capital (CAR) is 0.08 < 0.05, so H1 is accepted. This means that there is a difference in the capital of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic.

The Covid-19 pandemic is an unpredictable risk. Based on descriptive statistical tests, even though the Covid-19 pandemic occurred, the average bank capital in Indonesia tended to increase, this may occur because banks in Indonesia have a level of capital adequacy that is far from the minimum requirement of the central bank (Bank Indonesia), which is 8%. The difference in capital owned by a bank shows the level of bank resilience in facing bank operational risks that have the potential to reduce bank capital. The higher the bank capital, the easier it will be for management to determine the strategies and activities that will be carried out to obtain additional capital. The Indonesian government through the Financial Services Authority (OJK) encourages all BUKU bank groups to increase their capital through OJK Regulation Number 12 / POJK.03 / 2020 which imposes new rules to fulfill the minimum core capital and CEMA (Capital Equivalent Maintained Assets), which is a minimum of IDR 3 trillion. The addition of core capital was carried out to strengthen banking resilience in facing increasingly fierce competition from time to time.

The results of this study indicate that the significance value of the asset quality (NPL) is 0.002 < 0.05 so that H2 is accepted. This means that there is a difference in the asset quality of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic. Based on the descriptive statistical test, all BUKU bank groups experienced an increase in non-performing loans. The development of the spread of the 2019 coronavirus disease (Covid-19) has had a direct or indirect impact on the performance and capacity of debtors in fulfilling their credit obligations to financial institutions. The impact of the decline in performance increases credit risk, which has the potential to disrupt banking performance and financial system stability, which could affect economic growth. To encourage banking performance as an intermediary institution, the Government of Indonesia implemented an economic stimulus policy through regulations made by the financial services authority, namely the Financial Services Authority Regulation of the Republic of Indonesia Number 11 / PJOK.03 / 2020 concerning National Economic Stimulus as a Countercyclical Policy regarding the impact of the Corona Virus Spread 2019. One of the

contents of this regulation is to allow banks to implement a credit restructuring policy for debtors affected by the Covid-19 pandemic. With this regulation, it is hoped that it can reduce the level of bad credit (NPL) that occurred in all BUKU bank groups.

The results of the Kruskal-Wallis test show that there is a difference in the profitability of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic, this can be seen from the profitability significance level (ROA) of 0.000 <0.005, so it can be concluded that H3 is accepted. Based on the descriptive statistical test, all BUKU bank groups experienced a significant decrease in their level of profitability. An increase in provision expenses, recognition of debtor restructuring expenses, and a decrease in the potential for new debtors to add credit can be the causes of lower bank profitability. The decline in the level of profitability indicates a decline in bank performance. On the other hand, profit is an important factor for the survival of a company and is an important indicator of its performance. A bank is a type of company, therefore the level of profit is very important for bank performance (Muda et al., 2013).

The results of this study indicate that there is a difference in the management efficiency of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic, this can be seen from the level of significance of the efficiency management variable (BOPO), namely 0.000 < 0.005. Then the proposed hypothesis (H4) is accepted. Based on descriptive statistical tests, all BUKU bank groups experienced an increase in BOPO values during the Covid-19 pandemic. The increase in the value of BOPO indicates that there is a decrease in the efficiency of OEOI which can cause a decrease in the capability of the bank to earn profits. The BOPO ratio can be used to see the ability of bank managers to manage operating costs and operating income. The small BOPO ratio indicates that the operational costs incurred by banks are more efficient. Based on the provisions of Bank Indonesia (the central bank), a bank is said to be efficient if the BOPO ratio is below 90% (Supeno, 2019). The increase in the BOPO ratio can be caused by a decrease in income caused by the debtor's delay in paying his obligations, but at the same time, operational costs must still be borne by the bank.

### Conclusion

The results of data processing and data analysis using the Kruskal-Wallis test show that there are differences in the capital (CAR), asset quality (NPL), profitability (ROA), and management efficiency (BOPO) of banking companies between BUKU 2, BUKU 3, and BUKU 4 before and during the covid-19 pandemic. The results of this study indicate that in general, the Covid-19 pandemic has an impact on the performance of commercial banks in Indonesia. The limitation in the study that might affect the results of this study is the small number of samples. For further research, it is expected to increase the sample in research such as banks in Indonesia that are not listed on the Indonesian Stock Exchange (IDX). Also, further research can add other bank financial performance variables, so that we can see comprehensively how the impact of Covid-19 on banking companies in Indonesia.

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