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Impact of the Covid-19 Pandemic on Performance of Rural Banks in Central Java – Indonesia

Ngatno[1], Apriatni E.P.[2]
[1,2] Departemen Administrasi Bisnis, Universitas Diponegoro, Semarang, Indonesia

ABSTRACT: This study aims to analyze the impact of the COVID-19 pandemic on the performance of conventional rural banks in Central Java. The data used in this study is panel data from 175 companies for 4 years (2018 to 2021). The data is in the form of rural bank financial reports obtained by downloading from the Financial Services Authority (FSA) website. Data analysis was carried out descriptively and inferentially. Inferential analysis was used to test the proposed hypothesis, namely the paired sample t-test. The results of this study indicate that Covid-19 has a significant negative impact on rural bank performance, namely reducing Return On Assets (ROA) and Loan to Deposit Ratio (LDR) and increasing Non Performing Loans (NPL).

KEY WORDS: Covid-19 pandemic, Financial performance, LDR, NPL, ROA.

1. INTRODUCTION

Increasing economic growth and public welfare are one of the goals and targets of a country, so a strong banking institution is needed. The role of the bank is intended to facilitate payment traffic, as well as the collection and distribution of funds. Therefore, the failure of a bank can result in the stability of a country's economy (Perwej., 2019).

Rural Bank is one of the micro banks that functions to collect funds and channel funds, especially from small and medium enterprises (SMEs). SME sector plays a very large role in the Indonesian economy, which can provide a very large contribution. The number of MSME business sectors in Indonesia in 2021 will reach 64.19 million with a contribution to gross domestic product (GDP) of 61.97 per cent or Rp. 8.6 trillion. The SME sector also has a role in improving Indonesia's economy, as seen by its ability to absorb 97 per cent of the workforce and integrate investment of 60.4 per cent. Thus, the role of microfinance institutions (micro banks) is indispensable for the development and growth of SMEs in Indonesia.

In general, the success of a business (including banking) is influenced by internal environmental factors and company external factors. Internal factors consist of elements that exist within the company such as financial conditions, labour, marketing and operations. This factor is a source of company strengths and weaknesses which are controllable. According to David, (1993) external factors are uncontrollable and are a source of opportunity or otherwise a threat to the company.

One of the company's external factors that has recently made it the center of attention of many countries, including Indonesia is Covid 19. Corona virus is one of the external factors that will hamper Indonesia's economic growth. The COVID-19 pandemic has proven to have put pressure on economic and social conditions throughout Indonesia since the end of 2019. The economy of each region is threatened, coupled with worse regional conditions than before. Because of this, the Indonesian government immediately took aggressive steps so that the spread rate could be suppressed as much as possible.

Several studies have shown that the COVID-19 pandemic is not a crisis triggered by a credit boom but it is proven that it has a negative impact on increasing non-performing loans (Ari, Chen, & Ratnovski, 2020). Subsequent findings conducted in 30 commercial banks in Bangladesh showed that all banks tended to experience a decline in the value of risk-weighted assets, capital adequacy ratios, and interest income in each bank. (Barua & Barua, 2021). Furthermore, the results of Perkins & Gnanarajah, (2020) showed that Covid-19 had an impact on decreasing bank income, but not significantly on two indicators of bank health (loan performance and capital level). Meanwhile, the impact of Covid-19 on return on equity (ROE) and net operating margin (NOM) had a significant effect (below 10%) but not significant on return on assets (ROA) and operating expense to income ratio (OEIR) (Sutrisno, Panuntun, & Adristi, 2020). Some of these studies show that the impact of Covid-19 on bank performance is not always negative, everything is done at financial institutions in the form of corporations has not reviewed the performance of financial institutions or micro banks (MFIs). These microfinance institutions have different customers from large financial institutions. Therefore, this study aims to fill this void by taking the object of microfinance institutions (MFIs). As we know that the customers

 *Corresponding Author: Apriatni E.P.

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of these MFI institutions are the lower middle class people who are most economically affected by Covid-19. This is corroborated by previous research which showed that the negative impact of COVID-19 on company performance was more pronounced when the scale of investment or company sales revenue was smaller (Rababah, Al-Haddad, Sial, Chunmei, & Cherian, 2020).

2. LITERATURE REVIEW

In order to reduce the impact of COVID-19 transmission on the performance of business activities, including banks and their partners, the government issued Government Regulation No. 21 of 2020. The announcement of COVID-19 and the government regulations caused limited business activities in Indonesia. There was a decrease in demand as a result of a decrease in the income variable, which was inversely proportional to the fixed costs incurred as operational costs. Rural bank owners have difficulty maintaining income resulting in failure to compete. This will be a risk for the lender rural bank, which will then be reflected in the level of credit risk and the financial performance of a bank.

Rural bank operating income is obtained through operational transactions such as credit income and additional income in banking services. Credit income is obtained from debtor fees, while bank service income is obtained from operational services such as administrative fees, transfer fees and other services. As we know that the announcement of COVID-19 in Indonesia and the imposition of restrictions on community activities, bank operating income has decreased both in terms of credit income and banking service income. Credit income decreased because most business actors experienced a decrease in income to the risk of bankruptcy so that the target for distributing credit funds was hampered, then the risk of non-performing loans increased and could reduce bank income. Thus, Covid-19 will decrease the ROA level of rural bank. Therefore, it can be hypothesized as follows:

H_1: ROA during the Covid 19 pandemic is lower than before the COVID-19 pandemic.

Banks need to establish strategies to stay ahead and stable, for example by improving digital services. The bank is said to be not experiencing financial difficulties so that it does not affect the stability of bank liquidity. During the current pandemic, the savings or ratio that measures by Loan to Deposit Ratio (LDR) remains stable, where the deposit/saving is increasing, but the problem is that credit continues to decline, demand for credit from the public decreases.

The ratio of loans to third party funds called LDR is an indicator used to explain whether or not the intermediation function of a bank is good. If more and more loans are processed with third party funds, this is evidence of stable banking conditions. However, if the allocation of credit financed from third-party funds is reduced, the situation is not good because the third party funds are out of the hands of the public and are used for purposes such as issuing Bank Indonesia Certificates (BIC) and as cash supplies. The growth of the LDR trend shows that when the number of Covid-19 cases is higher, the LDR decreases. Deposit/savings are getting higher due to the increase in savings and savings deposits. Credit demand tends to decrease, but unfavourable economic conditions make savings increase because people are more willing to save and spend less money. From the banking side, applying the principle of prudence while maintaining consistency in lending. As we know that people's credit banks operate for microeconomic actors, thus lending activities and savings activities will be disrupted by the presence of COVID-19. Therefore it can be hypothesized :

H_2: LDR during the Covid 19 pandemic is lower than before the COVID-19 pandemic..

Non-performing loans are loans that have difficulty repaying due to intentional factors or other factors beyond the control of the prospective debtor. (Yurttadur, Celiktas, & Celiktas, 2019). The NPL ratio shows the ratio of non-performing loans which is a measure of credit and financing risk that is predicted to be affected by the COVID-19 announcement phenomenon.

According to Vacca, Carpinelli, & Cascarino, (2016) that the management of non-performing loans can absorb 2.8% of bank operating costs. The resulting credit pressure pushes the economy into recession or slow growth (Al-kharusi & Murthy, 2020). As of July 2020, the Financial Services Authority noted that the NPL ratio fell to 3.38% in May 2020. However, this decline is considered insignificant, because before the COVID-19 pandemic, banking in Indonesia experienced significant developments (Setiawan & Sherwin, 2017).

Furthermore, non-performing loan financing can affect liquidity and solvency which has an impact on customer confidence, prospective customers and bank performance (Muhammad, Suluki, & Nugraheni, 2020). Trust, confidence, and soundness of banks can result in efficient performance to survive and compete between industries (Zeitun & Benjelloun, 2012). Therefore it can be hypothesized as follows :

H_3: NPL during the Covid-19 pandemic is higher than the NPL before the COVID-19 pandemic.

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3. METHOD

This study uses panel data from 174 privately owned conventional rural banks in Central Java. The data is in the form of quarterly reports (end of March, June, September, and December) from 2018 to 2019 (before the Covid-19 pandemic) and 1920 to 2021 (during the Covid-19 pandemic). The data before the pandemic amounted to 1392 data and during the pandemic, there were 1392 data. Data was obtained by downloading reports from each rural bank. Data analysis was carried out descriptively and inferentially. Inferential analysis was carried out to test the proposed hypothesis, namely the paired sample t-test. Table 1 is the measurement of each rural bank's performance.

Table 1: Definitioan and formula of variables

Vartiables	Definition	Formula
ROA	The term return on assets (ROA) refers to a financial ratio that indicates how profitable a company is in relation to its total assets.	$\text{ROA} = \frac{\text{Net Income}}{\text{Total Asset}} \text{x } 100\%$
LDR	The loan-to-deposit ratio is used to assess a bank's liquidity by comparing a bank's total loans to its total deposits for the same period	$\text{LDR} = \frac{\text{total loan}}{\text{total deposit}} \text{x } 100\%$
NPL	NPL, is the ratio of the amount of non-performing loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds.	$\text{NPL} = \frac{\text{Non Performing loan}}{\text{Total loan}} \text{x } 100\%$

4. RESULT AND DISCUSSION

4.1. Descriptive analysis

The data depiction is presented in Table 2 regarding the performance of rural banks before and during the covid-19 pandemic. The performance of this rural bank is measured by profitability, liquidity and credit risk factors. The Profitability factor is measured by Return on Assets (ROA). Before the Covid-19 pandemic, the ROA factor had the lowest value of -43.98 and the highest of 27.54 and the average ROA was 3.24 with a standard deviation of 3.42. Meanwhile, during the Covid-19 pandemic, the ROA factor had the lowest value of -14.66 and the highest of 16.49 and the average ROA was 2.83 with a standard deviation of 2.49. Thus, the average ROA during the Covid-19 pandemic has decreased.

The Liquidity Risk Factor is measured by Loan to Deposit Ratio (LDR). Before the Covid-19 pandemic, the LDR factor had the lowest value of 2.12 and the highest of 200.15 and the average LDR was 80.98 with a standard deviation of 11.79. Meanwhile, during the Covid-19 pandemic, the LDR factor had the lowest value of 7.17 and the highest of 254.18 and the average LDR was 78.46 with a standard deviation of 11.96. Thus, the average LDR during the Covid-19 pandemic has decreased.

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA_BEFORE	1392	-43.98	27.54	3.24	3.43
ROA_AFTER	1392	-14.66	16.49	2.83	2.49
LDR_BEFORE	1392	2.12	200.15	80.98	11.79
LDR_AFTER	1392	7.17	254.18	78.46	11.96
NPL_BEFORE	1392	0.00	47.00	7.63	6.65
NPL_AFTER	1392	0.00	52.21	8.10	6.00
Valid N (listwise)	1392				

Credit Risk Factor is measured by Non-Performing Loan (NPL). Based on table 2, before the Covid-19 pandemic, the NPL factor had the lowest value of 0.00 and the highest of 47.00 and the average NPL of 7.63 with a standard deviation of 6.65. Meanwhile,

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during the Covid-19 pandemic, the NPL factor had the lowest value of 0.00 and the highest of 52.21 and the average LDR was 8.10 with a standard deviation of 6.00. Thus, the average NPL during the Covid-19 pandemic has increased.

4.2. Hypothesis Testing

The Inferential analysis is used to test the proposed hypothesis. Hypothesis testing was carried out with paired samples t-test. The results of this test are presented in Table 3. Testing the impact of COVID-19 on the performance of rural banks in this study was measured by 3 variables, namely ROA, LDR and NPL.

Impact of the Covid-19 Pandemic on ROA

The results of the analysis show that banking performance indicators with an assessment of profitability/profitability factors as measured by ROA, there is a significant difference between the ROA of the period before the announcement of the first Covid-19 case in Indonesia and the ROA of the period after the announcement of the first case of Covid-19 in Indonesia. As shown in Table 3 shows a significant difference with the value of $t = 4.575$ and the sign value $0.000 < 0.010$. The results of this study accept hypothesis 1 (H_1) which states that ROA of Conventional BPR before COVID-19 is higher than ROA during COVID-19. This study supports another study conducted by Lasak, (2021) that commercial banks in the euro zone were affected by the pandemic situation, especially in terms of lending activity and profitability. This research also supports research conducted previously which showed that in the first months of the COVID-19 crisis it significantly affected the entire banking sector (Aldasoro, Fender, Hardy, & Tarashev, 2020). In addition, this study also supports the research of Shen, Fu, Pan, Yu, & Chen, (2020) which showed that the Covid-19 pandemic had a significant negative impact on the performance of Chinese issuers due to a decrease in the total value of income which resulted in a decrease in ROA. The results of the real difference test show that the announcement of the first case of Covid-19 in Indonesia resulted in a significant decrease in the profitability factor as measured by ROA, thereby reducing the ability of rural banks to manage controlled assets. Therefore, the effectiveness of the company in generating profits by utilizing the assets owned by the company is decreasing.

Impact of the Covid-19 Pandemic on LDR

Based on Table 3 shows that the liquidity risk assessment as measured by LDR there is a significant difference between the LDR period before the announcement of Covid-19 in Indonesia and the LDR period after the announcement of the first case of Covid-19 in Indonesia with $t = 7.515$ and sign $0.000 < 0.010$. Therefore, the results of this study accept hypothesis 2 (H_2) which states that the LDR before the announcement of Covid 19 was higher than during COVID-19. Furthermore, it can be explained that the Covid-19 pandemic has a negative impact on the liquidity of rural banks in Indonesia. The results of this study are in line with previous research which stated that the overall financial performance of Chinese companies has decreased in all industries since the Covid-19 pandemic hit China (Jordà, Singh, & Taylor, 2022). This study also supports previous research based on data from 118 banks registered in 28 countries in the first months of the COVID-19 crisis showing that the entire banking sector was significantly affected (Aldasoro et al., 2020). In addition, this study also supports other research showing that the Covid-19 pandemic can reduce company revenues, which in turn lowers company performance (Liu, Wang, & Lee, 2020; Narayan, Phan, & Liu, 2021).

Table 3: Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	ROA_BEFORE - ROA_AFTER	0.40687	3.31799	0.08893	0.23241	0.58132	4.575	1391	0.000
Pair 2	LDR_BEFORE - LDR_AFTER	2.51866	12.50403	0.33514	1.86122	3.17610	7.515	1391	0.000
Pair 3	NPL_BEFORE - NPL_AFTER	-0.46841	6.31666	0.16930	-0.80053	-0.13629	-2.767	1391	0.006

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Impact of the Covid-19 Pandemic on NPL

The results of the analysis in Table 3 show that the credit risk assessment as measured by NPL has a significant difference between the NPL period before the announcement of the first Covid-19 case in Indonesia and the NPL period after the announcement of the first Covid-19 case. This difference shows that the NPL before the announcement of the Covid-19 pandemic was lower than during the Covid-19 pandemic with a value of t = -2.767 and a sig value of 0.006 < 0.010. Therefore, the results of this study accept hypothesis 3 (H_3) which states that the NPL before the COVID-19 pandemic was lower than the NPL during the COVID-19 pandemic. The results of this study support previous research showing that there has been a decline in all industrial sectors since the Covid-19 pandemic (Jordà et al., 2022). This study also supports another study which showed that commercial banks in the euro zone were affected by the pandemic situation which resulted in a sizeable increase in non-performing loans (Lasak, 2021). This research is also in line with research conducted on 118 registered banks in 28 countries which showed that the entire banking sector was significantly affected by the pandemic situation (Aldasoro et al., 2020). In addition, this study also supports other research which states that the Covid-19 pandemic reduces company revenues, which in turn lowers company performance (Liu et al., 2020; Narayan et al., 2021). The results of a different test show that the announcement of the first case of Covid-19 in Indonesia resulted in a significant increase in credit risk as measured by NPLs at rural banks, where banks experienced an increase in financing risk due to the higher number of non-performing loans. Decreased credit distribution due to the Covid-19 pandemic as well as the decreased level of bank ability to fulfill loans submitted by debtors without any temporary suspension.

5. CONCLUSION AND SUGGESTIONS

Based on the results of data analysis and discussions that have been carried out, it can be concluded that the performance indicators of rural banks (BPR) in the form of profitability/profitability factors as measured by ROA, there are significant differences between before and after the announcement of the first case of Covid-19 in Indonesia on 2 March 2020. Therefore, the existence of Covid-19 has a negative impact on the profitability of the rural bank, namely lowering the level of company profitability. Likewise, it has a negative impact on the degree of liquidity of rural banks, which from this study shows a significant difference in banking liquidity risk as measured by LDR between before and after the announcement of the first case of Covid-19 in Indonesia on March 2, 2020. Therefore, the existence of Covid-19 has a negative impact on the liquidity risk of rural banks, namely reducing the liquidity level of micro-scale banks. Finally, the results of this study also show that Covid-19 can increase the number of non-performing loans (NPL).

Based on the results of the analysis and conclusions, some suggestions can be given to companies, the government in this case the Financial Services Authority and further research. The results of this study indicate that in general banking has experienced a decline in performance during the Covid-19 pandemic, therefore, it is recommended for every company to pay attention and pay attention to the impact of an external event on the bank's financial performance which is then taken into consideration in evaluating performance, make decisions and formulate corporate strategies so that managed banks can still perform well and still earn the trust of consumers/customers. The government through the Financial Services Authority (FSA) is advised to pay attention and re-evaluate plans to encourage a credit restructuring policy that has been distributed to SMEs, to reduce the level of non-performing loans. This study emphasizes the object of micro-scale banking with an accounting approach through the calculation of financial ratios and sees whether the occurrence of an event has a negative impact on company performance. Therefore, the results of this study can be developed to examine the impact of Covid-19 on other sectors such as manufacturing, services, and trade.

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