Research article

Bank Performance Based on Core Capital Amid the COVID-19 Pandemic in Indonesia

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Abstract.
COVID-19 has had an impact on banking, liquidity and credit. The Financial Services Authority (OJK) has tried to mitigate some of these effects with countercyclical policies as stated in OJK regulation number 11/POJK.03/2020. It is however unclear whether the policy can reduce banking risk in the midst of easing or relaxation policies. This research employed secondary data taken from the Indonesian banking statistics published by OJK. Indicators of bank performance used in the study referred to the policies of the OJK and comprised: capital adequacy ratio, core capital ratio to risk-weighted asset, return on assets ratio, operational efficiency ratio, net interest margin ratio, loans to deposits ratio, and liquid assets ratio. The performance index analysis was divided into two periods: January 2017- February 2020 and March 2020 - February 2021. The period was divided to determine the quality of bank performance before and after the stipulation of restructuring policy. The index calculation was carried out by determining the weight based on the dimensions (bank performance indicators). The weight given to each of these indicators was conformed to all indicators. The analysis of the bank performance used the composite index of development calculation. Based on the results, the availability of bank capital affected financial performance. The implementation of countercyclical policies had an impact on bank performance in banks that had greater availability of capital. Banks can evaluate and improve strategies in countercyclical implementation to support national economic recovery.

Keywords: core capital, CAR, CCR to RWA, ROA, OER, NIMR, LDR

0.1. Introduction

The Covid 19 pandemic has been happening for more than a year yet the number of positive cases in several countries is still increasing. In fact, several countries such as South Korea, which once retreated the restriction, must have applied social restrictions on May 29, 2020, due to soaring positive cases. The third wave of the COVID tsunami also occurred in India in 2021. Meanwhile, the number of COVID cases in Indonesia remains fluctuating.

Governments in every country have attempted to issue policies to stop the spread of the COVID-19 [1-3]. Policies carried out by the Indonesian government include Government Regulation number 21 of 2020 on Large-Scale Social Restrictions (PSBB). The curve of the COVID in Indonesia gets worsened and if it is prolonged it may affect

various sectors, namely primary sector and tertiary sector [4]. Pandemic has an impact on the risk of global economic loss that is considered not trivial [5]. Appropriate long-term planning and action are required to promote sustainable growth in various sectors.

A tertiary sector affected by COVID-19 is the financial industry, which is the banking sector. Once the Indonesian government does not carry out a prompt and precise policy, it is feared that it will trigger an economic crisis such as that which occurred in 2008. The policy uncertainty taken by the government in response to the COVID-19 will lead to the fluctuating market and difficulty in forecasting , market sentiment and panic [6]. The major risk encountered by the banking sector in the crisis is an increase in bad debts [7]. [8] expresses that bad debt is an essential element that supports credit risk management.

Diminishing bad debt with the right policies may reduce credit risk by banks. [9] suggest that central bank regulation in the U.S. The Federal Reserve of interest rates for financial stability is influenced by another important variable, including non-performing loans. [10] conducted an analysis of ex-post credit risk through bad debt and real GDP growth for financial stability. The results show that an economic recession leads to higher NPL levels. The bank's ability to collect credits paid by debtors will decrease as the debtors' ability to pay their obligations at the same time will decline. The COVID-19 pandemic influences the increasing liquidity risk [11]. The risk of bad debt and liquidity risk will affect bank stability [12-13]. The bad debt settlement period will burden the liquidity of financial institutions [14].

Mitigation performed by the Indonesian government is to pressure the risk of bad debt and liquidity with a restructuring policy issued by the Financial Services Authority (OJK). Whether the restructuring policy is beneficial for banks or, otherwise, pushes them will influence the crisis and bank bankruptcy amid the COVID-19. This research is expected to contribute to making the right policies by the government to optimize the role of banks as financial intermediaries.

1. Literatur Review

Several researchers who have tested countercyclical policies on finance were carried out by [15-26]. Furthermore, [17-23] show that countercyclical policies can mitigate and reduce bank liquidity risk. [23] stated that the countercyclical policy helped reduce systemic risk in the financial system in China. [17], examines the effect of countercyclical monetary policy with the application of short-term interest rates and reserve require-ments. The results show that this policy reduces consumption volatility and its effect

becomes quantitatively relevant if banks are risk-averse. Meanwhile, [15] and [19] state that countercyclical policies are more effective if they are supported by the availability of adequate capital.

Similarly, several studies conducted by [9, 27] stated that countercyclical monetary policy can help control the risk of bad loans in the banking sector. In his study [28] that a crisis like Covid-19 will raise negative expectations of economic conditions. Meanwhile, [29] argues that countercyclical policies are effective in crisis threats because credit risk increases. Monetary policy by increasing the money supply to encourage people to carry out consumption and production activities. These activities encourage economic activity to reduce the impact of the economic recession.

Likewise, several studies conducted by [15-17]. Furthermore, [15] examined the spillover from macroprudential policies that emerged due to the presence of foreign banks. Weak regulations further increase the presence of these foreign banks. The test was carried out using the DSGE model and the results showed that the countercyclical policy was able to maintain the stability and profitability of local banks. [16], who uses a profit to provisioning approach in the macroprudential policy-making process. Pfeifer developed the Banking Prudence Indicators (BPI) to capture the cyclical risk of loan profit and loss. The results show that countercyclical policies by maintaining the availability of capital can reduce banking systemic risk. [17] stated that the optimization of the countercyclical buffer policy in the Basel III regulation can be done by setting low-interest rates.

[18] Stated that countercyclical policies are more effective than monetary policies in promoting price, financial and macroeconomic stability. The countercyclical policies in Basel III can reduce the trade-off between output and inflation faced by the central bank during the financial crisis. [19] Examines the effect of macroprudential policies in mitigating shocks due to foreign investment in the banking sector. Based on the test results indicate that the policy affects the stability of large banks and small banks. The implementation of countercyclical policies helps both large and small banks in maintaining financial stability.

The focus of countercyclical monetary policy as revealed by several researchers above is also carried out by [20-21]. The results of his research show that to maintain the financial stability of banks, capital availability is needed. This is an anticipatory step in the event of a spike in credit risk. The same thing was conveyed by those who highlighted indications of the availability of capital to encourage banking stability. An indication of this availability can be seen from the growth rate of credit to Gross Domestic Product [22].

Likewise, as stated by [23] that to maintain banking stability, capital adequacy is needed to minimize losses due to the increase in bad loans. Basel III capital adequacy regulation with countercyclical implementation in maintaining bank profitability. [24] using the Supervisory Capital Assessment Program (SCAP) and Comprehensive Capital Analysis and Review (CCAR) to test banking stability in the US, the results support the Risk Management Hypothesis that banks tend to reduce the amount of credit, especially to borrowers who are relatively risky to reduce bank risk.

2. Research Methods

This study utilized secondary data extracted from the Indonesian Banking Statistics (SPI) published by the Financial Services Authority (OJK). Data analysis starts from January 2017 to February 2021. Meanwhile, the variables used as indicators of bank performance refer to the OJK's policies. These banking performance indicators are Capital Adequacy Ratio (CAR), Core Capital Ratio to Risk-Weighted Asset (RWA), Return on Assets Ratio (ROA), Operation Efficiency Ratio (OER), Net Interest Margin Ratio (NIMR), Loan to Deposits Ratio (LDR), and Liquid Assets Ratio (LAR).

Analysis of the bank performance used the approach of Composite Index of Development calculation (OECD in [25]). According to this index, it is expected that the quality of bank performance growth can be identified. The growth quality analysis is explained following the category of Capital Perspectives (BUKU). The BUKU category is referred to as Bank Indonesia Regulation No.14/26/PBI/2012. In this study, BUKU 1 was not analyzed due to the data availability.

The performance index analysis will be divided into two periods, namely January 2017- February 2020 and March 2020 - February 2021. The periods are divided to determine the quality of bank performance before and after the stipulation of policy number 11/POJK.03/2020. Given bank performance indicators, CAR, CCR to RWA, ROA, OER, NIMR, LDR, and LAR have the same unit, which is a percentage (%). Hence, there is no normalization process in this study. Furthermore, the calculation process of the composite index was carried out using the Max-Min formula as follows:

$$Z = \frac{X - Xmin}{Xmax - Xmin}$$

X : the value of each data

Xmin : X minimum value

Xmax : X maximum value

The max-min method is not substantially different from the Z-score method. When using the Z-Score, the calculation will produce negative and positive numbers in an infinite range, which sometimes complicates the process of drawing conclusions. By using the max-min method, the Z-Score value will be transformed into between 0 and 1. Thus, the max-min method is intended to convert the Z-Score value to help draw conclusions. The results of the processing above are in the form of scores or indexes, the closer the score to 1, the better the quality of performance growth is.

3. Results and Analysis

The following is the calculation of the Max-Min value of bank performance based on CAR, CCR to RWA, ROA, OER, NIM, LDR, and LAR in BUKU 2, BUKU 3, and BUKU 4. Performance indicators based on CAR values reflect the bank's ability to provide adequate capital to overcome the possibility of the risk of loss. A high CAR value indicates that the bank's ability to provide minimum capital adequacy is better. CCR to RWA reflects a bank's ability to manage paid-in capital, donated capital, or post-tax profit reserves as core capital compared to Risk-Weighted Assets (RWA). ROA implies the bank performance that reflects the ability to make a profit. OER defines the bank's ability to manage the efficiency of operating expenses compared to operating revenue. NIM shows the bank performance in generating profits based on the management of productive assets. LAR is the bank's ability to manage liquid assets.

TABLE 1: Composite Index of BUKU 2, BUKU 3 and BUKU 4 in the January 2017-February 2021 period

Performance Indicator	Weight	buku 2	buku 3	buku 4	buku 2	buku 3	buku 4
CAR	0,14	0,8713	0,8912	0,0000	0,1245	0,1273	0,0000
RWA	0,14	0,9287	0,7197	0,0000	0,1327	0,1028	0,0000
ROA	0,14	0,0024	0,2440	1,0000	0,0003	0,0349	0,1429
OER	0,14	0,0808	0,0624	1,0000	0,0115	0,0089	0,1429
NIM	0,14	0,5395	0,0000	0,9992	0,0771	0,0000	0,1427
LDR	0,14	0,1044	1,0000	0,1201	0,0149	0,1429	0,0172
LAR	0,14	0,8306	0,3913	0,0783	0,1187	0,0559	0,0112
Total					0,4797	0,4727	0,4568

Source: processed data

Based on the composite index calculation in Table 1, it displays the general performance of BUKU 2, BUKU 3, and BUKU 4. The Composite Index shows that

the performance of BUKU 2 in general during the January 2017-February 2021 period had a higher value than BUKU 3 and BUKU 4.

TABLE 2: Composite Index of BUKU 2, BUKU 3 and BUKU 4 in the January 2017-February 2020 period.

Performance Indicator	Weight	buku 2	buku 3	buku 4	buku 2	buku 3	buku 4
CAR	0,14	0,9265	0,8569	0,0000	0,1324	0,1224	0,0000
ATMR	0,14	0,9498	0,6405	0,0000	0,1357	0,0915	0,0000
ROA	0,14	0,0000	0,2263	1,0000	0,0000	0,0323	0,1429
BOPO	0,14	0,0959	0,0115	1,0000	0,0137	0,0016	0,1429
NIM	0,14	0,4705	0,0000	1,0000	0,0672	0,0000	0,1429
LDR	0,14	0,0836	1,0000	0,1370	0,0119	0,1429	0,0196
LAR	0,14	1,0000	0,2498	0,0094	0,1429	0,0357	0,0013
Total					0,5038	0,4264	0,4495

Source: processed data

Based on the calculation of the composite index in Table 2, it concludes the general performance of BUKU 2, BUKU 3, and BUKU 4. The Composite Index shows that the performance of BUKU 2 in general during the January 2017-February 2020 period had a higher value than BUKU 3 and BUKU 4.

Considering Table 1 and Table 2, the bank performance is compared upon BUKU 2, BUKU 3, and BUKU 4. The comparison of BUKU's performance is categorized into two periods, namely January 2017- February 2021 and January 2017- February 2020. The division is to determine the performance before and during the implementation of regulation number 11/POJK.03/2020. The performance comparison for the January 2017-February 2021 period indicates the period before the stipulation of the regulation.

The performance of BUKU 2 in general in the January 2017-February 2020 period had a value of 0.5038, higher than the performance of BUKU 2 in the January 2017-February 2021 period of 0.4797. It means that the implementation of POJK regulations in banks included in the BUKU 2 generally has not shown any improvement in their performance. Some researchers who support this study are [26, 27] suggesting that countercyclical policies cannot improve bank performance.

The performance of BUKU 3 in general based on indicators of CAR, CCR to RWA, ROA, OER, NIM, LDR, and LAR in the January 2017- February 2020 period showed a value of 0.4264, which is lower than the performance of BUKU 3 in the January 2017-February 2021 period of 0.4727. It signifies that the POJK policies applied to banks included in the BUKU 3 group are more optimal than the performance of BUKU 2.

In general, the performance of BUKU 4 based on indicators of CAR, CCR to ATMR, ROA, BOPO, NIM, LDR, and LAR for the period January 2017- February 2020 displayed a value of 0.4495, lower than the performance of BUKU 4 during the January 2017-February 2021 period of 0.4568. It implied that the POJK policies applied to banks

included in the BUKU 4 group are more optimal than the performance of BUKU 2. The research results on BUKU 3 and BUKU 4 are supported by research by [23, 28-30] discovering that countercyclical had a positive impact on bank performance.

4. Conclusion

Based on the composite index, it found the quality of bank performance growth. The performance is generally based on indicators of CAR, CCR to ATMR, ROA, OEOI, NIM, LDR, and LAR. The performance of BUKU 2 generally in the January 2017-February 2020 period showed a value of 0.5038, higher than the performance of BUKU 2 in the January 2017-February 2021 period of 0.4797. It indicates that the implementation of POJK regulations in banks included in the BUKU 2 category generally has not shown any improvement. The performance of BUKU 3 in general during the January 2017-February 2020 period showed a value of 0.4264, lower than the performance of BUKU 3 in the January 2017-February 2021 period of 0.4727. It translates that the POJK policies applied to banks included in the BUKU 3 are more optimal than that of BUKU 2's performance. The general performance of BUKU 4 in the January 2017-February 2020 period showed a value of 0.4495, lower than the performance of BUKU 4 in the January 2017- February 2021 period reaching 0.4568. It means that the POJK policies applied to banks included in the BUKU 4 group are more optimal than the performance of BUKU 2.

Authors' Contributions

Fitri Susilowati : Conceptualization, Writing, Formal Analysis

Hari Purnama : Conceptualization, Review, Data Collection

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