Bank Risk, Profitability and Capital Buffer in Conventional Listed Banks on BEI Period 2017-2019

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IJMSSSR 2021
VOLUME 3
ISSUE 5 SEPTEMBER - OCTOBER **ISSN: 2582 - 0265**

Abstract: This study aims to examine the effect of bank risk and profitability toward capital buffers in the conventional banking sector in Indonesia. The independent variable in this study is bank risk which consists of credit risk measured using non-performing loans (NPL) and liquidity risk measured using loan to deposit ratio (LDR). Profitability is measured using return on equity (ROE). The dependent variables are capital buffer is measured using the difference in capital adequacy ratio (CAR) determined by the government with the CAR of the banking sector. The research population is the banking sector listed on the IDX for the 2017-2019 period. The Sampling technique using purposive sampling method with a total sample of 37 banks. The results showed that liquidity risk, credit risk and profitability had a significant negative effect on the capital buffer.

Keywords: NPL, LDR, ROE, CAR

Introduction

The majority of economic activities have used banking services. Banks are intermediary institutions between debtors and creditors. Bank capital is an important issue in supporting its operational activities and being able to compete globally (Sari, 2013). Bank regulates bank capital requirements as measured by the capital adequacy ratio or CAR. CAR is a regulation on additional capital reserve requirements where this capital reserve will be used as a buffer when the economy is experiencing an expansion phase and can be used when the economy is experiencing a contraction phase. Provisions for the CAR in banks must have a minimum amount of capital of 8% of Risk Weighted Assets (RWA). The high CAR value, the bank is able to finance operational activities and make a sizeable contribution to profitability (Hidayati, 2015).

Basic rules in Central Bank are the rules of the Basel Committee on Banking Supervision (BCBS). In 1988, the Basel Accord I was issued, which requires banks to have a minimum capital of 8% of the RWA. On 2006 is updated to Basel II to increase the security and health of the financial system that focuses on capital calculation is based on three pillars: minimum capital requirements, supervisory review process, and market discipline. In 2008 it was updated to Basel III to strengthen the quality and quantity of higher bank capital and have to provide sufficient capital reserves (buffers) that must be owned by banks. The microprudential regulatory system was strengthened so that the health and resilience of individual banks in facing of crises would increase. The microprudential context was explaining the importance of providing adequate capital reserves (buffers) of the banks, namely by requiring the establishment of a conservation buffer. Basel III covers macroprudential aspects by developing indicators to monitor the level of procyclicality of the financial system and requiring banks to prepare buffers during a good economy (boom period) in order to absorb losses during a crisis (boost period) by a countercyclical capital buffer, as well as a functioning capital surcharge to reduce the negative impact on financial system stability and the economy in the event of a bank failure to absorb losses (Central Bank of Indonesia, 2016). Basel III was implemented in Indonesia in 2019, by the changes to the minimum capital rule of 13%.

The factors that affect bank capital buffers such as banking risk, profitability, governance of the bank and macroeconomics factors. Liquidity risk is the inability to liquidate in a timely manner at a reasonable price (Muranaga & Ohsawa, 2002). The banks must be able to maintain their liquidity to meet short-term needs in the form of withdrawing funds from depositors. The higher the disbursement of bank credit, the bank requires high liquidity. Each plan to increase credit must be followed by the additional capital so that it can be concluded that

when the high liquidity risk, it requires high capital as well.

The Credit risk is the inability of the contractual party to fulfill its current commitment to the bank in accordance with the agreed terms (Brown & Moles, 2008). The increase of credit risk, it need more capital for their operations. Profitability is the company's ability to generate profits. The increasing of profitability, the possibility of the high retained earnings, so the increasing of banking capital. This study aims to examine and analyze the effect of bank risk and profitability on capital buffer .

Literature Review

Jokipii and Milne (2008) define capital buffer as the amount of bank capital held in excess of the amount required by national regulations or known as the Statutory Reserves (GWM). Bank Central Regulation (PBI) No.11/25/2009, the definition of liquidity risk is the risk of a bank due to the inability of a bank to meet its maturing bank obligations from cash flow funding and or liquid assets without disturbing the bank's daily activities. The liquidity risk is measured using the loan to deposit ratio (LDR). The credit risk is a factor of uncertainty that revealed the inability of the contractual parties to meet current commitments to banks in accordance with the agreed conditions (Brown & Moles, 2008). The credit risk is measured using non-performing loans (NPL). In addition, the bank risk factors affecting other capital buffer is profitability. Profitability is the ratio used to assess the company's ability to seek profit (Kasmir, 2016). The profitability is measured by return on assets (ROA) and net profit margin (NPM).

The liquidity in the bank's company have function as a precaution to meet the needs of short-term debt, as a pull funds from depositors and also the submission of credit from customers. The higher the lending that can be done by a bank, the bank will be required to be able to provide higher sources of funds. The credit expansion plan must be supported by additional capital, because, without the credit expansion will have an impact on decreasing the bank's CAR (Haryanto, 2015). The other risks and determinants, liquidity risk has long been recognized as a significant threat to the management of financial institutions and financial system stability (Khan et al. 2016). The Bank to be able to maintain a buffer of liquidity to manage liquidity risk and also to be able to ensure the liquidity of small shocks. Hong et al. (2014) show that systematic liquidity risk was an important contributor to bank failures that occurred during 2009–2010 following the 2007–2008 Global Financial Crisis (GFC). They reveal that liquidity risk can lead to bank failure through systematic and idiosyncratic channels. The maintaining and managing liquidity risk has proven to be important for a company, especially a bank, in maintaining its business activities. Belem and Gartner (2016) found that liquidity risk has a positive effect on the capital buffer. Haryanto (2015) found that liquidity risk has a positive effect on the capital buffer. Sutrisno (2018) and Annie (2020) found that the effect of liquidity risk has negative effect to the capital buffer.

H1: Liquidity risk has a significant positive effect toward capital buffer

The credit risk is the arises due to the failure of the debtor or other party to fulfill their obligations to the bank (Annisa 2020). The credit risk is measured using NPL is the ratio of bad loans to total lending loans (Jiang et al., 2020). The high credit risk indicates that there are many customers or debtors who are unable to pay their credit, resulting in hampered bank operational activities and hampered bank growth. When the NPL is high, the bank needs more funds to finance the bank's operational activities so that the capital buffer is also larger. A high NPL indicates a bank in labor performance because the bank suffers losses so that the bank requires larger funds, and the low of capital buffer fund. Jiang et al. (2020) study in China found that the NPL negative effect of the capital buffer. Annisa (2020), researched in Indonesia found that the NPL had negative effect of the capital buffer. Meanwhile, Tamimi and Obeidat (2013) found that NPL had no effect on the capital buffer.

H2: Credit risk influential has negative efeect to capital buffer

The profitability is the right indicator to see the company's financial performance. The bank's companies there are several ratios that can be used to predict the company's ability to generate profits. Profitability is measured using return on assets (ROA) and net profit margin (NPM). The high company's profitability, the profit will be used as retained earnings and distributed to banking shareholders as dividends. When high levels of retained earnings, the bank has a large fund for operation activities, so capital buffers will also be high. This is in accordance with research conducted by Belem and Gratner (2013), Haryanto (2015) found that profitability has a

positive effect on capital buffer. Sutrisno (2018) found that return on assets (ROA) had no effect on the capital buffer and net profit margin (NPM) had a positive effect on the capital buffer. Annisa (2020) found that the profitability has negative to the capital buffer.

H 3: Profitability has a positive effect on the capital buffer

Research Methods

The population of this research is the banking sector which is listed on the Indonesia Stock Exchange (IDX) for the 2015-2019 period. Based on the population, the sample will be determined as the object of this research. In this study, the sampling technique used purposive sampling, namely the technique of collecting samples with certain criteria. The criteria for the sample to be taken are as follows: 1). The banking sector that publishes and publishes financial reports consistently during the 2015 - 2019 period; financial statements of banking companies for the period 201 5-2019; The banking sector which includes national private bank.

This study uses secondary data taken from banking financial reports which are accessed through the website of the Financial Services Authority (OJK). The panel of this study is a combination of several companies with a 5 year research period.

Definition of Operating Variable

The independent variables, of this study, liquidity risk, credit risk, and profitability. The dependent variabel was capital buffer, and macroeconomic variables as control variables which are formulated as follows:

Table 1 Variable and Proxy

VARIABLE	PROXY
Liquidity Risk	$\text{LDR} = \frac{Amount\ of\ Credit}{Third\ Funds}$
Credit Risk	$\text{NPL} = \frac{Arrears\ Credit}{Total\ Credit} x\ 100\%$
Profitability	$\text{ROA} = \frac{Earning\ before\ Tax}{Total\ Asset} x\ 100\%$
	$\text{NPM} = \frac{Net\ Profit}{Total\ Sale} x\ 100\%$
Capital Buffer	Available CAR –Minimum CAR of government regulations
Company size	LN Total assets
GDP	GDP rate
Inflation	Inflation rate
SBI	SBI Rate

This study was analyzed by using OLS, Fixed effect and random effect with the following model :
BUFF = β0 + β1 LDR + β2 NPL + β5 β4ROA NPM + β6 Size + β7 GDP + β8 Inflation + β9 SBI + e

BUFF :Capital Buffer
LDR :Loan to Deposit Ratio
NPL :Non Performing Loan
ROA :Return on Assets
NPM :Net profit margin
Size :Company size
GDP : Gross Domestic Product
Inflation : Inflation rate
SBI : Indonesian interest rate

Results And Discussion

This study uses the banking sector listed on the Indonesia Stock Exchange for the 2017-2019 period, namely the banking sector consisting of State-Owned Commercial Banks (BUMN) and National Private Commercial Banks (BUSN). Based on the sample selection criteria, a sample size of 185 data. The results of the descriptive statistics of the data are as follows:

Table 2 Descriptive Statistics

VARIABLE	NUMBER OF OBSERVATIONS	MEAN	MEDIAN	MAXIMUM	MINIMUM	STANDARD DEVIATION
Independent Variable						
BUFF	185	15,403	12.13 0	139,440	0.020	13,148
Dependent Variable						
LDR	185	87,803	87,800	163,100	38,120	16,189
NPL	185	2.125	1,800	9,920	0.000	1,599
RO E	185	3,256	6,370	29,890	-89,030	17,577
SIZE	185	23,920	23,604	27.9070	17,521	2,192

Based on the results of descriptive statistical tests, the total of 185 observational data on banking sector service companies during 2017 to 2019 it was found that the independent variable, namely the capital buffer variable, had an average value of 15,403. The minimum value is 0.020 and the maximum value is 139.440 with a standard deviation of 13.148. The dependent variable consisting of LDR, NPL, and ROE with the control variable using the SIZE variable, it was found that the LDR had an average value of 87.803. The minimum value is 38,120 and the maximum value is 163,100 with a standard deviation value of 16,189. The NPL has an average value of 2.125. The minimum value is 0.000 and the maximum value is 9.920 with a standard deviation of 1.599. The ROE variable has an average value of 3.256. The minimum value is -89.030 and the maximum value is 29.890 with a standard deviation of 17.577. The SIZE has an average value of 23,920. The minimum value is 17,521 and the maximum value is 27,907 with a standard deviation value of 2.192.

The first hypothesis test examines the effect of liquidity risk as measured by the loan to deposit ratio (LDR) on the capital buffer. The second hypothesis examines the effect of ownership structure as measured by institutional ownership (IO) on the firm value of credit risk as measured by non-performing loans (NPL) on the capital buffer. The third hypothesis testing is the effect of profitability as measured by return on equity (ROE) on the capital buffer. The results of regression testing are as follows:

Table 3 Hypothesis Test Results

INDEPENDENT VARIABLE	DEPENDENT VARIABLECAPITAL BUFFER (BUFFE)
Constant	-39,662 (-1,654)
LDR	-0.239 *** (-3.803)
NPL	-2,538 ** * (-3.974)
RO E	- 0.382 *** (-5,946)
SIZE	3,457 *** (3,478)
R Square	0.534

The results of the liquidity risk regression are shown in the table above with the Loan to deposit Ratio (LDR), proxy approved that the coefficient value is -0.238 with a probability of 1% meaning that liquidity risk as

measured by the loan to deposit ratio (LDR) has a significant negative effect on the capital buffer. The credit risk as measured by non-performing loans (NPL) has a regression coefficient of -2.538 with a probability of 1%, indicating that credit risk has a significant negative effect on the capital buffer. Profitability as measured by return on equity (ROE) has a regression coefficient of -0.382 with a 1%,it was indicating that profitability has a significant negative effect on the capital buffer. Based on the explanation above, it can be concluded that the first, second, and third hypotheses were supported,

Discussion

The results showed that the liquidity risk as measured by the loan to deposit ratio (LDR) had a negative effect on the capital buffer. This shows that the higher the liquidity, the lower the capital buffer. When the banks have the ability to distribute credit, the ability to reserve capital will be lower. The capital is given to customers in the form of credit. The greater the level of credit show credits channeled increasingly high that the banks tend to take greater risks from assets, so will reduce capital buffers. The results of this study are in line with Haryanto(2015) that founda negative significant effect of LDR to capital buffer. Meanwhile, the result was different by Zhu and Chen (2016) and Belem and Gartner (2013) who found a significant effect between LDR on capital buffer.

The credit risk as measured by Non-performing loan has a significant negative effect on the capital buffer. The higher the credit risk, the lower the capital buffer. The NPL value shows the level of non-performing loans owned by the bank. A high NPL indicates that the bank suffers a loss due to the customer not being able to pay the credit so that the company's profit will decrease. It will be detrimental to the bank and the bank's capital level will be low. A high NPL will cause the bank to be in a state of financial difficulty because the bank's risk will also increase. This condition will encourage banks to increase profits by increasing the allocation of productive assets, the way is by reducing the capital buffer or maintaining a lower capital buffer. So the higher the NPL of the bank, the lower the capital buffer.

This is in line with the research of Fauzia & Idris (2016), Zhu & Chen (2016), Agustuty & Ruslan (2019), Fadli (2018), Haryanto (2015) and Anggraini & Baskara (2020) also found that non-performing loans had negative significant effect on the capital buffer.

Profitability as measured by return on equity (ROE) has a significant negative effect on the capital buffer. This shows that the higher the company's profit, the lower the capital buffer. The profitability is one indicator of the success of management in obtaining profits from the management of the company. The high level of bank profitability, it reflects very good performance and the bank is able to allocate profits for investment activities. So that when bank profits increase, it will be reallocated as bank capital for operational activities so that capital reserves will be lower. This is in line with the research by Fikri & Arfianto (2012), Ayuso, et al. (2002) and Jokipii & Milne (2008) found that the Return on Equity has a negative effect on Capital Buffer.

Conclusion

The liquidity risk was proxied by loan to deposit ratio (LDR) has a significant negative effect on the capital buffer. The higher of liquidity risk, the lower the capital buffer because bank funds are allocated to channel credit. Credit risk as measured by non-performing loan (NPL) has a significant negative effect on the capital buffer. This shows that the higher of credit risk, the lower the capital buffer due to bad credit, the lower the capital reserve. The profitability as measured by return on equity (ROE) has a significant negative effect on the capital buffer. This shows that the higher the bank's profitability, the lower the level of capital buffer. This research was conducted on banking companies listed on the Indonesia Stock Exchange for the 2017-2019 period.

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