

Microprudential Policy in Maintaining Bank Stability

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ABSTRACT: The purpose of this study was to determine the effect of microprudential policy as measured by liquidity risk (LDR), credit risk (NPF), market risk (NIM) and operational risk (BOPO) on the stability of state-owned banks in Indonesia as measured using the Z-score. Where the sample in this study uses a purposive sampling method obtained by 7 banks BUMN in Indonesia and uses Panel Data Regression analysis. The tool used in this research is Eviews 12.0. The results of this study found that liquidity risk has a significant positive effect on the stability banks in Indonesia, credit risk has a positive and insignificant effect on the stability banks in Indonesia, market risk has a significant negative effect on the stability banks in Indonesia and operational risk has a significant negative effect on bank stability.

KEYWORDS: Banking Stability, Microprudential Policy, Bank Risk

INTRODUCTION

Bank stability is a condition in which banking as an inter-mediary function operates effectively and efficiently and is able to withstand disturbances from outside and from within (Ali dkk., 2019). If the financial system is unstable and does not function efficiently, then the allocation of funds cannot run properly which can hamper economic growth (Fatoni & Sidiq, 2019). Banking stability is generally reflected in sound banking conditions, so that a strategic step that can be taken by a bank is to prevent the occurrence of risks, as a measure of the health of a bank.

In order to maintain bank stability, it is necessary to remember that in Indonesia there is a microprudential policy which is supervised by the Financial Services Authority (OJK). Microprudential policy can be interpreted as measuring the risk faced by each financial institution and also measuring the level of risk from the performance results of each individual bank institution. Supervision or prevention of microprudential policies can reduce the risk of financial instability by preventing the emergence of a financial institution risk that could cause other financial companies to go out of business or fail.

In this case, microprudential policy can be measured using the risks that exist in the banking sector that must be assessed by the Financial Services Authority (OJK). The risks that must be assessed based on the Financial Services Authority Regulation No.18 / POJK / 03 / 2016 concerning the Implementation of Risk Management for Commercial Banks consist of eight types of risks, namely credit risk, market risk, operational risk, liquidity risk, legal risk, strategic risk, compliance risk and reputation risk (OJK). However, there are various types of risk that can be measured by the risks that have been mentioned and required by Bank Indonesia, which are compiled in SEBI No. 13/24/DPNP/2011 can be managed using ratios such as credit risk, liquidity risk, market risk and operational risk.

So the importance of research related to bank stability is carried out so that microprudential health is guaranteed, where in this case this research examines stability with 4 (four) risks, namely liquidity risk, credit risk, market risk and operational risk. And also the importance of this microprudential is in order to avoid the occurrence of crises or instability to individuals of a bank institution that is able to bring losses to customers or investors through the risks that occur to the bank.

In order to be able to make banking stable with some existing risks, banks are required to maintain the stability of their own banks. Banks that have inappropriate risk management and have loans with a fairly high risk can have a high risk for the survival of the bank in the future because the profitability obtained is quite low.

The banking sector that will be examined in this research is Bank Indonesia, which is a state-owned bank. The reason the researcher chose BUMN Bank is because BUMN Bank can have a lot of influence on the economy in Indonesia. Prospective customers decide where to save or invest their funds in state-owned banks because they are more reliable and safe because state-

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owned banks are managed directly by the government. Knowing the role of state-owned banks which are very influential on the Indonesian economy, so that banks can increase or maintain maximum bank stability.

LITERATURE REVIEW AND HYPOTHESIS

Based on the Law of the Republic of Indonesia Number 10 of 1998 concerning banks, where banks or banks are business entities that run and operate in the financial sector, which makes banking very synonymous with money. The Financial Services Authority said that the Types of Banks are divided into 3 namely Commercial Banks, Rural Banks and Islamic Banks. Some of the theories concerned in the discussion of this research are as follows:

Bank stability

Financial system stability is a condition which is said to be good if the economic mechanisms of pricing, risk management and allocation of funds function properly and support economic growth. The stability of the banking system are two aspects where one and the other determine each other (Warjiyo, 2007). According to (Beck dkk., 2013), bank stability can be calculated using measures such as profitability, accounting and volatility and leverage.

Broadly speaking, the stability of the banking system can be seen by the bank's healthy situation and also has the function of being an intermediary and carrying out and being able to mobilize funds stored by customers or the public and then channel it back into the form of credit or financing for business actors. In general, a bank is said to be stable if it fulfills the basic requirements, namely increasing economic performance and eliminating imbalances caused by endogenous factors, unexpected or unwanted events from different banking risks (Djebali & Zaghdoudi, 2020).

Liquidity Risk

In the banking world, liquidity is viewed from two sides, which in terms of assets liquidity is the ability of a bank to convert an asset it owns into cash, while in terms of liabilities, liquidity is the ability of banks to meet funding needs by increasing their liability portfolio. Liquidity risk is the risk that arises if the company has not fulfilled its short-term obligations by using liquid assets or cash flow as funding sources. Liquidity risk arises due to the unequal timing of maturity between credit sources and debtors (Wahyudi, 2013).

Credit and Financing Risk

According to the Banking Law Number 10 of 1998, credit is the provision of equivalent amounts of money or claims, which are sourced from agreements and lending and borrowing agreements between banks and other parties that require the borrower to repay the debt after a specified period of time by setting interest. According to Greuning and Bratanovic (2001), credit risk means the payment process is delayed or has not been paid all of which can cause problems in cash flow. As for the sharia principles, credit is also defined as financing which is defined by providers of money and claims that can be equalized and also based on agreements and inter-bank lending and borrowing agreements with other parties that require the borrower to pay off the debt after the specified tenor. determined by the profit sharing system (Kasmir, 2014).

Then, indicators that can determine credit and financing risk can be seen from the Non Performing Loans (NPL) of a bank (Noman dkk., 2015). According to (Martinez Peria & Schmukler, 2001) credit and financing risk can be calculated using the ratio of Non Performing Loans or the ratio of non-performing loans to total loans, the higher the NPL/NPF value, the higher the credit and financing risks. On the other hand, according to PBI No. 17/11/PBI/2015 the safe limit for the bank's gross NPL ratio is less than 5%. When a bank has a ratio that is close to or more than 5%, there is a warning to the bank that it has high credit and financing risks and the probability of bank failure (Ghenimi dkk., 2017).

Market Risk

According to (Fahmi, 2014) Market risk is a condition that exists in a financial institution caused by changes in circumstances and conditions outside the market and the company's control. The measure of market risk is the interest rate, which is measured by the difference between the interest rate on funding (funding) and the interest rate on loans (lending) and also in absolute form is the difference between the total interest cost of funding and the total interest cost of borrowing which is in per-bank is called Net Interest Margin (NIM). The higher the NIM, the higher the ROA. NIM is measured by the comparison between net interest income and earning assets.

Operational Risk

Bank operational risk is embedded in every process, people, system and event external to the bank and is therefore very difficult to measure. To measure operational risk, the ratio of operating costs to operating income can be used. 64% of operational risk comes from bank processes and various simple, standard and advanced approaches are used to measure operational

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risk because a bank's net profit reflects the quality of the process, in this research, I measure operational risk using net profit ratio of total assets (Elbadry, 2018).

Islamic Studies

In the view of Islam, the bank is obliged to share the risk between the borrower of funds and those who are given the loan. On the other hand, banks are not oriented towards excessive income in order to make a fairness and social treatment and economic demand, so that the Islamic financial system has its own dimensions which aim to protect the system and maintain financial stability from potential risks caused by financial stress.

Financial stability in Islam can be maintained with an emphasis on honesty and fairness in interacting and fairness in all sizes which is clearly contained in the QS Al-A'raaf verse 85:

Meaning: "... So, perfect the measure and the scales and do not reduce for humans the measures and the scales, and do not do mischief on the earth after God has repaired it. That is better for you if you are true believers."

In business activities as well as in banking, uncertainty is a sunnatullah. Because basically business has risks. So that risk and uncertainty should be proportional to the results that can be obtained, as stated in the fiqh rule "A ghummu bil ghurmi" meaning that risk can always accompany any expected return or yield. In addition, Allah says in Surah Luqman verse 34:

Meaning: "Verily Allah, with Him alone is the knowledge of the Day of Judgment, and it is He who sends down the rain and knows what is in the womb. And no one can know (with certainty) what he will strive for tomorrow. And no one can know on which earth he will die. Verily, Allah is All-Knowing, All-Knowing." (Surah Luqman: 34)

Effect of Liquidity Risk on Bank Stability in Indonesia

If the bank does not have sufficient liquidity, it will experience a decrease in income due to credit assets, resulting in decreased interest which has an impact on decreasing performance and decreasing margin on bank interest. In addition, the reputation of the bank has also decreased due to insufficient liquidity and customer confidence, which if withdrawal requests are not responded to due to liquidity risk, it causes difficulties in fulfilling the requests of people who deposit in the bank. And requires banks to borrow funds to drive up costs and reduce bank profitability. As a result, bank stability has decreased, so it is found that liquidity risks have a negative and significant impact on bank stability.

On research (Djebali & Zaghdoudi, 2020) (Ghenimi dkk., 2017) shows negative results because excessive bank liquidity can encourage banks to take risks and provide more credit to their customers without taking into account solvency. Different from research (Rupeika-Apoga dkk., 2018) that liquidity risk has a positive influence on bank stability. Banks with more liquidity can meet any unexpected large drawdowns or use of committed lines of credit. So that the hypothesis that can be taken on this variable is:

H1 : Liquidity risk has a significant negative effect on bank stability in Indonesia

The Effect of Credit and Financing Risk on Bank Stability in Indonesia

Credit and financing risks with bank stability have a non-unidirectional relationship. This is because the bank's NPL/NPF ratio close to 5% or more indicates that there are non-performing loans in the bank. Bad credit can cause the bank's income to decrease that should be received, because some of the bank's income comes from interest or profit sharing from loans. Therefore, a decrease in bank income can also lead to a decrease in bank profitability (Noman et al., 2015).

On research (Appiah, 2015; Atoi, 2019; Djebali & Zaghdoudi, 2020; Imbierowicz & Rauch, 2014; Rupeika-Apoga dkk., 2018; Stephen Kingu dkk., 2018) it was found that credit risk had a negative effect on bank stability where this negative effect was explained by the difficulty or inability of customers to repay loans and because customers did not settle the loans they had already done, most of which had to be allocated to more profitable activities that could ensure bank stability. . So that the difficulty of funding is caused by bank errors that are not good at disbursing credit, resulting in very high credit risk and causing bank instability.

However, different things were also found in the research (Phan dkk., 2019) that credit risk has a positive effect on bank stability, indicating that there is a trade-off between credit risk and bank stability. So that the hypothesis can be taken as follows:

H2 : Credit risk has a significant negative effect on bank stability in Indonesia

Effect of Market Risk on Bank Stability in Indonesia

Changes in interest rates and the quality of earning assets greatly affect the Net Interest Margin (NIM). In providing credit, banks need to be careful so that the quality of productive assets is maintained. If the credit quality is good, it will increase net interest income so that in the end it will have an effect on bank profits. If net interest income is high, it will have an impact on increasing profit before tax so that ROA or Return On Assets also increases and the bank becomes stable.

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If the NIM is greater, it will show the effectiveness of the bank in placing the company's assets in the form of credit, so that the bank's ROA will also increase. If the NIM is bigger, then the ROA obtained by the bank will also increase, which means that the stability of the banking system is getting better and increasing. So the hypothesis is as follows:

H3 : Market risk has a significant positive effect on bank stability in Indonesia

Effect of Operational Risk on Bank Stability

Operational risk produced by comparing total operating costs with total operating income or BOPO has a negative effect on the dependent variable of bank stability produced by Zscore. Where the larger the BOPO will result in a decrease in ROA so that bank stability decreases, and if the BOPO gets smaller then the increasing ROA will have an impact on the stability of the banking system.

Based on research (Fu dkk., 2014) which shows the positive influence of operational risk on bank stability that efficiency as measured by BOPO is a variable that is able to distinguish between banks with above average ROA and below average ROA. So that the hypothesis can be taken as follows:

H4 : Operational risk has a negative effect on bank stability in Indonesia

METHOD

Population, Sample and Sampling Technique

The object of this research is the financial statements of state-owned banks in Indonesia at BRI, MANDIRI, BNI, BTN, BRI Syariah, BNI Syariah and Mandiri Syariah for the period 2011-2020. In determining the population in this study, all state-owned banks in Indonesia are registered with the Financial Services Authority (OJK). The sampling technique used in this research is the purposive sampling method and the selected sample is 7 state-owned banks in Indonesia.

Panel Data Regression Test

To determine the condition of the ups and downs of a dependent variable, panel data regression analysis is needed, in which two or more independent variables are manipulated with the aim of knowing the value of the dependent variable (Y), which is if the value of the independent variable or predictor is present. -lah (X1, X2, X3 and X4). So that the regression equation model from research referring to research (Ali et al., 2019) is as follows:

$$ZSTAB_{i,t} = \alpha_{i,t} - \beta_1 LR_{i,t} - \beta_2 CR_{i,t} + \beta_3 MR + \beta_4 OR + \epsilon_{i,t}$$

Description :

ZSTAB	= Bank Stability (Y)
LR	= Liquidity Risk (X1)
CR	= Credit and Finance Risk (X2)
MR	= Market Risk (X3)
OR	= Operational Risk (X4)
ϵ	= Error
α	= Constant
$\beta_{1,2,3,4,i,t}$	= Path Coefficient with i individual banks and t years

Variable Operation

The following is the operationalization of the variables in this study:

Table 1. Operational Variables

Variable	Definition	Data Type	Formula	source
X1	Liquidity Risk	Ratio	$LDR = \frac{\text{Kredit}}{\text{Dana Pihak Ketiga} + \text{Surat Berharga yang diterbitkan Bank}} \times 100\%$	Bank Indonesia
X2	Credit Risk	Ratio	$NPL = \frac{\text{Kredit kurang lancar, diragukan, macet}}{\text{Total kredit}} \times 100\%$	Bank Indonesia
X3	Market Risk	Ratio	$NIM = \frac{\text{Pendapatan Bunga bersih}}{\text{Rata - Rata Aktiva Produktif}}$	Bank Indonesia

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X4	Operational Risk	Ratio	BOPO=	$\frac{\text{Beban Operasional}}{\text{Pendapatan Operasional}} \times 100\%$	Bank Indonesia
Y	Bank Stability	Ratio	ZSTAB =	$\frac{ROA+CAR}{\bar{\sigma}ROA}$	(Beck et al., 2013)

RESULTS AND DISCUSSION

The results of data analysis obtained from this study are in the table below:

Table 2. Panel Data Regression Analysis

Variable	Koefisien	T-statistic	Prob.
C	28.53835	9.483742	0.0000
LDR/FDR	0.016942	2.265008	0.0269
NPL/NPF	0.175095	0.495620	0.6218
NIM	-0.336026	-2.827152	0.0062
BOPO	-0.156555	-4.187802	0.0001
R-Square		0.275179	
Adjusted R-Square		0.230574	
F-statistik		6.169318	
Prob(F-statistik)		0.000285	

Source: Data processed Eviews 12.0

The results from the table above can be seen that the f-statistic value in this simultaneous test is 6.169318 with a probability value of 0.000285. The probability value of the simultaneous test result is less than 0.05 which means it is significant. So that LDR/FDR (X1), NPL/NPF (X2), NIM (X3) and BOPO (X4) simultaneously have a significant effect on bank stability (ZSTAB).

The estimation results of the regression model of the contribution of liquidity risk (LDR/FDR), credit risk (NPL/NPF), market risk (NIM) and operational risk (BOPO) to bank stability (ZSTAB) are known from the adjusted R-square value, which is 0.230574 or 23,0574%. This means that it shows that variations in bank stability can be explained by the variables of liquidity risk (LDR/FDR), credit risk (NPL/NPF), market risk (NIM) and operational risk (BOPO) which are 23.0574 and the rest is explained by other variables that are not discussed in this study. The R-square value of 0.275179 means that it can be seen that the relationship between the dependent variable and the independent variables has a strong relationship where the coefficient of determination is between 0 and 1.

Effect of Liquidity Risk on Bank Stability

From the results of tests carried out using software evaluation tools 12.0, it shows that the risk of the liquidity variable or LDR/FDR, and the t-statistical value is 2.265008 with a probability value of 0.0269, which means the probability value is less than 0.05 and means that the risk variable is liquidity significantly has a positive effect on the stability of ZSTAB bank.

Liquidity risk has a significant positive influence on the stability of the banking system due to credit funds used to increase bank profitability and liquid funds that are also needed by banks, both in urgent and non-urgent conditions. However, the funds that have been distributed to creditors cannot guarantee profitability. This is due to the possibility of bad credit extended by banks. So it is important to pay attention to high liquidity risk so as not to cause instability in the bank.

This indicates that banks are able to maintain the liquidity of their assets, both stocks and bonds, banks can also fulfill their obligations in providing dividends to shareholders and can pay bonds that have been or have matured which no longer have financial burdens that disturb stability. bank. Liquidity risk is also a risk experienced by a bank due to the inability of the bank itself to fulfill its obligations in the short term, thus affecting the stability of the bank.

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The results of this study support research conducted by (Hassan dkk., 2019; Rupeika-Apoga dkk., 2018) which states that liquidity risk has a significant positive effect on banking system stability. This is also due to the fact that banks need liquid assets to deal with urgent problems, such as when an unexpected withdrawal of funds occurs by customers, which can affect the stability of the banking system.

Effect of Credit and Financing Risk on Bank Stability in Indonesia

Based on the test results using the software evaluation tool 12.0, the credit risk variable (NPL/NPF) has a t-statistical value of 0.495620 with a probability value of 0.6218, which means that the probability value is more than 0.05, which means it can be concluded that the credit risk variable is not significant in giving a positive influence on bank stability (ZSTAB). Which in this study does not prove the hypothesis.

Credit risk with an insignificant positive effect can occur if the bank has sufficient loss reserves that can overcome high NPL/NPF which is caused by high non-performing loans. This is because there have been no credit problems or non-performing financing, so that the stability or instability of the bank can be explained in other variables or risks. So that one that affects the stability of banks in Indonesia is a phenomenon other than credit and financing risks. This is because so far all banks with several policies have tried to suppress NPL/NPF below 5%.

However, the results of this study contradict the research (Ali & Puah, 2018; Ghenimi dkk., 2017) which states that credit risk has a significant negative effect on bank stability. When credit risk increases, it will cause bank instability. So that the explanation of the relationship between the two is because bank institutions are not able to reduce the NPL ratio when the bank is increasing costs, therefore, it is able to disrupt bank stability.

Effect of Market Risk on Bank Stability in Indonesia

Based on the test results using the software eviws 12.0, the market risk variable (NIM) t-statistical value -2.827152 with a probability value of 0.0062, which means the probability value is less than 0.05 which indicates the market risk variable has a significant negative effect on bank stability (ZSTAB) . .

The results of this study are different from the hypothesis set previously, where this study has a significant negative effect on bank stability. Where market conditions and situations with various stability and instability are able to have an influence on the continuity and profit of the bank. This condition is caused by overall changes in market conditions, as well as the risk of changes in price options and market conditions are beyond the control of the company. Whether or not the influence of the market remains is judged by various factors that can disrupt stability in the banking system. Banks are also considered capable of maintaining the market risks taken, which are within the limits that can be tolerated by banks, banks also have sufficient capital to cover market risks so as not to cause disruption of banking stability. This is caused by the application of high interest rates on loans which in the distribution of bank credit have not yet produced an optimal nominal or debtor amount so that it can generate profits.

Effect of Operational Risk on Bank Stability in Indonesia

Based on the test results using the software eviws 12.0, the operational risk variable (BOPO) has a t-statistical value of -4.187802 with a probability value of 0.0001, which means the probability value is less than 0.05 which indicates the operational risk variable has a significant negative effect on bank stability (ZSTAB).

Operational risk produced by using the total ratio of BOPO or operating costs with total operating income has a significant negative effect on the dependent variable of bank stability produced by Zscore. Where if the larger the BOPO will have an impact on decreasing ROA so that bank stability decreases. And if the BOPO or operating expenses decrease, the ROA will increase and maintain bank stability.

This is also caused when the BOPO is getting smaller, meaning that the total budget used for operational costs is decreasing and getting high operating income, therefore the bank can be categorized as efficient due to cost management and operating income being used properly. So when the BOPO is higher, meaning that the higher the total budget used for operational costs and getting a small operating income, it is concluded that the bank has not been able to control its operations properly. Thus, Operational Costs on Operating Income (BOPO) have a negative effect on banking stability.

CONCLUSIONS SUGGESTION

Conclusions

Based on the results of the research and discussion carried out in the previous chapter using the panel data regression analysis method regarding the influence of liquidity risk, credit risk, market risk and operational risk on bank stability in

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Indonesia, it can be concluded that simultaneously shows microprudential policies consisting of: liquidity risk, credit risk, market risk and operational risk variables together have a significant effect on bank stability.

The results of the panel data regression analysis method partially show that the liquidity risk variable shows a positive influence on bank stability where other variables are considered constant. This happens because liquidity risk is indicated by an increase in the LDR/FDR ratio or the funds used are greater than liquid funds, which can make banks more stable. In addition, high credit can lead to greater bank profitability, so that increased bank profitability makes banks more stable. The credit risk variable shows an insignificant positive effect on bank stability where other variables are considered constant. This occurs when the bank has a loss reserve that can overcome the high NPL/NPF caused by high non-performing loans. Even though there is a write-off fund or allowance for losses, the bank cannot obtain profitability from the loan. Therefore, the bank remains stable despite credit risk.

The market risk variable shows a significant negative effect where the other variables are considered constant. This condition is caused by the overall change in the market situation, as well as the risk of changes in price options and market conditions that are beyond the control of the company. The influence of the unstable market from various factors can result in disruption of the stability system in banks. And the operational risk variable shows a significant negative effect where the other variables are considered constant. This happens because the higher the BOPO, the lower the ROA so that bank stability decreases and the smaller the BOPO means the higher the ROA, the stability of the bank is maintained.

Suggestion

The suggestion suggested by the researcher is that the OJK should give a warning to the bank in order to reduce the amount of credit given. In order to loosen liquidity, Bank Indo-nesia must raise interest rates, which can attract even more de-posits. On the other hand, banks are advised to be careful in channeling funds and make strategies so that more third party funds are obtained. So that the liquidity and stability of the bank is maintained. OJK must also carry out deeper supervision of BUMN Commercial Banks in Indonesia in terms of financing distribution.

Then commercial banks must manage interest risk and must maintain the total cost of Operating Expenses and Operating Income which can cause ROA to decrease and generate profits by utilizing all of the assets owned so that bank stability is maintained.

For further researchers, it is recommended for wider re-search results, and it is necessary to consider the possible variables to be used as control variables that greatly influence the results of the study. So that the results of the research can be more useful for economic activities in the banking world.

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