THE EFFECTS OF RETURN ON ASSETS, CAPITAL ADEQUACY RATIO, AND FINANCING ON LIQUIDITY RISK IN SHARIA BPRS IN INDONESIA

Winda Yulias Tuti*
Maizul Rahmizal
Khairil Aswan
Management Department, STIE Keuangan, Perbankan, dan Pembangunan Padang, Indonesia
*Corresponding Author: windayuliastuti1@gmail.com

ABSTRACT

This study aimed to analyze the effects of return on assets (ROA), capital adequacy ratio (CAR), and financing on liquidity risk in Sharia Rural Banks/*Bank Perkreditan Rakyat Syariah* (Sharia BPRs) in Indonesia. The samples of the study were 40 banks registered in the Financial Services Authority (*Otoritas Jasa Keuangan*/OJK) selected using the purposive sampling technique. A panel regression model was used for data analysis. Data were examined using Eviews software (version 9). The research results showed that CAR had a positive and noteworthy effect on liquidity risk, while ROA and financing had a significant and negative influence on liquidity risk.
Keywords: CAR; financing; liquidity risk; ROA

INTRODUCTION

Banks, as intermediary institutions, play a strategic role in keeping the wheels of the economy and national development turning. According to Article 1 of Regulation of Law Number 7 of 1992, banking is any aspect of banks, including institutions, business activities, as well as techniques, and procedures for executing business activities (Sobana, 2016).

Banks are financial organizations that collect funds from the public in the form of deposits, providing a place for the public to save money or invest to secure, invest, and facilitate payment transactions (Andini et al., 2019).

Banks in Indonesia are divided into two types based on how they carry out their business activities: conventional banks and sharia banks. Conventional banks carry out their business activities using a system of interest that already exists in advance, and it has been a practice of banks in the past to take advantage of their business activities. Meanwhile, sharia banks are those that adhere to the Islamic economic system (Marimin et al., 2015).

Sharia bank is a type of national banking that is based on Islamic law for its operations. Meanwhile, according to (Nurbiaty et al. (2017), sharia banks are financial institutions whose primary activities are providing credit and other services in the flow of payments and money circulation based on sharia principles. Article 1 of the Islamic Banking Regulation Law No. 21 of 2008 states that "Sharia banking is everything that involves sharia banks and sharia businesses, business activities, including institutions, as well as processes and methods of carrying out their business activities." Sharia banks are non-interest-bearing financial institutions (Nurbiaty et al. (2017). A sharia bank is a financial institution governed by sharia principles. Like a conventional bank, this type of bank serves as an intermediary institution, managing funds and channeling them to people in need of financing or credit.

Every time a bank does business, it faces a risk. Risk is something that a bank may face to meet its liquidity needs to meet credit requests and withdraw funds for customers at the same time (Jaiz et al., 2020). The risk of not being able to settle in a timely and reasonable manner is known as liquidity risk. Banks encounter liquidity risk if they do not sell their assets at a reasonable price. Assets are being offered at low prices, despite the pressing requirement to liquidate them. This can lead to a loss of income (Anam, 2013).

Liquidity risk rises from an incongruity between the demand for and supply of funds. The funds are supplied by customer deposits, credit facility payments, financial market loans, interest and non-interest income, and asset sales. The difference between supply and demand for funds is referred to as the net liquidity position, which banks have to thoroughly manage to decrease liquidity (Ariyani & Budiartha 2014).

Bank liquidation is one of the liquidity risks that banks face when running a business. According to Harahap & Hairunnisah (2017), liquidation is a process that begins with the revocation of a company or bank's business license, followed by the statement of dissolution (outbidding) and the settlement or release (vereffening) of all matters and obligations in accordance with applicable legal regulations. It appears that liquidation entails the establishment of dissolution and release. These actions include the sale of company assets, debt settlement, and collection, as well as the settlement of remaining assets or debts between company owners or banks.

Theoretically, when banks have less funding liquidity risk due to large deposit inflows, bank managers have an encouragement to take on more threats by aggressively lowering lending rates to increase loan volumes for advancing compensation. Banks with more deposits may lessen lending standards since the manager's compensation is partly grounded on the loan used as a benchmark for managerial performance, or the long-term risk alternative may not be taken into account for manager compensation. Banks merely conduct high-cost audits to investigate credit-standard decisions made by managers when their funding liquidity deficit is large enough. As a result of extra deposits, bank

managers are over-optimistic that there will be no funding liquidity calamity in the near future, and their lending practices will not be called into question. Losses associated with aggressive lending can cause bank failure (Bani & Yaya, 2016).

According to Kasmir (2014), based on the classical principal-agent theory, risk-averse managers necessitate higher levels of compensation to act in risky financial companies due to increased distrust in treasure. Therefore, for managers to receive greater compensation for working in riskier banks, they can be given more flexibility to engage in aggressive lending strategies when liquidity is abundant.

ROA is a profitability ratio to evaluate a company's or bank's capacity to generate profits from resources or assets. This is because the higher the ROA, the more effective asset management will be, resulting in higher profits in the following year (Muliawati & Maryati, 2015).

Based on the research by Bani & Yaya (2016), ROA has a negative and significant effect on liquidity risk because the greater the ROA, the greater the profits obtained by the bank, so the possibility to face trouble is decreasing. This observation has generated the following hypothesis.

H1: ROA is estimated to have a negative and significant impact on liquidity risk.

The CAR is a ratio of capital completeness that plays a role in accepting the risk of loss that the bank may face. The greater the CAR, the greater the bank's ability to bear the risk of any risky credit/productive assets. If the CAR is high, the bank can finance operational activities and significantly promote profitability. The amount of bank capital is sufficient to influence public trust in bank performance (Ramadanti & Meiranto, 2015).

Meanwhile, Fitriani (2020) defines CAR as "a capital ratio that shows how many bank assets that contain risk elements (credit, investment, securities, and claims on other banks) are financed from own capital in addition to receiving funds from sources outside the bank." According to Susantun et al. (2019), CAR has a negative and substantial consequence on liquidity risk, signifying that the higher a bank's CAR, the greater its liquidity. This observation generates the following hypothesis.

H2: CAR is estimated to have a negative and significant effect on liquidity risk.

According to Ilyas (2015), financing is money provided by another party to help with planned investments made by individuals or institutions. In other words, financing is money set aside to help with planned investments. Sharia principles define financing as the provision of debt or claims that are compared based on an understanding or agreement between the bank and another party that determines the party being financed to submit the debt or claim after a certain period, as well as compensation or profit sharing.

Relating to financing in Islamic banking, the technical term is referred to as productive assets. Productive assets are Islamic bank funds, either in rupiah or foreign currency, in the form of financing, receivables, placements, Islamic securities, equity participation, temporary equity participation, commitments, and contingencies on administrative accounts, as well as wadiah (deposit of funds) certificates (Rusdan, 2016).

The study by Susantun et al. (2019) reported that financing demonstrates a negative and vital effect on liquidity risk. Islamic banks are careful in allocating funds for financing so that they do not have a significant impact on liquidity. The Islamic bank financing of buying and selling has a higher return certainty than the financing of profit sharing. Buying and selling financing dominated Islamic bank financing during the research period when compared to profit sharing and rental financing. The large percentage of financing in the form of buying and selling is part of an effort to protect bank liquidity from elements of uncertainty and loss.

H3: Financing is estimated to have a negative and significant effect on liquidity risk.

RESEARCH METHOD
Data and Samples
This study was conducted on companies that are registered with the OJK. The objects of study were selected to obtain data with specific goals and benefits about something objective, valid, and reliable about a specific object or variable. This study used secondary data as quantitative data, including ROA, CAR, and financing. Data were gathered with documentation.

The populations are 163 companies registered with the OJK for the observation period of 2018-2020. Samples were taken in the observation using a purposive sampling technique, with an assessment based on the category according to the object or subject to be observed. The criteria for sampling are: 163 Sharia BPRs registered in the OJK, 15 Sharia BPRs not registered in the OJK in a row, 10 Sharia BPRs registered in the OJK that did not issue complete financial reports, 183 Sharia BPRs suffering losses during, 15 Sharia BPRs with extreme or outlier data, and the total samples of 120 Sharia BPRs (40 Sharia BPRs with three years of observation) during the observation period of 2018-2020.

Definition of Operational Variables
The variables of this study consist of 3 independent variables (X) and 1 dependent variable (Y). The independent variables (X) include ROA (X1), CAR (X2), and Financing (X3) while the dependent variable is Liquidity Risk (Y).

Table 1. Variables, definitions, and research indicators

No	Variable	Definition	Measurement	Source
1	ROA (X_1)	Comparison between net income and total assets	$ROA = \dfrac{Net\ income}{Total\ assets} x100\%$	(Rahmani, 2017)
2	CAR (X_2)	Comparison between bank capital and weighted assets according to the ratio	$CAR = \dfrac{Bank\ capital}{Assets\ according\ to\ ratio} x100\%$	(Rahmani, 2017)
3	Financing (X_3)	Amount of sharia bank financing	Determined from the total financing of the financial statements	(Susantun et al., 2019)
4	Deposit (Y)	Comparison between total deposit and total assets	$Deposit = \dfrac{Total\ deposits}{Total\ assets}$	(Khan et al., 2017)

Data Analysis Technique
In this research, the panel data, a combination of time series and cross-section data were utilized. The sample data of 40 Sharia BPRs were taken from cross-section and time series data. This study used descriptive statistical analysis to examine the data and the E-Views program for regression analysis using a random effect model. The random effect model was utilized to manage the weakness of the fixed effect model using dummy variables. The panel data equation incorporated in this study is presented as the following.

Y = α + β1ROAit + β2CARit + β3Financingit +Ɛ

Where Y is Liquidity Risk, α is a constant (intercept), and β1, β2, and β3 are the coefficients of the independent variables, where there is ROA at time t, CAR at time t, and financing at time t. The

approach taken in regression analysis with the variable of random effect model was the Normality Test. Normality test was performed to decide the normality of the data.

RESULTS AND DISCUSSION
Descriptive Statistical Test of Variables
Table 2. Results of descriptive statistical test

	Deposit	ROA	CAR	Financing
Mean	0.368167	3.530667	0.743333	1.415552610
Median	0.360000	2.940000	0.555000	9.174655009
Maximum	0.710000	21.20000	5.110000	10.886002120
Minimum	0.000000	0.000000	0.040000	7.0000000
Std. Dev	0.126756	3.031614	0.693755	1.627878810
Observations	120	120	120	120

The descriptive analysis results presented in Table 2 show that 120 research observations of companies registered with the OJK were made over three years. The deposit variable, which is the dependent variable, of Sharia BPRs had a minimum value of 0.00, a maximum value of 0.71, a median value of 0.36, an overall mean value of 0.36, and a standard deviation of 0.12. ROA of Sharia BPRs received a minimum value of 0.00, a maximum value of 21.20, a median value of 2.94, an overall mean value of 3.53, and a standard deviation level of 0.03. CAR of Sharia BPRs had a minimum value of 0.04, a maximum value of 5.11, a median value of 0.55, a mean value of 0.74, and a standard deviation level of 0.69. Meanwhile, the financing had a minimum value of 7.00, a maximum value of 10.88, a median value of 9.1, a mean value of 1.41, and a standard deviation of 1.62.

Classical Assumption Test
Normality test
The normality test was done by performing the Jarque-Berra test (JB test). The residual was normally distributed if having a probability above or equal to 0.05. The results of the normality test are summarized in Figure 1.
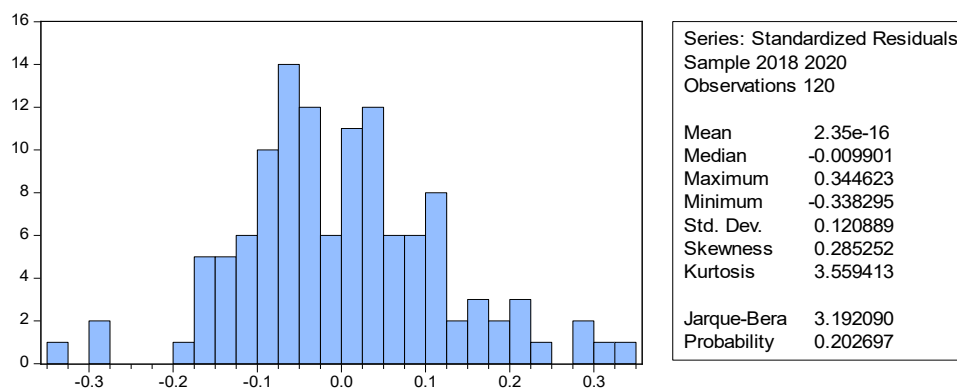

Figure 1. Results of normality test

Figure 1 depicts the results of the JB test on REM value of 3.192090 and a probability of 0.202697, indicating that the probability value is more than alpha (0.20 > 0.05), implying that the residuals in this research model were normally distributed.

Panel data regression analysis (REM)

The panel data regression analysis technique was used to process and discuss the samples obtained and to assess hypotheses. Variable C is a constant, variable X1 is ROA, variable X2 is CAR, and variable X3 is financing. The outcomes of this test are presented in Table 3.

Table 3. Estimation results of panel data regression

Variable	Coefficient	Std. Error	Prob.
Constant (C)	0.400043	0.026970	0.0000
ROA	-0.008136	0.004495	0.0729*
CAR	0.024837	0.014540	0.0903*
F	-1.535212	6.343413	0.0171**

Notes: *10% significance, **5% significance, ***1% significance

The panel data regression equation for the random effect model is as follows:

$$LR_{it} = 0.400043 - 0.008136ROAt_{it} + 0.024837CAR_{it} - 1.535212Financing_{it} + \varepsilon$$

From the above equation, the constant value was 0.400043, which means that if the independent variables (ROA, CAR, and financing) are assumed to be 0 (none), then liquidity risk has a constant of 0.400043 units. ROA had a negative coefficient value of 0.008136, meaning that every increase in ROA by 1 unit, assuming other variables are constant, will reduce liquidity risk by 0.008136 units. CAR had a coefficient value of 0.024837, signifying that for every unit increase in CAR, with other variables remaining constant, there will be a 0.024837 unit increase in liquidity risk. Financing had a negative coefficient value of 1.535212, denoting that increasing financing by one unit reduces liquidity risk by 1.535212 units, assuming all other variables remain constant.

Hypothesis Test (T-test)

The t-test is done to determine whether the independent variables individually have a significant effect on the dependent variable. The hypothesis is accepted if the probability is greater than the alpha value at a significance level of 1%, 5%, or 10%.

Table 4. Results of the hypothesis test

Variable	Coefficient	Std. Error	Prob.
C	0.400043	0.026970	0.0000
ROA	-0.008136	0.004495	0.0729*
CAR	0.024837	0.014540	0.0903*
FINANCING	-1.535212	6.343413	0.0171**

Notes: *10% significance, ** 5% significance *** 1% significance

Table 4 shows that the coefficient value on ROA was -0.008136, with a probability value of smaller than alpha (0.0729 < 0.10) or significant at a 10% significance level, indicating that ROA has a negative and significant effect on liquidity risk at Sharia BPRs in Indonesia. The coefficient value for the CAR was 0.024837, with a probability value of smaller than alpha (0.0903 < 0.10) or significant at a 10% significance level, indicating that CAR has a positive and significant effect on liquidity risk at Sharia BPRs in Indonesia. Financing, on the other hand, had a coefficient value of -1.535212 and a probability value of 0.0171, which is less than alpha (0.0171 < 0.05) or significant at 5% significance. Therefore, financing has a negative and important contribution to the liquidity risk of Sharia BPRs in Indonesia.

Discussion

The effects of ROA on liquidity risk

Based on the test results, it has been revealed that ROA has a negative, significant impact on liquidity risk. This is attributed to the banks' ability to manage liquidity. Liquidity risk is used to maintain or increase the amount of credit given to customers. If the banks are unable to channel credit to the public, this will affect the profits they obtain.

This is consistent with the research of Bani & Yaya (2016), which reported that ROA has a negative and significant effect on liquidity risk, as well as the research of Bani & Yaya (2015), which concluded that ROA has a negative and significant effect on liquidity risk. Moreover, Susantun et al. (2019) and Arfiyanti & Pertiwi (2020) signified that ROA has a negative and significant effect on liquidity risk.

The effects of CAR on liquidity risk

The results signify that ROA has a positive and significant impact on liquidity risk. This is so because if the capital adequacy increases, the profits of the bank will decrease. The more funds that enter the bank have the potential to increase the CAR. CAR has an impact on the level of liquidity risk because it affects bank financial performance, influencing the public to save funds (money) sourced from deposits.

This is consistent with the research finding of Susantun et al. (2019) and Ramadanti & Meiranto (2015) that CAR has a positive and significant effect on liquidity risk.

The effects of financing on liquidity risk

The results of the study have proven that financing has a negative and significant effect on liquidity risk. This happens because their main proportion of financing is the form of buying and selling, which has a higher return certainty than profit-sharing financing. During the period of study, buying and selling financing dominated sharia bank financing, compared to profit sharing and rental financing. The large proportion of financing for buying and selling is part of an effort to protect bank liquidity from risks and losses. The higher the financing is, the lower the bank's liquidity risk will be.

This is in keeping with the findings of Susantun et al. (2019) and Fitriani (2020) that financing has a negative and substantial effect on liquidity risk.

CONCLUSION

The study on the effects of ROA, CAR, and financing on liquidity risk draws the following conclusions. First, ROA has a significant and negative impact on liquidity risk. The higher the ROA is, the greater the profits will be, reducing the bank's possibility in a tough situation. Second, CAR has a significant and positive effect on liquidity risk, indicating that increased funding entering the bank has the potential to raise the CAR. CAR has an impact on the level of liquidity risk because it affects bank financial performance, motivating the public to save money in the form of deposits. Third, financing gives a significant and negative contribution to liquidity risk. This signifies that when compared to profit sharing and rental financing, buying and selling dominate sharia bank financing. The high proportion of buying and selling financing is an effort to protect bank liquidity from risks and losses.

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