

# Determinants of Factor That Affect Liquidity Risk of Islamic Banks in Indonesia and Malaysia

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**Abstract**—This study aims to analyze the factors that influence liquidity risk in Islamic banks in Indonesia and Malaysia. Research uses descriptive methods and quantitative methods. The indicator used in analyzing liquidity risk is Size of Firm, Return On Assets, Return On Equity, and Capital Asset Ratio. The data used is time series from 2015-2017. The data source used is secondary data from statistics reports on Islamic Banking statistics is taken from the Indonesian Financial Services Authority. The result is Size of Firm, ROE, ROA and CAR have positive results on liquidity risk but not significant in Islamic banks in Indonesia. As is the case with the Malaysian Islamic bank is also positive and insignificant. The results of liquidity risk in Malaysian Islamic banks are greater than Islamic banks in Indonesia, considering that Islamic banks in Malaysia were first present and more developed.

**Keywords**—liquidity risk; Islamic banking; capital asset ratio; return on assets; return on equity; size of firm

## I. INTRODUCTION

Banking is one of the public trust institutions that carries out the intermediary function and is faced with various business risks that must be managed so as to minimize potential losses. One of the most crucial risks is liquidity risk. According to Bank Indonesia regulation (PBI) No.11 / 25/2009, the definition of liquidity risk is the bank's risk due to the inability of the bank to fulfill the bank's obligations due from funding cash flows and / or liquid assets without disrupting the daily activities of the bank.

Risk measurement is needed for major improvements because the results are quite effective in preparing the risk relationship that will occur [1]. Banks are very avoiding the risks and changes in the environment can result in income effects that will result in proportional bank risk taking [2]. In Indonesia, the structure of Islamic banking has a positive relationship with economies of scale and market growth [3].

Liquidity risk can occur because the company's debt is in extreme leverage, the amount of debt and various invoices that arrive at maturity are already large, wrong strategy policies that cause losses, and others. One of the factors such as short-term debt can create liquidity risk because the borrower who cannot refinance and the lender liquidates it [4]. Other research on factors that examine the risk of liquidity are bank size, working capital, ROE, CAR, and ROA that affect liquidity risk with the

result that the size of the bank and working capital have a positive but insignificant relationship [5].

The NPL ratio has a negative relationship to liquidity risk [5], ROA, ROE and CAR show insignificant relationships with liquidity risk [6]. CAR and ROA have a negative influence on liquidity risk while ROE and size of firm have a positive relationship with liquidity risk in Islamic banks in Bangladesh [7]. Islamic banks in Bangladesh in 2006-2010 show that ROE and size of firm can predict the level of liquidity risk [8].

Liquidity management is equally important for conventional and Islamic banking. But the difference in Islamic banks is more unique and even more challenging because the instruments used for liquidity management are not interest-based for Islamic banks [9]. The Islamic banking sector has proven successful in managing liquidity, and must apply sharia banking practices based on sharia principles [10]. Islamic banks in the MENA region have implemented effective risk strategies and effective risk management frameworks [11].

Islamic financial systems differ significantly from conventional finance. In particular, sharia-based finance is not possible for interest payments (usury) because only goods and services are allowed to be given a price and prohibit the financing of prohibited activities [12,13]. Liquidity risk is still often used as a big problem, especially in solving its obligations efficiently [14]. Every company will definitely take risks, both small risks and big risks. Liquidity risk has a significant effect on bank risk taking, and a reduction in liquidity risk contributes to higher bank risk taking [15].

Based on the above phenomenon, the purpose of this study is to find out and analyze liquidity risk in Islamic banks in Indonesia and Malaysia, which countries have higher liquidity risk and what factors influence liquidity risk in the two largest Muslim countries in Southeast Asia.

## II. METHOD

This study uses explanatory surveys and quantitative methods. There are four independent variables namely Bank Size (Size of bank), ROE, ROA, CAR and one independent variable namely liquidity risk. The data used is the time series from 2015-2017. Data sources use secondary data from the Financial Services Authority (OJK) and Bank Negara Malaysia (BNM). The total population is 29 Islamic banks, consisting of

13 Islamic banks in Indonesia and 16 Islamic banks in Malaysia. The total sampling method is the same as the total population, which is 29. The analysis technique in this study uses multiple regression.

Variables that have an influence on liquidity risk refer to research, where the size of the bank (log total assets), ROE (income after tax divided by equity), ROA (profit divided by average total assets), and CAR (capital divided by fixed assets by risk) [5,9,14,16]. So, this research hypothesis is:

- Bank size has a positive effect on liquidity risk
- ROE has a positive effect on liquidity risk
- ROA has a positive effect on liquidity risk
- CAR has a positive effect on liquidity risk.

**III. RESULTS**

Table 1 shows the descriptive statistics of the dependent and independent variables for Islamic banks in Indonesia and Malaysia, the statistics show that the average liquidity risk in Islamic banks in Indonesia is 0.01458 greater than the Malaysian Islamic bank which is 0.00344. Indonesia's Islamic bank CAR shows an average of 56,070 greater than the Malaysian Islamic bank of 0.1358. Variable return on assets shows the profit in Islamic banks is smaller than the average total assets with an average amount of 0.73439 or 7.343% and the average is greater than the Malaysian Islamic bank of 0.16471. The return on equity variable shows the earning after tax is slightly divided by its own capital at the Indonesian Islamic bank, on average is 0.241% smaller than the Malaysian

Islamic bank, which is 2,393. Then the size of firm variable in Indonesian Islamic banks shows an average of 12,342 smaller than the Malaysian Islamic bank which is 551067.86.

TABLE I. DESCRIPTIVE STATISTICS

|                    | Mean<br>Islamic Bank Indonesia | Mean<br>Islamic Bank Malaysia |
|--------------------|--------------------------------|-------------------------------|
| LR                 | ,01458                         | ,00344                        |
| SIZE               | 12,34211                       | 551067,8611                   |
| ROE                | ,02417                         | 2,39333                       |
| ROA                | ,73439                         | ,16471                        |
| CAR                | 56,07000                       | ,13583                        |
| Valid N (listwise) |                                |                               |

Source: SPSS data 2018.

In table 2 and table 3, shows the results of multiple linear regressions between Islamic banks in Indonesia and Malaysia. There are four dependent variables, namely CAR, ROA, ROE, and Size Of Firm which affect liquidity risk in Islamic banks in Indonesia and Malaysia. The results of empirical data analysis in table 2 and table 3 show the regression equation as follows:

$$LR \text{ Islamic Bank Indonesia} = 0.095 + 1.791 \text{ CAR} + -0.001 \text{ ROA} + 0.037 \text{ ROE} + -0.007 \text{ SIZE}$$

$$LR \text{ Islamic Bank Malaysia} = 0.001 + 0.078 \text{ CAR} + -0.045 \text{ ROA} + 0.003 \text{ ROE} + -1,719 \text{ SIZE}$$

TABLE II. RESULTS OF MULTIPLE LINEAR REGRESSIONS ISLAMIC BANK IN INDONESIA

| Dependent Variable     | Independent Variable | Coefficient | t Test  |       |         | F test  |       |         |
|------------------------|----------------------|-------------|---------|-------|---------|---------|-------|---------|
|                        |                      |             | t value | Sig   | results | F value | sig   | results |
| Liquidity Risk         | Constant             | 0,095       | 2,152   | 0,039 |         | 1,642   | 0,189 | No sig  |
|                        | CAR                  | 1,791       | 0,149   | 0,882 | No sig  |         |       |         |
|                        | ROA                  | -0,001      | -0,587  | 0,561 | No sig  |         |       |         |
|                        | ROE                  | 0,037       | 1,080   | 0,288 | No sig  |         |       |         |
|                        | SIZE OF FIRM         | -0,007      | -1,781  | 0,085 | No sig  |         |       |         |
| R = 0.418              |                      |             |         |       |         |         |       |         |
| R <sup>2</sup> = 0.175 |                      |             |         |       |         |         |       |         |
| Significant = 0.05     |                      |             |         |       |         |         |       |         |

TABLE III. RESULTS OF MULTIPLE LINEAR REGRESSIONS ISLAMIC BANK IN MALAYSIA

| Dependent Variable     | Independent Variable | Coefficient | t Test  |       |         | F test  |       |         |
|------------------------|----------------------|-------------|---------|-------|---------|---------|-------|---------|
|                        |                      |             | t value | Sig   | results | F value | sig   | results |
| Liquidity Risk         | Constant             | 0,001       | 0,134   | 0,894 |         | 2,211   | 0,091 | No sig  |
|                        | CAR                  | 0,078       | 1,039   | 0,307 | No sig  |         |       |         |
|                        | ROA                  | -0,045      | -0,618  | 0,541 | No sig  |         |       |         |
|                        | ROE                  | 0,003       | 0,774   | 0,445 | No sig  |         |       |         |
|                        | SIZE OF FIRM         | -1,719      | -1,449  | 0,157 | No sig  |         |       |         |
| R = 0.471              |                      |             |         |       |         |         |       |         |
| R <sup>2</sup> = 0,222 |                      |             |         |       |         |         |       |         |
| Significant = 0.05     |                      |             |         |       |         |         |       |         |

Source : SPSS data 2018

This model shows the value of liquidity risk in Islamic banks in Indonesia of 0.095 when CAR, ROA, ROE, Size is 0. The relationship of ROA and Size to negative liquidity risk is

not significant because it is less than 0.05. but the results of ROE and CAR are positive but not significant for liquidity risk. In table F Islamic banks in Indonesia produce 1,642 and are not

significant because the significance is 0.189. It can be said that the variables CAR, ROA, ROE, and Size together relate positively but not significantly to liquidity risk variables.

When compared with the Islamic Bank of Malaysia, it has similarities in the variables of ROA and Size with negative and insignificant results. But the result of Islamic Bank's liquidity risk in Malaysia is greater than the F value of 2,211 compared to Islamic banks in Indonesia 1,642. This means that the dependent variable has a greater influence on liquidity risk in Malaysia compared to Indonesia.

#### IV. DISCUSSION

After we compared Islamic Bank's liquidity risk in Indonesia and Malaysia, we find that the dependent variable has a greater influence on liquidity risk in Malaysia than to Indonesia. Regression results from this study have different results from previous studies at the Islamic Bank of Pakistan in 2006-2009 showing a statistically significant positive relationship between size of firm and liquidity risk [16]. Research on Islamic Banks shows a positive relationship between size of firm [5].

#### V. CONCLUSION

The result is Size of Firm, ROE, ROA and CAR have positive results on liquidity risk but not significant in Islamic banks in Indonesia. Likewise the Malaysian Islamic bank is also positive and insignificant. The results of liquidity risk in Malaysian Islamic banks are greater than Islamic banks in Indonesia, considering that Islamic banks in Malaysia were first present and more developed. The limitations of this study compared to previous studies are incomplete data. Further research is expected to add other variables or compared with conventional banks in both countries. The results of this study have implications for the policy of developing Islamic banking in both countries, especially for risk management studies.

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