

Liquidity Risk Management: A Study in Islamic Bank of Indonesian

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Abstract: This study aims to analyze the factors affecting liquidity risk of Islamic banks in Indonesia. The factors are suspected to affect liquidity risk are Capital Asset Ratio, Return on Assets, Return on Equity and Size of Firm. The research method used is explanatory survey and quantitative methods. Time series data from the period 2008-2016. The data source used is secondary data from the statistic reports on Islamic Banking statistics is taken from the Indonesian Financial Services Authority. Data is then analyzed using multiple regression analysis. The result shows that ROE and Size of Firm has a significant positive impact on liquidity risk while CAR and ROA has a positive but insignificant impact on liquidity risk.

1 INTRODUCTION

The progress of a country can be seen from the economic development, one of them from the financial sector. The financial sector can show how far a country is progressing and can influence stakeholder decisions. Financial institutions have an important role in a country's economy (Machmud, 2009). Banking as an industry has grown to be one of the main factors behind a country's economic development. The banking sector is seen as an important source of funding for many businesses and as such cannot be separated from risk (Bayyoud & Sayyad, 2015). Risk is the potential for variability in future cash flow (Keown, 2014) what is important in establishing and controlling portfolio risk is the ability to measure as much of these risks as possible in the company (Frank J, 2016).

In a company there is a risk that must occur, the risk is a consequences that must be borne by the company in running its business. Risks can be minimized if the company's management is done well. One of the many risks in the banking industry is the risk associated with liquidity (Ippolito, Peydró, Polo, & Sette, 2016). Liquidity risk is the inability of the company to meet its short term obligations and effect the activities of the company making it not operate properly. In banking liquidity is the ability of financial institutions to fulfill their obligations. (Singh, Shahid, Manager, & Bank, 2016). Risk

management is a series of processes used as a strategy by the company in carrying out operational activities (Spira, 2003). Effective risk management is vital in sustaining business growth and bank profitability, including in Islamic banks (Megeid, 2017).

In theory, Islamic finance differs significantly from conventional finance. Islamic banks philosophically are banks whose activities leave out the practice of usury; therefore the mechanism of Islamic banks is interest free (Machmud & Rukmana, 2010). In particular, Islamic-based finance makes it impossible to pay interest (usury) because only goods and services are allowed to be given prices and the financing of forbidden activities is prohibited (Beck, Demirgüç-kunt, & Merrouche, 2013).

Prohibiting the acceptance and payment of interest is at the core of Islamic banking, supported by other principles of Islamic doctrine such as: risk sharing advocacy, entrepreneurship promotion, financial transactions that do not lead to the exploitation of any party, property preservation and transparency (Sol, 2007). Islamic banks should strengthen risk management practices such as improving secondary markets by requiring price and liquidity transparency (Mounira, 2008). The performance of Islamic banks can offer high liquidity (Ghannadian, 2004).

To estimate the level of loss and quality of the portfolio, a simple statistical tool was developed by means of a risk index for risk measurement (Smith,

1964). Two measures of risk are represented by relative size, symbolized by beta and the total risk size, denoted by the standard deviation (Modigliani, Pogue, Financial, Journal, & Jun, 2014). The risk estimation method has very important conclusions for bankers and business relationships and is highlighted on investments in both time and resources through the risk assessment process (Deakins & Hussain, 2010). Liquidity risk can be measured using size of the bank, return on equity, return on asset, networking capital and capital adequacy ratio (Akhtar, Ali, & Sadaqat, 2011).

The result of a study conducted in Islamic banks in Pakistan shows a statistically significant positive relationship between size of firm and liquidity risk (Ahmed & Ahmed, 2011) (Zafar & Banker, 2014). Islamic banks in Bangladesh showed that ROE and size of firm can predict liquidity risk lev (Rahman & Banna, 2015). There is a significant positive correlation between liquidity risk management and Capital Adequacy Ratio (CAR), Return on Asset (ROA), Return on Equity (ROE) and size of the bank or bank size in both Islamic and conventional banking system (Iqbal, 2012) (Bureau, 2012) (Akhtar et al., 2011) (Ariffin, 2012). The structure of Islamic banking in Indonesia in practice skews towards an oligopoly which can lead to market domination (Machmud, 2014).

The development of Islamic banks in Indonesia can be seen from the increase of total assets from 2012 until 2016. The increasing development of Islamic banks in Indonesia will increase the possibility of risk. The Islamic banking industry in Indonesia shows a fairly rapid development seen in the aftermath of the issuance of Islamic banking law the industry shows a declining trend, this means that Islamic banking law is able to push for sharia business units to become commercial sharia banks (Machmud, 2014).

The NPL ratio has a negative impact on liquidity risk (Akhtar et al., 2011), ROA, ROE and CAR show no significant relationship with liquidity risk (Zafar & Banker, 2014). CAR and ROA have a negative impact on liquidity risk while ROE and size of firm have a positive impact on liquidity risk in Islamic banks in Bangladesh (Bureau, 2012).

Based on the above phenomenon, the purpose of this study is to know and analyze liquidity risk in Islamic banks in Indonesia by developing measurement model (Akhtar et al., 2011). This study aims to analyze the factors affecting liquidity risk of Islamic Banks in Indonesia.

2 METHODS

This study used explanatory survey and quantitative methods. There are four dependent variables: CAR, ROA, ROE, size of firm and one independent variable: liquidity risk. The data used was time series data from 2008 to 2016. The data source used is secondary data from the statistic reports on Islamic banking from the Indonesia Financial Services Authority. The total population of 13 Sharia Commercial Banks listed on the Indonesia Stock Exchange. We use total sampling method to determine sample for this research because the population is less than 30, so the population and sample are the same. The technique of analysis in this study using multiple regression.

Variables that are suspected to have an effect on liquidity risk refer to research (Bureau, 2012) (Zafar & Banker, 2014) (Ariffin, 2012) (Iqbal, 2012) (Rahman & Banna, 2015) (Ahmed & Ahmed, 2011) that is CAR (capital divided fixed assets by risk), ROA (profit divided by average total assets), ROE (earning after tax divided equity) and size of the firm (log total asset). The hypothesis of this research is:

- CAR are positively related to liquidity risk.
- ROA are positively related to liquidity risk.
- ROE are positively related to liquidity risk.
- *Size of Firm* are positively related to liquidity risk.

3 RESULTS AND DISCUSSION

Table 1 shows the descriptive statistics of the dependent and independent variables of this study, the statistical results show that the average liquidity risk in Islamic banks in Indonesia is 51.27556. CAR shows that capital in Islamic banks is smaller than fixed assets according to the average risk of 0.14333 or 4.333%. The variable return on asset shows that profit in Islamic bank is less than the average total assets with the average amount of 0.1583 or 1.583%. The return on equity variable shows the earnings after tax slightly divided by the average own equity of 0.20778 or 20.778% and the variable of firm size shows an average of 152.222.

Table 1: Descriptive statistics.

Variable	Mean
Liquidity Risk	51.27556
CAR	.14333
ROA	.01583
ROE	.20778
SIZE FIRM	152.22222

The regression results where there are four dependent variables: CAR, ROA, ROE, firm size and one independent variable: liquidity risk show the

Table 2. The analysis shows that only 33.1% (R Square = 0.331) of CAR, ROA, ROE and firm size affect the liquidity risk of Islamic banks in Indonesia. The results of the analysis of empirical data in the regression equation as follows:

$$\text{Liquidity Risk} = -1927.875 + 1019.374 \text{ CAR} + 140.200 \text{ ROA} + 1215.944 \text{ ROE} + 10.364 \text{ SIZE FIRM}.$$

This model shows at table 2, when the value of liquidity risk of -1927,875 when CAR, ROA, ROE and Size Firm are 0. The relationship of CAR, ROA, ROE and Size Firm to Liquidity Risk is positive but less than 0.05.

Table 2: Results of multiple linear regressions.

Dependent Variable	Independent Variable	Coefficient	t Test			F test		
			t value	Sig	results	F value	sig	results
Liquidity Risk	Constant	-	-3.695	0.001		3.842	0.012 ^b	Sig
		1927.875						
	CAR	1019.374	0.712	0.482	Not sig			
	ROA	140.200	0.044	0.965	Not sig			
	ROE	1215.944	3.234	0.003	Sig			
	SIZE OF FIRM	10.368	3.422	0.002	Sig			
			R = 0.576					
			R ² = 0.331					
			Significant = 0.05					

The impact of CAR and ROA is insignificant due to sig. values that are higher than 0.05. We can see that Islamic bank in Indonesia have relatively smaller capital and profit compared to fixed assets according to average total assets. The results for F test which is 3,842 and its significance is less than 0.05. It can be said that CAR, ROA, ROE and Size of Firm have a significant, positive impact on liquidity risk.

This study has a similar result with previous research on Islamic banks in Pakistan showing a statistically significant relationship between firm size and liquidity risk (Ahmed & Ahmed, 2011). Research on Sharia Bank shows a positive relationship between sizes of firm (Akhtar et al., 2011). Islamic banks in Bangladesh shows that ROE and size of firm can predict liquidity risk level (Rahman & Banna, 2015). In Islamic banks in Pakistan ROA and CAR have positive but insignificant impact on liquidity risk therefore it can be assumed that the strong base assets of Islamic banks contribute to further strengthening of liquidity control (Zafar & Banker, 2014). CAR and ROA have a negative influence on liquidity risk while

ROE and size of firm have a positive correlation with liquidity risk in Islamic banks in Bangladesh (Bureau, 2012).

4 CONCLUSIONS

Impact for Islamic Banks of Indonesia with CAR, ROA, ROE and Size of Firm including the assets. Therefore, it can be assumed that a strong asset base strengthens liquidity control. The result of the study has implications on the development of Islamic banking policy especially concerning risk management and can be a consideration for corporate managers in making decisions, and can pay attention to the company's assets to minimize the risks.

The limitation of this study compared to previous research is to only study the Islamic banks and to not compare it with Commercial Banks in Indonesia. So the results of this study cannot compare liquidity risk in Islamic banks to liquidity risk in Commercial Banks in Indonesia.

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