

THE DETERMINANTS OF LIQUIDITY RISK AT SHARIA COMMERCIALBANKS IN INDONESIA PERIOD 2013-2017

¹Aulia Alifatul Faizah, ²Sartono

Prodi Perbankan Syariah, Jurusan Akuntansi, Politeknik Negeri Semarang

E-mail: ¹auliaalifatulf@gmail.com, ²sartonops3@gmail.com

Abstrak

Penelitian ini bertujuan untuk menganalisis Determinan Risiko Likuiditas pada Bank Umum Syariah di Indonesia Periode 2013-2017, baik secara simultan maupun parsial.

Populasi dalam penelitian ini adalah seluruh Bank Umum Syariah di Indonesia. Dengan menggunakan teknik pengambilan sampel purposive sampling, terdapat 4 Bank Umum Syariah di Indonesia yang layak untuk dianalisis. Model analisis dalam penelitian ini menggunakan Model Analisis Regresi Linier Berganda, sedangkan teknik analisis dalam penelitian ini menggunakan Uji F, Uji Koefisien Determinasi (R^2), dan Uji t yang diolah dengan menggunakan program SPSS 22.0.

Hasil penelitian ini menunjukkan bahwa NWC, ROA, KPMM, dan Bank Size secara simultan berpengaruh signifikan terhadap Risiko Likuiditas. Selanjutnya NWC secara parsial berpengaruh positif dan signifikan terhadap Risiko Likuiditas, ROA secara parsial berpengaruh positif dan tidak signifikan terhadap Risiko Likuiditas, KPMM dan Bank Size secara parsial berpengaruh negatif dan signifikan terhadap Risiko Likuiditas pada Bank Umum Syariah di Indonesia Periode 2013-2017.

Kata Kunci: Risiko Likuiditas, FDR, NWC, ROA, KPMM, Bank Size.

INTRODUCTION

The Background of The Research

Banking system has an important role in supporting the growth of the real sector. Bank as a company that provides products in the form of services act as a financial intermediary in which the bank lends parties with surplus funds to those whom in need of funds. As a business institution, the financial intermediation process must be run efficiently to ensure that shareholders earn more, return despite of the economic expansion. The more benefits the bank, require the more improve the performance of banking. Improvement In addition, the economic expansion will also makes increase demand for banking facilities. Therefore, the failure of banks will provide a domino effect on the banking system (Sukmana and Suryaningtyas, 2016).

Banking world will never escape from various types of risk which various complexity and attach in every part of their business, including Islamic banking. Risks in the banking world are a potential incident, where the risk can be either estimated or

unpredicted which give impact towards earnings and bank capital (Rustam, 2013:30).

Basically, Allah reminds mankind or a society, where sometimes in certain situations they have assets and strong capital, but a time they will get trouble. It's just how to cope in the face of adversity, difficulties we must prepare calculations and have broad insight. Qur'an verse pertaining to risk management is quoted in the Luqman letter verse 34:

"Lo! Allah! With Him is knowledge of the Hour. He sendeth down the rain, and knoweth that which is in the wombs. No soul knoweth what it will earn tomorrow, and no soul knoweth in what land it will die. Lo! Allah is Knower, Aware." (Depag RI, 2015: 415).

One of the risks faced by the bank in its operations is liquidity risk. Liquidity risk is the potential loss that may be experienced by Islamic banks because of inability to meet liabilities that have matured or inability of Islamic banks to fund the increase in assets

with a relatively low cost and without any loss (Wahyudi, *et al.*, 2013).

One ratio that represents liquidity risk is Liquid asset to Total Asset (LTA). The LTA ratio is used to measure how much liquid assets there are from the number of assets held. Total liquid assets in the LTA ratio follows the guidelines of SE OJK Number 10/SEOJK.03/2014 concerning Soundness Rating of Islamic Commercial Banks and

Sharia Business Units, which consist of primary liquid assets and secondary liquid assets. A high LTA ratio indicates the greater availability of the number of assets that are ready to be converted into cash and shows a fairly good bank liquidity. The following is Table 1., is the movement of the LTA ratio in Sharia Commercial Banks in Indonesia for the 2015-2017 period.

Table 1.
LTA Ratio in Sharia Commercial Banks in Indonesia 2015-2017

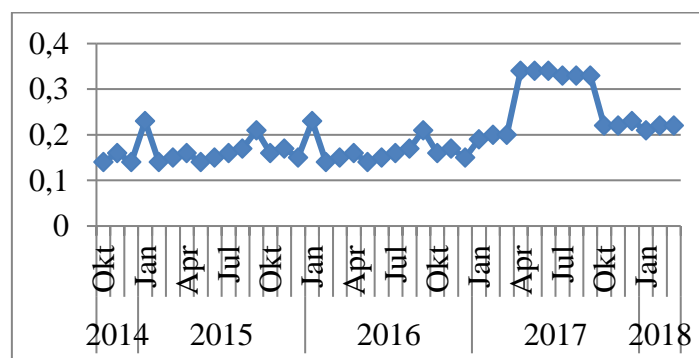
RATIO	YEARS											
	2015				2016				2017			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
LTA	0,15	0,15	0,21	0,15	0,18	0,15	0,17	0,18	0,20	0,34	0,33	0,23

Source: www.ojk.co.id, 2015-2017.

Based on Table 1., it is seen that the value of the LTA ratio in Sharia Commercial Banks in Indonesia in the fourth quarter of 2015 decreased by 0.06 from the third quarter of 2015. In the second quarter of 2016 also decreased by 0.03 from the previous quarter,

and in the second quarter to IV of 2017 experienced a significant decline. The development of the ratio of the LTA of Islamic Commercial Banks can also be seen in Graph 1., as follows.

Graph 1.
Growth of LTA Ratio in Sharia Commercial Banks Per Month



Source: www.ojk.co.id, Oct 2014-March 2018.

Based on Graph 1., it can be seen that the growth of the LTA ratio in Sharia Commercial Banks tends to fluctuate, even experiencing a sharp decline from September to October 2017. This is because the amount of current assets tends to fluctuate, while the total assets continue to increase.

Liquidity Risk can be influence by several factors, such as the Net Working Capital (NWC), Return on Assets (ROA), *Kewajiban Penyediaan Modal Minimum* (KPRM), and Bank Size. Net Working Capital (NWC) is often associated with the amount of current debt or debt that must be paid

immediately. As such, a portion of these current assets must be immediately provided to meet financial obligations that must be paid immediately, where these current assets may not be used to finance the company's operational activities to maintain its liquidity. According to Kasmir (2008:252), meeting working capital needs can increase liquidity. The amount of working capital indicates the number of assets spent on long-term debt funds, which do not require repayment in short-term. The greater the working capital number, the stronger the creditor's level of short-term protection, and the greater the certainty that the short-term debt will be repaid on time (Kariyoto, 2017:37). Based on the results of research conducted by Azhari and Muharram (2017), NWC has no positive and significant effect towards Liquidity Risk. This results are in contrary with the results of the research conducted by Rahman and Banna (2015), Supriyadi and Fazriani (2011), and Akhtar, *et al.*, (2011), where NWC has a positive and significant effect on Liquidity Risk.

Return on Assets (ROA) was used to measure the ability of bank management in gain (profit) total (Dendawijaya, 2003:120). According to Rustam (2013:147) and the IkatanBankir Indonesia (2015:143), that the more capable banks are to meet cash flows derived from the use of productive assets and those derived from the sale of assets, including liquid assets, the banks are more able to make a profit. The greater the ROA of a bank, the greater the level of profit achieved by the bank and the better the position of the bank in terms of asset use. (Dendawijaya, 2003:120). According to research results Azhari and Muharram (2017), Iqbal (2012), Mustika and Kusumastuti (2015), and Akhtar, *et al.*, (2011), ROA has a significant and positive effect towards Liquidity Risk. Meanwhile, according to Muharam and Kurnia (2012) and Sukmana and Suryaningtyas (2016), ROA has a significant and negative effect towards Liquidity Risk. According to Rahman and Banna (2015), and Ramzan and Zafar (2014), ROA no significant effect towards Liquidity Risk.

KewajibanPenyediaan Modal Minimum (KPM) shows how far a bank's assets have risks such as loan risk, investment, and

securities which are funded by the bank's own capital. According to Wahyudi, *et al.*, (2013:212), that the greater the KPM indicates that banks have substantial capital and can cover problems with risky situations. However, if there is a large decline in the value of assets that the bank has which triggers customer distrust, thus attracting its deposit funds at the bank, it can worsen liquidity risk. According to Dendawijaya (2003:123), if the CAR value is high, then the higher the bank's ability to cover its assets decrease as a result of bank losses caused by risky assets. According to research Akhtar, *et al.*, (2011), Iqbal (2012), Mustika and Kusumastuti (2015), and Sukmana and Suryaningtyas (2016), where CAR has a significant and positive effect on Liquidity Risk. However, it is contrary to the results of Azhari and Muharram (2017), Rahman and Banna (2015), and Ramzan and Zafar (2014), where the research are the results that the CAR has not a significantly effect on Liquidity Risk.

Bank Size is defined as the size of a bank, where the total assets can be seen in the total assets contained in the bank's financial statements in the balance sheet. Bank Size is assumed the greater the size of a bank, the greater the possibility of financing being channeled. The larger the size of the company, which is shown by its large total assets, has a greater chance of increasing the risk borne by the bank. This borne risk is in the form of more expenses that must be paid immediately before maturity. The Bank always wants high assets, because it allows banks to provide broader financial products and services. With the extent of the financial services offered, it has an effect on maintaining the bank's liquidity (Hani, 2015:121). In the reseachof Azhari and Muharram (2017), Akhtar, *et al.*, (2011), and Rahman and Banna (2015), Bank Size has not a significant effect on Liquidity Risk. Meanwhile, in a reseach conducted by Iqbal (2012) and Abdullah and Khan (2012), Bank Size has a positive and significant effect on Liquidity Risk.

Since the importance of Islamic banks to maintain the level of health towards Liquidity Risk, the existen of the relationship NWC, ROA, KPM, and Bank Size of the Liquidity

Risk, as well as various studies above, produce different findings depending on the factors that affect the Liquidity Risk. It is necessary to research about the factors that affect Liquidity Risk, especially the risk of liquidity at Islamic Banks in Indonesia by using the variable mentioned above. That's why this research focuses on "**The Determinants of Liquidity Risk at Sharia Commercial Banks in Indonesia Period 2013-2017**".

THEORETICAL FRAMEWORK Islamic Bank

Bank is a financial institution that bridge communities in the transaction. Definition of Islamic banks according to UU RI Number 21 of 2008 concerning Islamic Banking, Islamic banking is a bank which is conducting its business activities based on Islamic principles and by type consists of Islamic Banks and Sharia Financing Bank. In addition to article 1, verse (12) states that the principles of sharia is the principle of Islamic law in banking activities by the fatwa issued by the institution that has the authority in setting the fatwa in the field of sharia.

Bank Risk Management

Risk is often said to be uncertainty. According to POJK No. 65/POJK.03/2016 concerning Application of Risk Management for Sharia Commercial Banks and Sharia Business Units, risk is the potential loss due to the occurrence of a certain event, while risk management is defined as a series of methodologies and procedures used to identify, measure, monitor and control Risks arising from all of the Bank's business activities.

Liquidity Risk

Liquidity risk is a risk due to the inability of the Bank to meet maturing obligations from cash flow funding sources and/or from high-quality liquid assets that can be pledged as collateral, without disrupting the Bank's financial activities and conditions (POJK No. 65/POJK.03/2016).

The Bank in assessing inherent Risk of Liquidity Risk uses inherent Risk parameters/indicators based on SE OJK No. 10/SEOJK.03/2014, where the calculation of

liquidity risk can use the Liquidity assets to Total Asset (LTA) ratio. Where in this ratio, comparing liquid assets with total assets. Total Liquid Assets are Total Primary Liquid Assets and Secondary Liquid Assets. In measuring the LTA ratio can be calculated using the following formula:

$$LTA = \left(\frac{\text{Total Liquid Assets}}{\text{Total Assets}} \right) \dots (1.)$$

Source: SE OJK No. 10/SEOJK.03/2014.

Influential Factors towards Liquidity Risk

Liquidity risk is the result of the interaction between assets and liabilities that Islamic banks have. According to Rustam (2013:147) and Ikatankir Indonesia (2015:143), liquidity risk can be caused by several things as follows:

1. The inability to generate cash flow, both derived from earning assets as well as from the sale of assets including liquid assets.
2. The inability to generate cash flows arising from the collection of funds, transactions between Islamic banks, and borrowings.

According to Wahyudi, *et al.*, (2013:212), the issue of liquidity in Islamic banks can occur if some of the following events:

1. In the event of the withdrawal of large amounts of deposits, Islamic banks do not have enough funds and sources of funding that can be used quickly to meet the liquidity needs.
2. When the Islamic bank has committed financing in large amounts have not been realized by the debtor and upon realization, Islamic banks do not have sufficient funds.
3. Occur fairly large deposit withdrawals and Islamic banks do not have assets that can be cleared to meet the liquidity needs of the customer.
4. Occurs massive decline of the value of bank assets that have sparked distrust of customers that withdraw their savings in the bank.

Hani (2015:121) states that the risk of liquidity caused by the elements forming the liquidity itself, which is part of the current assets and current liabilities, excluding cash

turnover and operating cash flows, company size, growth opportunities (growth opportunities), the diversity of operating cash flow, and the ratio of debt or debt structure. According to Kasmir (2008:252), fulfilling the needs of working capital to improve liquidity. Total working capital assets dibelanjai indicate the number of sumer long-term debt funds, which do not require repayment in the short-term. The greater the number working capital, it means that the stronger the short-term level of creditor protection, and the greater the certainty that short-term debt will be repaid on time (Kariyoto, 2017:37).

Net Working Capital (NWC)

Working capital is defined as investments in current assets or short-term assets, such as cash, bank, securities, receivables, inventories and other current assets (Kasmir, 2008:250). According to Kasmir (2008:250-251), in depth understanding of working capital is contained in the concept of working capital, which is divided into 3 (three) types, namely:

1. The concept of quantitative, mentions that working capital is the whole current assets. In this concept is how to meet short-term needs. This concept is often referred to as the gross working capital.
2. Qualitative concept, a concept that focuses on quality of working capital. This concept see the difference between the amount of current assets by current liabilities. This concept is often referred to as the gross working capital (net working capital).

Functional Concept emphasis on the function of funds owned by the company in profit. This means that a number of funds that are owned and used by the company to increase its profit. The more funds used as working capital should improve profitability, and vice versa. In measuring the NWC can be calculated using the following formula:

$$\text{NWC} = \text{Current Assets} - \text{Current Liabilities}$$

Source: Kariyoto (2017:37).

Return on Assets (ROA)

Return on Assets (ROA) is often referred to as economic profitability is a measure of a company's ability to generate profits with all assets owned by the company (Kariyoto, 2017:114). This ratio is used to measure the ability of bank management in gain (profit) as a whole. ROA The larger the bank, the greater the level of profit that the bank achieved and the better the bank's position in terms of use of the asset (Dendawijaya, 2003:120). In measuring ROA can be calculated using the following formula:

$$\text{ROA} = \left(\frac{\text{Profit Before Tax}}{\text{Total Assets}} \right) \times 100\%$$

Source: SE OJK No. 10/SEOJK.03/2014.

Kewajiban Penyediaan Modal Minimum (KPMM)

KPMM or previously referred to as CAR is a ratio that shows how far all bank assets that contain risks (credit, investments, securities, bills with other banks) are also financed from the bank's own capital funds in addition to obtaining funds from sources outside the bank, such as public funds, loans (debt), and others. In other words, CAR is the ratio of bank performance to measure the capital adequacy of a bank to support assets that contain or generate risk, for example, loans. CAR is an indicator of a bank's ability to cover its assets as a result of bank losses caused by risky assets (Dendawijaya, 2003:122). The amount of KPMM is measured by the ratio between own capital and Risk Weighted Assets (ATMR). In measuring CAR, it can be calculated using the following formula:

$$\text{KPMM} = \left(\frac{\text{Bank Capital}}{\text{ATMR}} \right) \times 100\%$$

Source: POJK No. 21/POJK.03/2014.

Bank Size

Bank size commonly called firm size is a scale which represents a firm measure based on various ways, that are total assets, total sales, or total capital (Basyaib, 2007:122). Based on POJK No. 6/POJK.03/2016, *Bank Umumberdasarkan Kegiatan Usaha* hereinafter referred to as BUKU, is classification of banks size based on

business activities that are adjusted to the core capital owned, consist of:

1. BUKU I defined as a bank that has core capital less than Rp1,000,000,000,000.00.
2. BUKU II defined as a bank that has core capital above Rp1,000,000,000,000.00. up to Rp 5,000,000,000,000.00.
3. BUKU III defined as a bank that has a core capital above Rp5,000,000,000,000.00. up to Rp 30,000,000,000,000.00.
4. BUKU IV defined as a bank that has a core capital more than Rp30.000.000.000.000.00.

There are differences in business activities that are permitted for sharia commercial banks and sharia business units that can be done at each BUKU. In measuring the Bank Size can be calculated using the following formula:

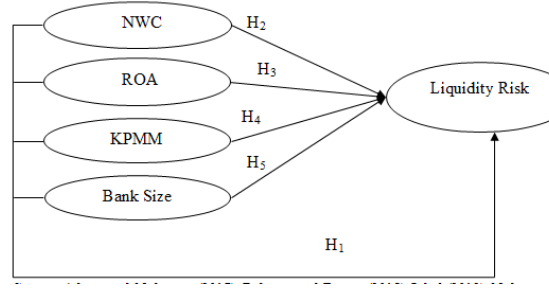
$$\text{Bank Size} = \text{BUKU classification}$$

Source: POJK No. 6/POJK.03/2016.

RESEARCH MODEL

Based on the result of literature review and previous researcher about Liquidity Risk have been done. Then developed a model of theoretical thinking that underlies the research. This research will analyze the NWC, ROA, KPMM, and Bank Size toward Liquidity Risk at Sharia Commercial Banks in Indonesia Period 2013-2017. Based on explanation, research model in this research theoretician can be seen in Diagram 1.

Diagram 1.
Theoretical Framework



Hypotheses

The hypothesis in this research is formulated as follows:

- H₁ = Allegedly NWC, ROA, KPMM, and Bank Size simultaneously have a significant effects towards Liquidity Risk at Sharia Commercial Banks in the period 2013-2017.
- H₂ = Allegedly NWC partially has a significant effect towards Liquidity Risk at Sharia Commercial Banks in the period 2013-2017.
- H₃ = Allegedly ROA partially has a significant effect towards Liquidity Risk at Sharia Commercial Banks in the period 2013-2017.
- H₄ = Allegedly KPMM partially has a significant effect towards Liquidity Risk at Sharia Commercial Banks in the period 2013-2017.
- H₅ = Allegedly Bank Size partially has a significant effect towards Liquidity Risk at Sharia Commercial Banks in the period 2013-2017.

POPULATION AND SAMPLE

Population is an individual entity or subject on the region and time as well as with certain quality be observed/researched (Supardi, 2005:101). The population in this research is the Sharia Commercial Banks in the period 2013 to 2017.

The samples of this research are part of the population who serve as research subjects are represented and will be examined from the members of the population (Supardi, 2005:103). The sample in this research were taken by using purposive sampling technique, the sample contains objectives in line with the purpose of research. So the necessary information can be obtained from a group of specific targets that can provide the desired information because it meets the criteria specified in accordance with the needs of research (Ferdinand, 2014:179). Criteria samples uses in this research namely:

1. Sharia Commercial Banks in Indonesia, which had stood at least 5 (five) years.
2. Sharia Commercial Banks in Indonesia which has published the quarterly financial statements for five (5) years in a row in the period 2013-2017.
3. Sharia Commercial Banks in Indonesia, which has the completeness of the information as required in the research.

4. NWC has a positive value.

Based on these criteria, Sharia Commercial Banks in Indonesia that meet criteria to be sampled in this study are PT Bank BNI Syariah, PT Bank BRI Syariah, PT Bank SyariahBukopin, and PT Bank SyariahMandiri.

Based on the results of descriptive analysis using SPSS 22.0, the descriptive statistics provide a picture or description of a data seen from the average (mean), standard deviation (σ), maximum value, minimum value, and a variant of the independent and dependent variables. The results of the descriptive statistics, in this study, can be seen in Table 2.

DESCRIPTIVE STATISTICS

Table 2.
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LTA	80	,89	,99	,9699	,01754
NWC	80	25,81	29,14	27,8121	,92858
ROA	80	-1,12	2,56	,8837	,55131
KPMM	80	10,74	21,14	15,0453	2,40406
BANK_SIZE	80	1,00	3,00	1,8500	,57589
Valid N (listwise)	80				

Source: Secondary Data Processed, 2018.

Based on Table 2., it shows that the amount of data used in this research as many as 80 data from 4 (four) Islamic Banks for 5 (five) years in a quarterly period, namely from quarter 1 (one) in 2013 to Quarter 4 (four) in 2017.

Liquidity Risk is measured by Financing to Deposit Ratio (LTA) is a variable Y, has the lowest value (minimum) 0.89, the highest value (maximum) 0.99, the average value (mean) 0.9699. Standard deviation is 0.01754 show deviations of data is relatively small compared to the average. Their standard deviation value which is smaller than the average value indicates that the LTA is said to be pretty good because the data distribution will be normal.

NWC is the variable X_1 , has the lowest value (minimum) 25.81, The highest value (maximum) 29.14, the average value (mean) 27.8121, Standard deviation is 0.92858 show deviations of data is relatively small compared to the average. Their standard deviation value which is smaller than the average value indicates that the NWC said to be pretty good because the data distribution will be normal.

ROA is X_2 , has the lowest value (minimum) -1.12, the highest value (maximum) 2.56, the average value (mean) 0.8837. Standard deviation is 0.55131 show

deviations of data is relatively small compared to the average. Their standard deviation value which is smaller than the average value indicates that ROA is said to be pretty good because the data distribution will be normal.

KPMM is the X_3 , has the lowest value (minimum) 10.74, the highest value (maximum) 21.14, the average value (mean) 15.0453. Standard deviation is 2.40406 show deviations of data is relatively small compared to the average. Their standard deviation value which is smaller than the average value indicates that the KPMM is said to be pretty good because the data distribution will be normal.

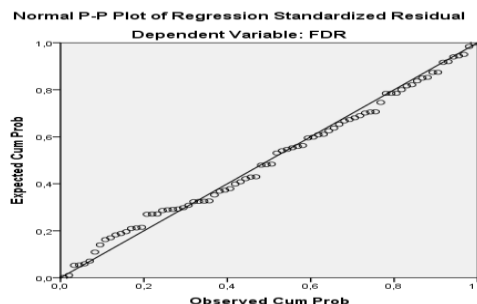
Bank Size X_4 is a variable, has the lowest value (minimum) 1.00, the highest value (maximum) 3.00, the average value (mean) 1.8500. Standard deviation is 0.57589 show deviations of data is relatively small compared to the average. Their standard deviation value which is smaller than the average value indicates that the Bank Size is said to be good enough because the data distribution will be normal.

NORMALITY TEST

Normality test is done to detect whether the residual normal distribution or not, by using graphical analysis and statistical tests Kolmogorov Smirnov (KS), following the

results of statistical tests using SPSS 22.0. Figure 1. Normality Test results data can be seen in

Figure 1.
Graph of Normal P-P Plot of Regression Standardized Residual



Source: Secondary Data Processed, 2018.

Based on Figure 1., it indicates that the data spread around the diagonal lines, so this research has the normal distribution of data and satisfies the assumptions of normality. In addition to seeing the graph, the more valid the normality test is done by a statistical test Test Kolmogorov Smirnov (KS).

Statistical test of Kolmogorov Smirnov (KS) can be used to test the normality of the data which the data were normally distributed if the significance Under standardized Residual value > 0.05. Results of statistical test analysis of Kolmogorov Smirnov (KS) can be seen in Table 3.

Table 3.
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		80
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	5,14648237
Most Extreme Differences	Absolute	,065
	Positive	,051
	Negative	-,065
Test Statistic		,065
Asymp. Sig. (2-tailed)		,200 ^{c,d}

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

Source: Secondary Data Processed, 2018.

Based on Table 3., it indicates that Kolmogorov Smirnov Z value of 0.065 and a significance of 0.200 > 0.05, which means that the normal distribution of data, or free from the assumption of normality.

Multicollinearity Test

Multicollinearity test was used to test whether the regression model found a correlation between the independent variables. A good regression model between the independent variables should not happen correlation, to determine whether there is multicollinearity in the regression model can be seen from the tolerance value and

Variance Inflation Factor (VIF). There multicollinearity if the value of the cut-off tolerance < 0.10 and $VIF > 10$. Multicollinearity test results can be seen in Table 4.

Table 4.
Multicollinearity Test
Coefficients^a

Model		collinearity Statistics	
		tolerance	VIF
1	(Constant)		
	NWC	, 737	1,357
	ROA	, 888	1,126
	KPMM	, 934	1,071
	BANK_SIZE	, 830	1,205

a. Dependent Variable:LTA.

Source: Secondary Data Processed, 2018.

Based on Table 4., it show more tolerance value of 0.10 or no independent variable that has a value of less than 0.10, which means there is no correlation between the independent variables. The result of the calculation of the Variance Inflation Factor (VIF) also shows the same thing that there is no independent variable that has a value of more than 10. It can be concluded that there is no multicollinearity between the independent variables in the regression model or a model free of assumptions multicollinearity. So that decent regression model was used to predict Liquidity risk is measured by LTA based on the input variables NWC, ROA, KPMM, and Bank Size towards Liquidity risk.

Autocorrelation Test

Autocorrelation test was used to test whether the linear regression model there is a correlation between bullies error in period t with bullies error in period $t-1$ (previous). If there is a correlation of the autocorrelation problem occurs, to detect the presence or absence of autocorrelation in the regression model can be done with Test Durbin Watson (DW test). The decision whether there is autocorrelation is when $du < DW < 4-du$, then there is no autocorrelation in the model. Autocorrelation test results in this research are presented in Table 5.

Table 5.

Autocorrelation Test

Model	Durbin-Watson
1	1,933

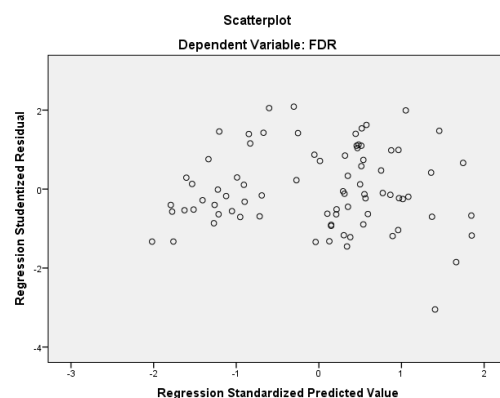
Source: Secondary Data Processed, 2018.

Based on Table 5., it can be seen the value of Durbin Watson (DW) amounted to 1.933 greater than the upper limit (du) 1.7430 and less than 2.2570 ($4 - du$), which means there is no autocorrelation in the model or models free of assumptions autocorrelation. So that decent regression model was used to predict Liquidity risk is measured by LTA based on the input variables NWC, ROA, KPMM, and Bank Size towards Liquidity risk.

Heteroskedasticity Test

Heteroskedasticity test was used to test whether the regression test model occurred inequality variant of the residual one observation to another observation. Heteroskedasticity test in this research using the Scatterplot Graph Test and Park Test. The results of the Scatterplot Graph Test can be seen in Figure 2.

Figure 2.
The Scatterplot Chart



Source: Secondary Data Processed, 2018.

Based on Figure 2., it shows that in this research did not happen heteroskedasticity as points on a scatterplot randomly spread,

and spread both above and below the number 0 on the Y-axis scatterplot chart analysis has a significant drawback because the number of observations affects the results of plotting, it is necessary to test statistics further guarantee the accuracy of the results. In addition to using the Scatterplot Graph Test, Heteroscedasticity test can be tested using the Park Test. The result of Park Test is shown in Table 6.

Table 6.
Park Test
Coefficients^a

	Model	T	Sig.
1	NWC	.264	.793
	ROA	.242	.810
	KPMM	.770	.446
	BANK_SIZE	.338	.737

a. Dependent Variable: res2

b. Linear Regression through the Origin

Source: Secondary Data Processed, 2018.

Based on Table 6., it shows that the significance of all the independent variables

is not statistically significant or greater significance than 0.05, it can be concluded there is no heteroscedasticity in the regression model, or data free from heteroscedasticity assumption. So that decent regression model was used to predict Liquidity risk is measured by LTA based on the input variables NWC, ROA, KPMM, and Bank Size towards Liquidity risk. Once the data is free from all the classical assumptions, the test can be continued with the model and multiple linear regression analysis.

MULTIPLE LINEAR REGRESSION ANALYSIS MODEL

Multiple regression analysis is an analytical model that is used to look at the relationship the influence of independent variables, namely NWC, ROA, KPMM, and Bank Size towards Liquidity risk Islamic commercial bank which is a dependent variable. Based on the formulation of the problem and the research hypothesis that has been described previously obtained results of data processing using SPSS 22.0 which can be seen in Table 7.

Table 7.
Output Multiple Linear Regression Calculation
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	233.469	21.840		10.690	.000
	NWC	1.891	.480	.384	3.943	.000
	ROA	1.553	1.144	.120	1.358	.179
	KPMM	-.768	.256	-.260	-3.003	.004
	BANK_SIZE	-8.552	1.222	-.642	-6.999	.000

a. Dependent Variable: LTA

Source: Secondary Data Processed, 2018.

Based on Table 7., it obtained multiple linear regression model as follows:

$LTA = 233.469 + 1.891 NWC + 1.553 ROA - 0.768 KPMM - 8.552 BZ + e$

Multiple linear regression model equation above obtained constant (α) of 233.469 shows that without the influence of the independent variables, namely NWC, ROA, KPMM, and Bank Size will be obtained Liquidity Risk as big as 233.469.

The above equation can be interpreted as follows:

1. The regression coefficient NWC as big as 1.891 show that NWC has a positive effect, which means that any increase in the variable NWC one percent, assuming other variables remain the Liquidity risk is measured by LTA will increase 1.891 as well as any reduction NWC by one percent assuming other variables remain the Liquidity Risk LTA will be decreased by 1.891.
2. The regression coefficient ROA as big as 1.553 show that ROA has a positive effect, which means that any increase ROA one percent, assuming other variables remain the Liquidity risk LTA will increase by 1.553, as well as any reduction ROA by one percent assuming other variables remain the Liquidity risk LTA will be decreased by 1.553.
3. The regression coefficient KPMM as big as - 0.768 show that KPMM has a negative effect, which means that each decline KPMM one percent, assuming other

variables remain the Liquidity Risk will increase by 0.768, as well as any increase KPMM by one percent assuming other variables remain the Liquidity risk will be decreased by - 0.768.

4. The regression coefficient Bank Size as big as - 8.552 show that Bank Size has a negative effect, which means that each decline Bank Size one percent, assuming other variables remain the Liquidity Risk will increase by 8.552, as well as any increase Bank Size by one percent assuming other variables remain the Liquidity Risk will be decreased by - 8.552.

Having obtained the regression model, the next step is to look at the significance of the influence of independent variables on the dependent variable, either simultaneously or partially influence between variables NWC, ROA, KPMM, and Bank Size towards Liquidity risk using the F test and t-test.

Regression Coefficients
Simultaneous Test (F-statistics Test)

F test is used to see if all the independent variables included in the model simultaneously have a significant influence on the dependent variable. This can be seen if F count greater than F table or significance of less than 0.05 the first hypothesis is accepted. F test results are shown in Table 8.

Table 8.
Regression Coefficients Simultaneous Test (F-statistics Test)
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1900.995	4	475.249	17.035	.000 ^b
	Residual	2092.416	75	27.899		
	Total	3993.411	79			

a. Dependent Variable: LTA

b. Predictors: (Constant), BANK_SIZE, KPMM, ROA, NWC

Source: Secondary Data Processed, 2018.

Proof hypothetical 1 (one) conducted by F test . Based on Table 8., the results obtained $F_{count} = 17.035 > F_{table} = 2.493696$ or significance of $0.000 < 0.05$, which means that there is significant effect between. NWC, ROA, KPMM, and Bank Size simultaneously

towards Liquidity Risk. Thus the first hypothesis stating "Allegly NWC, ROA, KPMM, and Bank Size simultaneously have a significant effects towards Liquidity Risk at Sharia Commercial Baks in Indonesia in the period 2013-2017" **is accepted**.

Coefficient of Determination Test (R²)

Test the coefficient of determination (R²) was essentially used to measure how far the ability of independent variables in explaining

the variation of the dependent variable. The results of the analysis of the coefficient of determination (R²) can be seen in Table 9.

Table 9.
Test The Coefficient of Determination (R²)
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,690 ^a	,476	,448	5,28194

a. Predictors: (Constant), BANK_SIZE, KPMM, ROA, NWC

b. Dependent Variable: LTA

Source: Secondary Data Processed, 2018.

Based on Table 9., Adjusted R-Square value of 0.448 or 44.80%. This shows that the variables NWC (X₁), ROA (X₂), KPMM (X₃), and Bank Size (X₄) contributing influence towards Liquidity Risk (Y) of 44.80%, while the remaining 55.20% influenced by other variables not examined in this research.

Individual Regression Coefficients Test (t-statistic Test)

Individual regression coefficient test conducted by the statistical t-test aims to measure how far the influence of the independent variables individually in explaining the variation of the dependent variables with a significance level of 5%. The results of the analysis of the individual coefficient t statistical test can be seen in Table 10.

Table 10.
Individual Regression Coefficients Test
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	233.469	21.840		10.690	.000
	NWC	1.891	.480	.384	3.943	.000
	ROA	1.553	1.144	.120	1.358	.179
	KPMM	-.768	.256	-.260	-3.003	.004
	BANK_SIZE	-8.552	1.222	-.642	-6.999	.000

a. Dependent Variable: LTA

Source: Secondary Data Processed, 2018.

Based on Table 10., the results of hypothesis testing as follows:

1. Hypothesis 2

Proving the hypothesis 2 (two) performed by t-test. Based on Table 4.9, the result t_{count} of NWC = 3.943 > t_{table} = 1.992102 or significance 0.000 < 0.05, which means a significant effect between NWC partially towards Liquidity Risk. Thus the second hypothesis which states "Allegedly NWC partially has a significant effect towards Liquidity Risk at Sharia Commercial Baks in Indonesia in the period 2013-2017" **is accepted.**

2. Hypothesis 3

Proving the hypothesis 3 (three) performed by t-test. Based on Table 4.9, the results t_{count} of ROA = 1.358 < t_{table} = 1.992102 or significance 0.179 > 0.05, which means there is a significant effect between ROA partially on towards Liquidity Risk. Thus the hypothesis 3 which states "Allegedly ROA partially has a significant effect towards Liquidity Risk at Sharia Commercial Baks in Indonesia in the period 2013-2017" **is rejected.**

3. Hypothesis 4

Proving the hypothesis 4 (four) performed by t-test. Based on Table 4.9, the result t_{count} of KPMM = - |3.003| > t_{table} = 1.992102 or significance 0.004 < 0.05, which means a significant effect between KPMM partially towards Liquidity Risk. Thus the hypothesis 4 which states "Allegedly KPMM partially has a significant effect towards Liquidity Risk at Sharia Commercial Baks in Indonesia in the period 2013-2017" **is accepted.**

4. Hypothesis 5

Proving Hypothesis 5 (five) performed by t-test. Based on Table 4.9, the results t_{count} of Bank Size = - |6.999| > t_{table} = 1.992102 or significance, 000 < 0.05, which means a significant effect between Bank Size partially towards Liquidity Risk. Thus hypothesis 5 which states "Allegedly Bank Size partially has a significant effect towards Liquidity Risk at Sharia Commercial Baks in Indonesia in the period 2013-2017" **is accepted.**

DISCUSSION

Simultaneous Effects of NWC, ROA, KPMM, and Bank Size towards Liquidity risk

Based on the results of hypothesis verification 1 (one) shows that NWC, ROA, KPMM, and Bank Size simultaneously have a significant effect towards Liquidity Risk at Sharia Commercial Baks in Indonesia in the period 2013-2017. This indicates that the incorporation of variables NWC, ROA, KPMM, and Bank Size relevant to be the approximate variation of Liquidity Risk at Sharia Commercial Baks in Indonesia in the period 2013-2017.

Based on the test results of the coefficient of determination (Adjusted R²) indicates that the value of Adjusted R² of 0.448 or 44,80%. This shows that the contribution of variables influences NWC, ROA, KPMM, and Bank Size Liquidity risk amounted to 44.80%, while the remaining 55.20% influenced by other variables not included in this research model.

This can occur because of 1 (one) independent variables that have no

significant effect towards liquidity risk, i.e. ROA. The low value of R^2 due to the weakness of the factors that affect liquidity risk. Liquidity risk can be affected by 2 (two) factors, namely internal and external factors. However, in this research using only internal factors, while there are external factors that are more threatening bank liquidity. According to the Ikatan Bankir Indonesia (2016:136), a few things that can cause unexpected liquidity needs is a decrease in the bank rating and the reputation or economic downturn. In this research, researchers did not use external factors such as reputation and economic conditions that can be described with inflation and interest rates, causing the coefficient of determination in this research is small. When it is done.

Partial Effect of NWC towards Liquidity Risk

The results of hypothesis testing 2 (two) show that NWC partially significant effect on Liquidity Risk Bank Indonesia Sharia in the period 2013-2017.

This is consistent with the theory put forward Kasmir (2012:252), meeting working capital needs can increase liquidity. The amount of working capital indicates the number of assets spent on long-term debt funds, which do not require repayment in short-term. The greater the working capital number, the stronger the creditor's level of short-term protection, and the greater the certainty that the short-term debt will be repaid on time (Kariyoto, 2017:37).

This condition is consistent with the results of research conducted by Azhari and Muharram (2017), Rahman and Banna (2015), and Akhtar, *et al.*, (2011) states that NWC has a significant effect towards Liquidity risk.

An examination of the direction of influence, showed that NWC has a positive effect on Liquidity risk, it is meaning that the higher the NWC will tend to increase liquidity risk. It was initially thought NWC negatively affect liquidity risk. This is consistent with the theory put forward by Kasmir (2012:252), meeting working capital needs can increase liquidity. The amount of working capital indicates the number of assets spent on long-term debt funds, which do not require

repayment in short-term. The greater the working capital number, the stronger the creditor's level of short-term protection, and the greater the certainty that the short-term debt will be repaid on time (Kariyoto, 2017:37).

However, the results showed that NWC positive effect on Liquidity risk. This occurs because the bank that has a high working capital indicates the current assets of the bank also high. The availability of current assets, the bank will allocate it to the finance portfolio to obtain higher profitability, so that the financing will increase and result in shortages of assets that can be converted into cash to meet its short-term obligations.

It was driven by the increase in financing growth at the beginning of 2018, amounting to 8.7% year on year (YoY) growth in the previous month. Islamic finance growth was driven by accelerated growth in consumer financing and working capital which grew respectively by 13.9% (YoY) and 6.8% (YoY) higher than the previous month's growth of 11.3% (YoY) and 0, 1% (YoY) (makassar.tribunnews.com). Thus NWC has a positive effect on liquidity risk, so that when the NWC increases the liquidity risk increases.

This finding contradicts the results of research conducted by Rahman and Banna (2015), Supriyadi and Fazriani (2011), as well as Akhtar, *et al.*, (2011) which shows that NWC has positive effect towards Liquidity Risk. However, in line with research conducted by Azhari and Muharram (2017) which states NWC negatively affect towards Liquidity Risk.

Partial Effect of ROA towards Liquidity Risk

The results of hypothesis testing 3 (three) show that ROA partially has no significant effect towards Liquidity Risk at Sharia Commercial Banks in Indonesia in the period 2013-2017.

It was initially thought ROA partially has a significant effect towards Liquidity Risk. This is consistent with theoretical research presented by Rustam (2013:147) and the Indonesian Bankers Association (2015:143), that the more capable banks are to meet cash flows derived from the use of productive

assets and those derived from the sale of assets, including liquid assets, the banks are more able to make a profit. The greater the ROA of a bank, the greater the level of profit achieved by the bank and the better the position of the bank in terms of asset use. (Dendawijaya, 2003:120).

But the results of this research showed no significant effect on the ROA Liquidity Risk. This happens because of the amount of margin from lending, plus the high ratio of nonperforming loans and the tight regulation of the FSA and Bank Indonesia (m.kumparan.com). In addition, the decline in ROA is also due to the regulatory burden to increase banks' capital reserves. The addition of used capital reserves to mitigate the external pressure on the global financial markets, which could degrade the health of banks (www.republika.co.id). Allowance rises causing reduced bank earnings. On the other hand, banks are not able to increase larger profit due to the limited distribution of funds to the investment and the bank does not focus on the sector. Credit growth slowed also due to the effect of the write-off (remove it) is causing a slowdown in the economy, so that the Islamic Banks difficult to obtain a refund (m.bisnis.com). Thus, causing ROA is not a factor which significantly effect the liquidity risk.

This finding contradicts the results of research conducted by Iqbal (2012), Mustika and Kusumastuti (2015), as well as Azhari and Muharram (2017) which show that ROA significant effect on Liquidity risk, However, in line with research conducted by Rahman and Banna (2015) and Ramzan and Zafar (2014) which shows ROA partially has no significant effect on Liquidity Risk.

An examination of the direction of influence, showed that ROA positive effect on Liquidity risk, Meaning that the higher the ROA will tend to increase liquidity risk. This is consistent with the theory put forward by Rustam (2013:147) and the Indonesian Bankers Association (2015:143), that the more capable banks are to meet cash flows derived from the use of productive assets and those derived from the sale of assets, including liquid assets, the banks are more able to make a profit. The greater the ROA of a bank, the greater the level of profit achieved

by the bank and the better the position of the bank in terms of asset use. (Dendawijaya, 2003:120).

This condition is consistent with the results of the research conducted by Rahman and Banna (2015), Mustika and Kusumastuti (2015), as well as Sukmana and Suryaningtyas (2016) which shows that ROA has a positive effect towards Liquidity risk.

Partial Effect of KPMM towards Liquidity Risk

The results of hypothesis testing 4 (four) show that KPMM partially has a significant effect towards Liquidity Risk at Sharia Commercial Banks in Indonesia in the period 2013-2017.

This is consistent with the theory put forward Wahyudi, *et al.*, (2013:212), that the greater the KPMM indicates that banks have substantial capital and can cover problems with risky situations. However, if there is a large decline in the value of assets that the bank has which triggers customer distrust, thus attracting its deposit funds at the bank, it can worsen liquidity risk. According to Dendawijaya (2003:123), if the KPMM value is high, then the higher the bank's ability to cover its assets decrease as a result of bank losses caused by risky assets.

This condition is in line with research conducted by Sukmana and Suryaningtyas (2016), Muharram and Kurnia (2012), and Iqbal (2012) which show KPMM has a significant effect towards Liquidity Risk.

An examination of the direction of influence, showed that KPMM negatively affects Liquidity risk, Meaning that the higher the KPMM will tend to lower the liquidity risk. The results are consistent with the theory presented by Wahyudi, *et al.*, (2013:212), that the greater the KPMM indicates that banks have substantial capital and can cover problems with risky situations. However, if there is a large decline in the value of assets that the bank has which triggers customer distrust, thus attracting its deposit funds at the bank, it can worsen liquidity risk. According to Dendawijaya(2003:123), if the KPMM value is high, then the higher the bank's ability to cover its assets decrease as a result of bank losses caused by risky assets.

This condition is in line with research conducted by Rahman and Banna (2015) and Suhartatik and Kusumaningtias (2013), and Akhmed, *et al.*, (2011) which shows ROA negatively affect towards liquidity risk.

Partial Effect of Bank Size towards Liquidity Risk

The results of hypothesis testing 5 (five) point out that Bank Size partially has a significant effect towards Liquidity Risk at Sharia Commercial Banks in Indonesia in the period 2013-2017.

This is in line with the theory put forward by Hani (2015:121) that Bank Size is defined as the size of a bank, where the total assets can be seen in the total assets contained in the bank's financial statements in the balance sheet. Bank Size is assumed to have an influence on the profit obtained in a bank, where the greater the size of a bank, the greater the possibility of financing being channeled. The larger the size of the company, which is shown by its large total assets, has a greater chance of increasing the risk borne by the bank. This borne risk is in the form of more expenses that must be paid immediately before maturity. The Bank always wants high assets, because it allows banks to provide broader financial products and services. With the extent of the financial services offered, it has an effect on maintaining the bank's liquidity.

This condition is in line with research conducted by Iqbal (2012), as well as Abdullah and Khan (2012) which shows that Bank Size has a significant effect on Liquidity risk.

Viewed from the aspect of direction, shows that the Bank Size is have negative effect towards Liquidity Risk, its mean that the higher of Bank Size will provide lower of Liquidity Risk. Initially cutting the Bank Size partially, it is has a positive effect towards Liquidity Risk. This is consistent with the theory put forward by Hani (2015:121) that Bank Size is defined as the size of a bank, where the total assets can be seen in the total assets contained in the bank's financial statements in the balance sheet. Bank Size is assumed to have an influence on the profit obtained in a bank, where the greater the size of a bank, the greater the possibility of

financing being channeled. The larger the size of the company, which is shown by its large total assets, has a greater chance of increasing the risk borne by the bank. This borne risk is in the form of more expenses that must be paid immediately before maturity. The Bank always wants high assets, because it allows banks to provide broader financial products and services. With the extent of the financial services offered, it has an effect on maintaining the bank's liquidity.

However, the results of this research indicate that Bank Size has a negative effect towards Liquidity Risk. This happens because because the larger the size of the bank, the more the bank is able to maintain their liquidity or be able to provide an immediate return to the depositor in the event of a sudden withdrawal or bill. In addition, the decline in FDR when the size of large banks was due to banks being less optimistic in utilizing productive assets so that the growth of bank assets was not in line with Liquidity growth.

This finding contradicts the results of research conducted by Iqbal (2012), and Akhtar, *et al.*, (2011) which shows that ROA has a positive effect towards Liquidity Risk. However, in line with research conducted by Rahman and Banna (2015), Abdullah and Khan (2012), and Ghenimi and Omri (2015) which showed that Bank Size has a negative effect towards Liquidity Risk.

CLOSING

Conclusions

Based on the results of this research that using Multiple Linear Regression Analysis Model and hypothesis testing with the dependent variables are NWC, ROA, KPMM, and Bank Size, it could be concluded as follows:

1. NWC, ROA, KPMM, and Bank Size simultaneously have a significant effect towards Liquidity Risk at Sharia Commercial Banks in Indonesia in the period 2013-2017.
2. NWC partially has a positive and significant effect towards Liquidity Risk at Sharia Commercial Banks in Indonesia in the period 2013-2017.
3. ROA partially has a positive and no significant effect towards Liquidity Risk at

- Sharia Commercial Banks in Indonesia in the period 2013-2017.
4. KPMM partially has a negative and significant effect towards Liquidity Risk at Sharia Commercial Banks in Indonesia in the period 2013-2017.
 5. Bank Size partially has a negative and significant effect towards Liquidity Risk at Sharia Commercial Banks in Indonesia in the period 2013-2017.

Research Limitations

This research cannot be separated from several limitations and weaknesses that might affect the results. Limitations that need to be corrected in subsequent studies are:

1. The result of determination coefficient analysis shows the effect of the independent variable towards the dependent variable has a small value, amounting to 44.80%. This indicates that the need for the addition of other factors which can be used as independent variables that affect liquidity risk.
2. The sample used in this research was limited to only four (4) Sharia Commercial Banks, as adjusted by the criteria of the samples used in this research.

Suggestions

Based on the existing limitations, the suggestions for next research as follows:

1. In connection with the coefficient of determination, it is advisable for researchers to come to add independent variables, such as Bank Indonesia Certificates Sharia, inflation, and the Interbank Money Market Adjusted R^2 so that the value can be larger.
2. Adding to the research period of 5 (five) years and to expand the sample.

BIBLIOGRAPHY

- Abdullah, Asim and Abdul Qayyum Khan. 2012. Liquidity Risk Management: a Comparative Study between Domestic and Foreign Banks in Pakistan. *Journal of Managerial Sciences*. Vol. 6. No. 1.
- Akhtar, Muhammad Farhan, Khizer Ali, and Shama Sadaqat. 2011. Liquidity Risk Management: a Comparative

Study between Conventional and Islamic Banks of Pakistan. *Interdisciplinary Journal of Research in Business*. Vol. 1. Issue. 1. Page: 35-44.

Al-Quran Terjemahan. 2015. **Departemen Agama RI**. Bandung: CV DarusSunnah.

Azhari, Alwan and HarjumMuharam. 2017. *AnalisisFaktor-faktor yang MempengaruhiRisikoLikuiditas pada a Bank Konvensional (Studi pada Bank yang TermasukBadan Usaha MilikPemerintah dan Bank Asing di Indonesia dan Malaysia PeriodeTahun 2011 sampai dengan 2015)*. **Diponegoro Journal of Management**. Vol. 6. No. 4. Page: 1-12. ISSN (Online): 2337-3792.

Basyaib, Fachmi. 2007. **Manajemen Risiko**. Cetakan 1. Jakarta: Grasindo.

Dendawijaya, Lukman. 2003. **ManajemenPerbankan, EdisiKedua**. Jakarta: Ghalia Indonesia.

Ferdinand, Augusty. 2014. **MetodePenelitianManajemen**. Semarang: UNDIP.

Ghenimi, Ameni and Mohamed Ali BrahimOmri. 2015. Liquidity Risk Management: a Comparative Study between Islamic and Conventional Banks. *Journal of Business Management and Economics*. Vol. 3. No. 6. ISSN: 2347-5471.

Hani, Syafrida. 2015. **TeknikAnalisaLaporanKeuangan**. Medan: In Media.

IkatanBankir Indonesia. 2015. **ManajemenRisiko 2**. Jakarta Pusat: PT GramediaPustakaUtama.

_____. 2016. **SupervisiManajemenRisiko Bank**. Jakarta: PT GramediaPustakaUtama.

Iqbal, Anjum. 2012. Liquidity Risk Management: a Comparative Study

- between Conventional and Islamic Banks of Pakistan. **Global Journal of Management and Business Research**. Vol. 12. Issue 5. ISSN: 2249-4588 and Print ISSN: 0975-5853.
- Kariyoto. 2017. **Analisa Laporan Keuangan**. Malang: UBMedia.
- Kasmir. 2008. **Bank dan Lembaga Keuangan Lainnya, Edisi Revisi**. Jakarta: Raja Grafindo Persada.
- m.bisnis.com, accessed on August 8, 2018.
- m.kumparan.com, accessed on August 7, 2018.
- makassar.tribunnews.com, accessed on August 8, 2018.
- Muharam, Harjumand HasnaPentaKurnia. 2012. Liquidity Risk on Banking Industry: Comparative Study between Islamic Bank and Conventional Bank in Indonesia. **Liquidity Risk on Banking Industry**. Vol. 5. No. 2.
- Mustika, Anna Cahya and Sri YaniKusumastuti. 2015. **Determinan Likuiditas Pada Bank Umum Swasta Nasional Non Devisa di Indonesia Tahun 2003-2012. Jurnal Ekonomi dan Studi Pembangunan**. Vol. 16. No. 1. Page: 53-62.
- POJK No. 21/POJK.03/2014 about **Kewajiban Penyediaan Modal Minimum Bank Umum Syariah**.
- POJK No. 6/POJK.03/2016 about **Kegiatan Usaha dan Jaringan Kantor Berdasarkan Modal Inti Bank**.
- POJK No. 65/POJK.03/2016 about **Penerapan Manajemen Risiko Bagi Bank Umum Syariah dan Unit Usaha Syariah**.
- Rahman, MD. Lutforand S. M. HasanulBanna. 2015. Liquidity Risk Management: a Comparative Study between Conventional and Islamic Banks in Bangladesh. **Journal of Business and Technology (Dhaka)**. Vol. 10. No. 2.
- Ramzan, Muhammad and Muhammad Imran Zafar. 2014. Liquidity Risk Management in Islamic Banks: a Study of Islamic Banks of Pakistan. **Interdisciplinary Journal of Contemporary Research in Business**. Vol. 5. No. 12.
- Rustam, BambangRianto. 2013. **Manajemen Risiko Perbankan Syariah di Indonesia**. Jakarta: Salemba Empat.
- SE OJK No. 10/SEOJK.03/2014 about **Penilaian Tingkat Kesehatan Bank Umum Syariah dan Unit Usaha Syariah**.
- Sukmana, Raditya and Sari Suryaningtyas. 2016. Determinants Of Liquidity Risk In Indonesian Islamic And Conventional Banks. **Jurnal Ilmu Ekonomi Syariah (Journal of Islamic Economics)**. Vol. 8. No. 2. P-ISSN: 2087-135X. E-ISSN: 2407-8654. Page: 187-200.
- Supardi. 2005. **Metodologi Penelitian Ekonomi dan Bisnis**. Yogyakarta: UII Press.
- Supriyadi, Yoyonand FaniFazriani. 2011. **Pengaruh Modal Kerja Terhadap Tingkat Likuiditas dan Profitabilitas (Studi Kasus pada PT Timah Tbk., dan PT Antam Tbk.)**. **Jurnal Ilmiah Ranggagading**. Vol. 11. No. 5. Page: 1-11.
- UU RI No. 21 Tahun 2008 About **Perbankan Syariah**.
- Wahyudi, Imam, MirantiKartikaDewi, Fenny Rosmanita, Muhammad Budi Prasetyo, NikenIwani Surya Putri, and Banu Muhammad Haidir. 2013. **Manajemen Risiko Bank Islam**. Jakarta: Salemba Empat.
- www.ojk.go.id, accessed on May 11, 2018