CREDIT & LIQUIDITY RISK OF SILAMIC BANK: EVIDENCE FROM INDONESIA & MALAYSIA

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Abstract

This study aims to analyze the effect of Third Party Funds (TPF), Capital Adequacy Ratio (CAR), Bank Age, Non-Performing Financing (NPF), and Return On Assets (ROA) on the level of risk-taking of Islamic banks in Indonesia and Malaysia. Risk-taking in this study is proxied by Financing Asset Ratio (FAR) and Financing to Deposit Ratio (FDR). The data used in this study are the cross-ssection data of Islamic banks in Indonesia. Time-series data of 2010 to 2017 from each of the financial statements of Islamic banks in Indonesia and Malaysia act as research objects. This research uses the panel data regression method and the data run by STATA 12. Based on the analysis, The TPF and the CAR significantly impact the Credit and Liquidity Risk in both observed countries. CAR significantly influenced the credit risk, when the CAR goes up, it is resulted from the addition of equity due to the rise of NPF. Moreover, Indonesia's liquidity risk is caused by the mismatched nature of the Indonesian funding side. On the other hand, the credit risk in Malaysia rises whenever the TPF increase and the Liquidity is caused by the deposit taking and risk taking activity. The introduction of investment account by the Bank Negara Malaysia is among the factors of significant and negative results. This paper urges the Financial Services Authority (Otoritas Jasa Keuangan) to speed up the implementation of Investment Account product in Indonesian Islamic Bank since it will reduce the liquidity risk and at the end will decrease the credit risk.

Keywords:Credit Risk, Liquidity Risk, Islamic Bank FAR

Introduction

Today, banking is divided into two systems: banks that use the Islamic system in operation and banks that operate conventional systems. The difference between Islamic banks and conventional banks is that Islamic banks base their operations on Islamic law, and the products are offered using Islamrecommended contracts. In the early 1980s, developing Islamic banking from both sides emerged due to the banking business crisis at that time. The banking crisis in Indonesia in the 1990s forced banks to diversify their products and services, encourage the need for sound banking, and favor the real sector, which could boost economic development at that time. The same thing happened to Malaysian banking in the 1980s, which caused considerable losses to the banking industry in Malaysia. Islamic banks proven to have healthy performance during the crisis are increasingly implemented by the two countries (Majid, 2014).

After the development of Islamic banking in Malaysia and Indonesia is progressing, the evolution of Islamic banking development in Malaysia is more advanced than in Indonesia. Initially, the funding contracts offered to customers in Malaysia and Indonesia are the same, namely mudharabah savings, wadi'ah savings, demand deposits, wadiah demand deposits, mudharabah deposits, and other products tawaruq. In 2013 all savings and demand deposits in Malaysia used wadiah contracts while mudharabah contracts were only used in Investment accounts (Bin-Bahari 2009). So when credit risk occurs in Islamic banking, it is not entirely borne by banks, because some of the risk is borne by investors through investment accounts. Because of this Investment Account, in Malaysia when customers invest, the money invested cannot be withdrawn before maturity, so the level of liquidity risk faced by the Bank is small, since the assets are well organized.

While in Indonesia in the same year there has not been no reforms with an update on the fundingproduct. When there is credit risk in Islamic banking, it is entirely borne by the Bank because the third party funds pool is still combined into one; there is no separation between investment and everyday savings. In addition, the customer can withdraw mudharabah deposits in Indonesian Islamic banking even though they have not reached the agreed maturity date, so the level of risk of Liquidity faced is greater. Therefore, Malaysia's success in renewing and structuring its contract can be seen from constantly developing assets every year and have significant differences with Indonesia's Islamic banking assets. To see the comparison of assets owned by Malaysia and Indonesia, which describes the level of total support from 2014-2017, it can be seen from data obtained from the Financial Services Authority and Bank Negara Malaysia below.
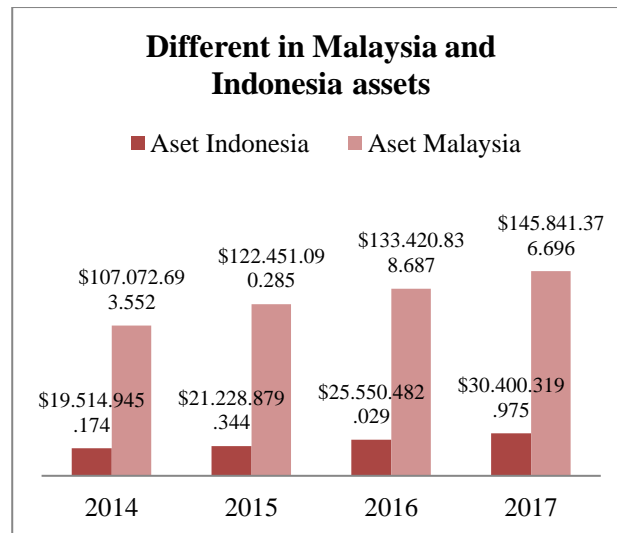
Figure 1. Indonesia and Malaysia Assets
Source: Otoritas Jasa Keuangan (Indonesia Islamic Banking Stat 2014 – 2017)
& Bank Negara Malaysia 2014-2017 in USD

From the data above, it can be seen that the movement of assets between Indonesia and Malaysia have a significant difference and have increased each year, so that if the asset gets higher then the financing that must be channeled also gets higher. If the distribution of assets is not suitable, then there will be a mistmach which can lead to liquidityrisk in Banking. In addition, assets in banks are very influential in determining whether or not banks are liquid and can also affect credit risk at the Bank.

As a parameter of the bank fund management performance, the occurrence of liquidity risk and credit risk plays an important role, banks must preventwhen credit risk and Liquidity occur because it will cause a value destruction. The occurrence of liquidity risk can be interpreted as a reduction in bank profits and is considered as a cost.A condition of occurrence of defaults actually increases the chance of liquidity risk which can reduce bank profits and cause a decrease in cash (Naibaho, 2010).

Credit risk is a risk that is always present in the course of the operational process. Credit risk arises because of the failure of the debtor to fulfill its obligations at maturity agreed upon with the Bank (Latumaerissa in Naibaho, 2010). So that when the distribution of third party funds to the public both individuals and business entities is not balanced, there will be credit risk. In addition to credit risk, liquidity risk is also an important risk for Islamic and conventional banks, because liquidity risk arises when the optimal distribution of funds is not balanced between liabilitis and assets at maturity. And if it occurs when managing third party funds that are not smooth or stagnant, liquidity risk will occur to the Bank (Ramzan and Zafar 2014). From this explanation, we can conclude from the various risks in Islamic banking as well as the conventions of credit risk and liquidity risk which is a very influential risk as an important factor in risk taking.

The research problems of this paper is to check that the TPF, CAR, Bank Age, NPF as well ROA will affect the Credit Risk. Moreover, it also will analyze the relationship of TPF, CAR, Bank Age, NPF as well ROA on Liquidity Risk. The object of the study is 5 banks in Indonesia and Malaysia. Comparing these two countries will

be beneficial since Malaysia has done the Islamic banking reformation in 2013 while Indonesia hasn't done it. This paper is the improvement of Syamlan & Jannah (2019) paper that only focused on the credit risk in Full Fledged Islamic Bank in Indonesia. Since Bank also face other risk in this case is liquidity risk, Syamlan & Jannah (2019) should also be broadened to see how banking reformation in Malaysia may lessen those two risks.

Literature Review
Risk Management in Islamic Banks: Review of IFSB Guideline 1 & 12

Islamic Financial Service Board (IFSB), a Malaysian-based organization, has been made the standard regarding the risk management framework for Islamic financial institutions including banks. Among the standards, two standards will be used for this paper which is IFSB Guidelines No. 1 – 2005 regarding the Principles of Risk Management for Institutions other than Insurance (later stated as IFSB 1) as well as the IFSB Guiding Principles on Liquidity Risk Management No. 12 – 2012 (later stated IFSB 12). The IFSB 1 is the first global risk management principle that IFSB has made. It discusses the risk management process as well as the risk that might be faced by Islamic Financial Institution, which is one of them is Islamic Bank. IFSB has stressed the importance of the sound risk management for IBs. As written in IFSB 1 in principle 1, proper risk management means having a robust risk management process and identifying risk. Here Islamic Bank should determine the type of risk that might burden the business.

Furthermore, risk measurement is the next step to determine the severity of the risk to IBs. The high seriousness of the high mitigation is needed, and it should be stated in the risk mitigation process. That process is an important step to be taken by IBs, however, since the IBs is a sustainable business and to have sound risk management process, it needs risk monitoring to monitor what has been made in previous step. Thus, the importance of risk monitoring exists since it should be reported to the Board of Director of Islamic Bank inform of risk reporting of control. IFSB also stressed out the importance of BoD involvement in the risk management process by ensuring procedures and policies as well as management information system according to the business scope, complexity, and the business nature of IBs (IFSB 2005).

According to IFSB 1 there are 9 risks associated to IBs which are Credit Risk, Equity Investment Risk, Market Risk, Rate of Return Risk, Operational Risk, Displaced Commercial Risk, Shariah Non-Compliance Risk, Fiduciary Risk and Liquidity Risk. For purposes of this paper, below is the explanation of Credit & Liquidity Risk:

- Credit Risk is a risk that faced by Bank when the financing that given by Bank to the customer cannot be paid accordingly (Ifsb 2012; IFSB 2005). In this research the proxy of credit risk used is Financing to Asset Ratio that has been used by Alam and Tang (2012) who introduced FAR to measure the risk-taking behaviour that Islamic Bank have taken during the observe period.
- Liquidity Risk is a potential loss arising from their inability to fulfil the obligations either to depositors or to debtor (Ifsb 2012; IFSB 2005). To

measure the liquidity risk, this research will use Financing to Deposit Ratio (FDR) as the proxy.

Factors That Affecting the Credit and Liquidity Risk
Third Party Fund (DPK)

Deposits are widely available funds in the community, both individuals and business entities, which are the most important and most prominent sources of funds in the operations of a bank. The Bank was said to be successful when the Bank was able to finance its operations from the fund. So deposits will greatly affect the higher risk taking. This is in line with the research conducted by Murdiyanto (2012) in which Third Party Funds have a positive and significant effect on lending. It means that the more third-party funds that can be collected by the Bank, the more credit will be channeled and the decision on risk taking will also be higher. Whereas in Liquidity risk in the study conducted by Ervina (2016) which stated Third Party Funds had a significant negative effect on Liquidity, which in turn decreases the growth of deposits caused a decrease in financing activities and resulted in a decrease in the level of Liquidity in banks. With previous research, researchers proposed the second hypothesis as follows:

H1.1: "There is a positive and significant effect between TPF on credit risk-taking in Malaysian and Indonesian Islamic banking".

H1.2: "There is a negative and significant effect between TPF on liquidity risk-taking in Malaysian and Indonesian Islamic banking".

Capital Adequacy Ratio (CAR)

The next variable is Capital Adequacy Ratio (CAR) which, if the higher the CAR of Islamic banks, the higher the ability to channel financing, the greater the risk taken. In a study conducted by Murdiyanto (2012) that CAR has a significant negative effect on lending, with the high CAR above the provisions, capital adequacy is used to provide credit if there is a substantial credit surge, or used as other business development to accommodate the risk of loss funds caused by the Bank's operational activities where TPF finances much credit. And in the FDR in a study conducted by Prayudi (2010) that CAR does not have a significant effect and is negative towards the LDR or FDR, which says CAR is used to measure existing capital capacity to cover possible losses in credit activities and securities trading, while bank losses As a result of credit activities and trade in securities, there has been a decline so that the CAR does not affect the LDR. Thus, based on previous research, researchers proposed the third hypothesis as follows:

H2.1: "There is negative and significant effect between CAR on credit risk taking in Malaysian and Indonesian Islamic banking".

H2.2: "There is positive and significant effect between CAR on Liquidity risk taking in Malaysian and Indonesian Islamic banking".

Bank Age

Bank Age is the age of the Bank, which if the age of the Bank is getting old and

old so that it has a longer experience, the level of risk taking is also higher. The results of research conducted by Ahmed et al (2011) state that the age of the company has a significant negative effect on performance in a bank so that the decision on credit risk taking will be higher. and for liquidity risk taking in a study conducted by Loderer & Waelchli (2010) that bank age does not have a significant and significant effect on risk taking in banks which in their research say that when companies get older the performance of a company becomes worse and the technology equipment declines. so that the BUS must continue to make improvements and development in its operations so that it continues to run well so that the funds obtained are channeled to the development of the company.

Thus from the previous research, the fourth hypothesis is as follows:

H3.1: "There is a negative and significant effect between the Bank Age on credit risk taking in Malaysian and Indonesian Islamic banking".

H3.2: "There is positive and significant effect between the Bank Age on Liquidity risk taking in Malaysian and Indonesian Islamic banking".

Non-Performance Financing (NPF)

NPF or Non-Performing Financing as an X6 variable is also considered to affect decision-making by Islamic banks. If the NPF level decreases and decreases or financing in a lousy bank decreases, a bank's level of risk-taking will be higher.

In the research of Murdiyanto (2012), NPF has a significant adverse effect on the provision of credit by conventional banks. When the higher the NPF, the Bank will be more selective in lending to minimize risk. Whereas in the research liquidity risk conducted by Annur (2017) and whose results show that the NPF does not have a significant relationship effect on liquidity risk and is supported by Ervina's research (2016), NPF does not have a significant negative impact on the level of Liquidity. Thus, based on previous research, researchers propose the fifth hypothesis as follows:

H4.1: "There is a negative and significant effect between NPF on credit risk-taking in Malaysian and Indonesian Islamic banking."

H4.2: "There is the positive and significant effect between the NPF on liquidity risk-taking in Malaysian and Indonesian Islamic banking."

Return on Asset (ROA)

Return On asset is an influential ratio in determining the ability of a company or Bank to generate Profit. If the higher the ROA in a company, the higher the level of risk that will be taken.

In Agista's research (2015) and ROA has a negative and significant effect on financing. If ROA rises, the financing will decrease and vice versa and similar to the research conducted by Annur (2017) the result ROA has a negative significant effect on liquidity risk. Thus researchers propose the seventh hypothesis as follows:

H5.1: "There is a negative and significant effect between ROA on credit risk taking in Malaysian and Indonesian Islamic banking".

H5.2: "There is a negative and significant effect between ROA on liquidity risk taking in Malaysian Islamic banking".

Research Methods

This research is a quantitative research, using secondary data in the form of selected Islamic bank financial statements in Indonesia and Malaysia from 2010-2017 that have been audited. The data analysis technique uses panel data regression analysis using STATA. The sample requirement selection is full-fledged Bank which has 7 years audited report. There are 8 banks that fulfill these requirements, namely, Bank Muamalat Indonesia, Bank Syariah Mandiri, Mega Indonesia Syariah Bank, Bank Syariah Bukopin, Panin Syariah Bank, Bank Rakyat Indonesia Syariah, Bank Central Asia Syariah and Bank Negara Indonesia Syariah while Malaysian Syariah banks have 6 banks, namely: Islamic Bank of Malaysia Berhad, Bank Muamalat Malaysia Berhad, Malaysia Building Society Berhad (MBSB) Berhad, Bank Rakyat Malaysia, Bank Al Rajhi Malaysia, Kuwait Finance House (KFH) Malaysia. This research uses the Third-Party Fund, ROA, CAR, Bank Age as well as the NPF as the Independent Variable. For the Dependent Variable, we have two, which are Financing to Asset Ratio (FAR) as the proxy of Credit Risk as well as the Financing to Deposit Ratio (FDR) as the proxy to the Liquidity Risk. Below are the operational variables:

Table 1. Operational Variables

Dependent Variables				
No.	Variables	Indicator	Reference	Data Source
1.	Credit Risk Financing to Asset Ratio	Total Financing Total Asset	Alam & Tang (2012) Syamlan & Azzinuddin (2019) Syamlan & Jannah (2019)	Islamic Bank Financial Report
2	Liquidity Risk Financing to Deposit Ratio	Total Financing Total Deposit	Syamlan & Azzinuddin (2019)	
Independent Variable				
1.	Third-Party Fund Total of Deposit in Islamic Banking	= Current Account + Saving Account + Term Deposit	Murdiyanto (2012) Ervina (2016	Islamic Bank Financial Report

2.	Capital Adequacy Ratio	Risk Weighting Asset ------------ Capital	Prayudi (2010)	
3.	Bank Age	The age of the Bank	Loderer & Waelchli (2010)	
4.	Non-Performing Financing	Default Credit Total Financing	Annur (2017)	
5.	ROA Return from the turn over of Bank Asset	Net Income Total Asset	Agista (2015)	

This research used the Panel Data Regression. Below is the Panel Data Regression Equation Model:

Model 1 Islamic Bank Credit Risk in Indonesia

$$FAR_{INAt} = \alpha + \beta_1 TPF_{INAt} + \beta_2 CAR_{INAt} + \beta_3 BankAge_{INAt} + \beta_4 NPF_{INAt} + \beta_5 ROA_{INAt} + \varepsilon_t$$

Model 2 Islamic Bank Liquidity Risk in Indonesia

$$FDR_{INAt} = \alpha + \beta_1 TPF_{INAt} + \beta_2 CAR_{INAt} + \beta_3 BankAge_{INAt} + \beta_4 NPF_{INAt} + \beta_5 ROA_{INAt} + \varepsilon_t$$

Where:

FAR_{INAt} = Credit Risk Indonesia (Dependent Variable 1)

FDR_{INAt} = Liquidity Risk Indonesia (Dependent Variable 2)

$$\alpha = Constanta$$

$TPF_{INAt}, CAR_{INAt}, BankAge_{INAt}, NPF_{INAt}, ROA_{INAt} = IndependentVariable\ 1 - 5$ for Indonesia

$\beta_1 - \beta_5 = CoefficientRegressionofeachINAIndependentVariable$

$\varepsilon_{t=}$ error term

Model 3 Islamic Bank Credit Risk in Malaysia

$$FAR_{MASt} = \alpha + \beta_1 TPF_{MASt} + \beta_2 CAR_{MASt} + \beta_3 BankAge_{MASt} + \beta_4 NPF_{MASt} + \beta_5 ROA_{MASt} + \varepsilon_t$$

Model 4 Islamic Bank Liquidity Risk in Malaysia

$$FDR_{MASt} = \alpha + \beta_1 TPF_{MASt} + \beta_2 CAR_{MASt} + \beta_3 BankAge_{MASt} + \beta_4 NPF_{MASt} + \beta_5 ROA_{MASt} + \varepsilon_t$$

Where:

FAR_{MASt} = Credit Risk Malaysia (Dependent Variable 1)

FDR_{MASt} = Liquidity Risk Malaysia (Dependent Variable 2

$$\alpha = Constanta$$
$$TPF_{MASt}, CAR_{MASt}, BankAge_{MASt}, NPF_{MASt}, ROA_{MASt} = IndependentVariable\ 1-5 \ \text{ for}$$
Malaysia
$$\beta_1 - \beta_5 = CoefficientRegressionofeachMASIndependentVariable$$
$\varepsilon_{t=}$ error term

The panel data regression has several steps, according to Indra (2017). The first test is the best model selection test. It has the Hausman test and chow test. The Hausmann testa test was used to choose between the Random Effect Model (REM) or Fixed Effect Model (FEM). The hypotheses for the Hausman test is as follows:

Ho: Random Effect Model (REM)

Ha: Fixed Effect Model (FEM)

To select the best model from the Hausman test, it can be seen from the probability value. If the value is greater than 0.05 then Ho is accepted, and the model chosen is REM, but if the value is less than 0.05 then the model chosen is FEM. After the Hausmann test, the second test of Chow Test should be done. Chow test is a statistical F test to choose the model to be used, which is between the Pooled Least Square (PLS) or Fixed Effect Model (FEM) model. The hypothesis for the chow test is as follows:

Ho: Pooled Least Square (PLS)

Ha: Fixed Effect Model (FEM)

For testing the best model using the chow test, it can be seen from the probability value for Cross Section F, if the value is greater than 0.05 then H0 is accepted and the model chosen PLS, but if the value is less than 0.05 then the model selected is FEM (Indra, 2017).

Besides the Haussmann dan Chow Test, the classical assumption test of regression should be done by employing two tests below:

- The Multicolenearity Test. This test aims to test whether the regression model found a correlation between free variables. In determining the presence or absence of multicollinearity, it can be seen from VIF (Variance Inflation Factor) and Tolerance values. Where to be free from multicollinearity, the VIF value must be below 10, and the value of 1 / VIF (tolerance) is more than 0.1

- The heteroscedasticity test aims to test whether in one regression model there is an inequality of variance from residuals in one observation to another. The existence of heteroscedasticity in the observed data can be known through the Breusch-Pagan / Cook-Weisberg test, which is a hypothesis test where a prob>Chi^2 value less than 0.05 indicates heteroscedasticity (Suwardi 2011).

Finding and Analysis
Finding

Selection of Data Panel Model

As per Indra (2017), the data panel regression should be begun with the model

selection. Here, we have done the sequence of data panel regression model selection with below result:

Table 2. Chow test result

F Test Result For Model Selection			
Item	Chow Test	REM Test	LM Test
Credit (Y1) Indo	0.4066	0.7483	0.3023
Credit (Y1) MLY	0.0000	0.0000	1.0000
Liquidty (Y2) Ind	0.0024	0.0000	0.0000
Liquidity (Y2) MLY	0,10625	0.0045	1.0000

Source: Output Stata

Based on the explanation that is written in the methodology section, to measure the Y1 of Credit Risk in Indonesia and Malaysia as well as the Liquidity risk in Malaysia, this variable will employ the Partial Least Square (PLS) model. The main reason is because the F test in Chow Test, the result show that H0 (PLS) is accepted. Moreover, in the REM test, the result show that the H0 is accepted and since Chow Test and REM Test result are different, the LM test was done and the result show that the H0 PLS is accepted. The one variable that not use the PLS is liquidity risk. This variable use RM since the result of REM test and LM test show the best model is REM.

Classical Assumption Test
   A. Multicollinearity Test

This test aims to test whether the regression model found a correlation between free variables. In determining the presence or absence of multicollinearity can be seen doing the value of VIF (Variance Inflation Factor) and Tolerance. Where to be free from multicollinearity the VIF value must be below 10 and the value 1 / VIF (tolerance) is more than 0.1 (Suwardi 2011). Multicollinearity test results can be seen in the table 3.

Table 3 Multicolinearity test result

Variabel	VIF	1/VIF
Indonesia		
TPF	1.35	0.739148
CAR	1.33	0.986772
Age	1.03	0.750595
NPF	1.01	0.974122
ROA	1.00	0.996768
Mean VIF	1.15	
Malaysia		
TPF	1.34	0.748688
CAR	1.01	0.988517
Age	1.37	0.731882
NPF	1.07	0.933058

ROA	1.01	0,992648
Mean VIF	1.16	

<center>Source: Output Stata</center>

From the table above it can be seen there is no correlation between multicollinearity between the independent variables in this study since the VIF is below 10.

B. Heteroscedasticity Test

The presence of heteroscedasticity in the observed data can be seen through the Breusch-Pagan / Cook-Weisberg test.. The results of running for the heteroskesticity test of FAR Malaysia are Prob> Chi^2 of 0.0076 FDR Malaysia Prob> Chi^2 of 0.0035 while FAR Indonesia of Prob> Chi^2 is 0.0146 and Indonesian FDR is Prob> Chi^2 0.0005 where all variables both in Indonesia or Malaysia have a value smaller than the significance of 0.05. This indicates that the data detected heteroscedaticity. As an alternative to the common effect / PLS model or fixed effect / FEM which still contains symptoms of heteroscedastisity, it can use the Generalized Least Squared (GLS) approach that accommodates the existence of autocorrelation and heteroscedastisity in the model (Suwardi 2011).

Generalized Least Squared (GLS) output results can be seen in the attachment. The product states that the panel model is homoskedastic, which means that the data is free from heteroscedasticity. Therefore, the panel model used is the Generalized Least Squared (GLS) model instead of the previously chosen common effect / fixed effect model (Suwardi 2011).

C. Hypothesis Testing

Table 4 shows below is the results of hypothesis testing based on the PLS Model:

<center>**Table 4** Hypothesis test result</center>

Variabel	Proxy	Coef	p-value
Hypothesis Testing for Credit Risk Malaysia			
Constant		0.1477421	0,575
Variabel Indipenden	TPF	0.033025	0.004*
	CAR	-1.12866	0.000*
	Age	-0.0057961	0.000*
	NPF	-1.419288	0.003*
	ROA	-0.1668084	0.000*
F-statistic			0.0000
Adjusted R-square			0.6490

<center>Source: Output Stata</center>

From the table above, it can be seen that the r-square value is 0.6490. This shows that 64.9% of TPF, CAR, Bank Age NPF, and ROA can affect the FAR variable in Malaysian Islamic banks. Moreover, based on the results of the statistical t-test in table 7, it can be seen that the independent variables that significantly affect the dependent variables are TPF, CAR, Age, NPF, and ROA. The most enormous significance value is owned by 0.004 on TPF, then NPF of 0.003 and the smallest value of 0.000 which is owned by CAR variable, Age and ROA. Furthermore, From the results of the F test the significance value prob is 0,000 <0,05 which indicates the rejection of H0. So that it can be concluded that the independent variables TPF, CAR, bank Age, NPF and ROA are significant in influencing the dependent variable in the form of credit risk taking in Malaysian Islamic banks simultaneously.

Table 5 Hypothesis test result

Variabel	Proxy	Coef	p-value
Hypothesis Testing for Credit Risk Indonesia			
Constant		0.8056218	0.007
Variabel Independen	TPF	0.0008241	0.934
	CAR	-0.4654525	0.000*
	Age	-0.0009964	0.549
	NPF	-0.5466171	0.273
	ROA	0.1752554	0.749
F-statistic			0.0000
Adjusted R-square			0.4440

Source: Output Stata

From the table above it can be seen that the determination coefficient value is 0.4440. This shows that 44.4% of deposits, CAR, bank age, NPF and ROA can affect the FAR variable in Indonesian Islamic banks. Based on the results of the t-test statistics in table 5 it can be seen that the independent variables that effect the significantly dependent variable are CAR the other variables did not affect the dependent variable in the form of credit risk at Syaiah Indonesia banks. From the results of the F test the significance value prob is 0.000 <0.05 which indicates the rejection of H0. So it can be concluded that the independent variables of TPF, CAR, Bank Age, NPF and ROA are significant in influencing the dependent variable in the form of credit risk taking in Indonesian Islamic banks simultaneously.

Table 6 Hypothesis test result

Variabel	Prokxy	Coef	p-value
Hypothesis Testing for Liquidity Risk Malaysia			
Constant		3.557147	0.000
Variabel Indipenden	TPF	-0.1126524	0.001*
	CAR	0.8746521	0.146
	Age	-0.0077554	0.072
	NPF	0.0689607	0.961
	ROA	-0.4318041	0.000*
F-statistic			0.0000
Adjusted R-square			0.5137

Source: Output Stata

From the table above, it can be seen that the determination coefficient value is 51.37%. While the t test in table 6 says that TPF and ROA significantly influenced the Malaysian Liquidity Risk. From the results of the F test, it can be concluded that the independent variables of TPF, CAR, Bank Age, NPF and ROA are significant in influencing the dependent variable in the form of liquidity risk taking at Malaysian Islamic banks simultaneously.

Table 7 Hypotesis test result

| Variabel	Proxy	Coef	p-value
Hypothesis Testing for Liquidity Risk Indonesia			
Constant		2.216162	0.000
Variabel Independen	TPF	-0.0460828	0.024*
	CAR	-0.0585692	0.735
	Age	0.0052464	0.121
	NPF	0.231078	0.820
	ROA	1.385054	0.216
F-statistic			0.1530
Adjusted R-square			0.0903

Source: Output Stata

From the table above, it can be seen that the determination coefficient value is 9.03% and the remaining 90.97% is explained outside of this research variable.Based on the results of the statistical t test in table 7, it can be seen that the TPF is the only variable that affects the Indonesian IB Liquidity Risk. Analysis The results of the study

show that deposits have a significant positive effect on the level of risk taking in the form of FAR in Malaysian Islamic banks with a probability value of 0.004 <0.05. It is known that the regression coefficient value is 0.033025, meaning that the increase in TPF of 1% in banks can increase the level of risk taking by Islamic banks in Malaysia by 3.3% if other independent variables remain.

Discussion

This research has results that are in line with the research conducted by Siregar (2014) and Murdiyanto (2012). Based on their research the more third-party funds collected by the Bank, the more credit is channeled. Moreover, the Malaysian case is different with the result that provided by Syamlan & Jannah (2019) which stated that the less TPF flow to the Bank, the more credit risk will be faced by the Bank. This differentiation is happened since Syamlan & Jannah (2019) use the data from Full-Fledged Indonesian Bank. Deposits in Indonesian Islamic banks do not have a significant positive effect on credit risk taking in Islamic banks in Indonesia with a Probability value of 0.934> 0.05. With a regression coefficient of 0,0008241 so it can be concluded that the magnitude of the increase or decrease in the value of 1% TPF in Islamic banking in Indonesia does not affect the level of risk taking by Islamic banks if other variables remain. This study has different results from the research conducted by Siregar (2014) and Murdiyanto (2012). Based on their research the more third-party funds collected by the Bank, the more credit will be distributed.
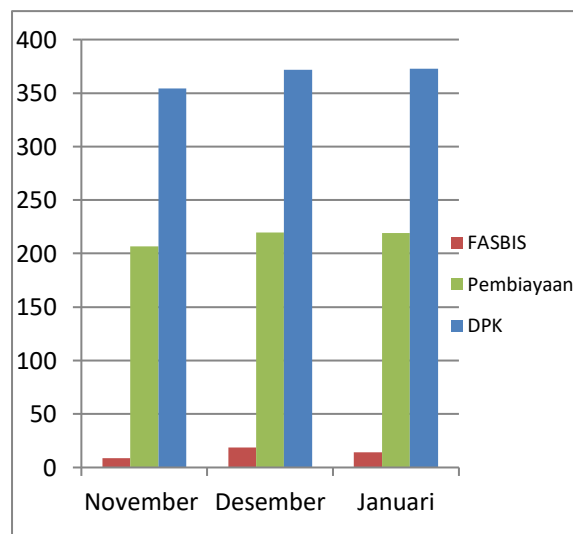
Source: Otoritas Jasa Keuangan Indonesia (OJK,2019)
Figure 2 Growth of TPF, Financing, and FASBIS (Central Bank Instrument) in Indonesia's Islamic bank

In the figue bove, it can be seen the growth of TPF from November 2018-January 2019 which at the end of November 2019 the value of deposits was IDR 354,421 Billion. In December 2019 worth IDR 371,828 billion which entered the Bank but financing was IDR 206,877 Billionin November and IDR 219,497 billion in the month December 2019, this happened because the funds were not channeled because they were already at the end of the year and were unable to distribute funds so that third party funds were deposited in FASBIS worth IDR 8,477 billion in November and IDR 18,663

Billionin December. We can also see in the figure above that at the end of the year FASBIS funds increased from funds that were not channeled, and from the picture above we can also see when Indonesian Islamic banks were unable to channel, they were placed in FASBIS and securities that were always increasing especially at the end of the month, so that financing for Indonesian Islamic banks is not going well.

A. **The Effect of TPF on the Level of Liquidity Risk Taking of Islamic Banks Malaysia and Indonesia**

The results in table 6 and 7 showed that TPF had a significant negative effect on the level of liquidity risk taking in the form of FDR in Malaysian Islamic banks with a probability value of 0.001 <0.05. It is known that the regression coefficient of -0.1126524, means that the increase in TPF by 1% in banks can reduce the level of risk taking by Islamic banks in Malaysia by 11.26% if the other independent variables remain. Whereas deposits at Indonesian Islamic banks have a significant negative effect on liquidity risk taking in the form of FDR on Islamic banks in Indonesia with a Probability value of 0.024 <0.05. With a regression coefficient of -0.0460828 so it can be concluded that the magnitude of the increase in the value of DPD 1% in Islamic banking in Indonesia reduces the level of risk taking by Islamic banks by 4.6% if the other independent variables remain.

This research is in line with the research conducted by Ervina (2016) which states that Third Party Funds have a significant negative effect on Liquidity, where any decrease in deposits growth causes a decrease in financing activities and an impact on decreasing the level of Liquidity in banks. However, contrary to the research conducted by (Granita and MUHARAM 2011), the results of TPF have a significant positive effect on the LDR. If the TPF is a little to the Bank, the distribution to the community will be small and this can lead to liquidity risk in the banking sector due to the incompatibility of incoming funds with the funds spent.

B. **Effect of CAR on Islamic Bank Credit Risk Levels in Malaysia and Indonesia**

The results in table 4 and 5 showed that CAR has a significant negative effect on the level of risk taking in the form of FAR in Malaysian Islamic banks with a probability value of 0,000 <0.05. It is known that the regression coefficient of -1.12866 means that an increase in CAR of 1% in banks can reduce the level of risk taking by Islamic banks in Malaysia by 112.8% if the other independent variables remain. Whereas CAR on Indonesian Islamic banks also has a significant negative effect on the level of credit risk taking in Islamic banks in Indonesia with a Probability value of 0,000 <0.05. With a regression coefficient of -0.4654525 so it can be concluded that the magnitude of the increase in the value of 1% CAR in Islamic banking in Indonesia by 46.5% can reduce the level of risk taking by Islamic banks if other variables remain.

Both research on Islamic banks in Indonesia as well as Islamic banks in Malaysia are in line with the research conducted by Murdiyanto (2012) which results in CAR having a significant negative effect on lending. With the high CAR above the provisions, the capital adequacy is used to provide credit if there is a substantial credit surge, or is used as another business development to accommodate the risk of loss of

funds caused by the Bank's operational activities where much of the credit is financed by TPF. However, this research is in contrast to Pratiwi, Susan & Hindasah (2014) whose results CAR has no significant effect on lending.

C. The Effect of CAR on the Liquidity Risk Taking Rates of Bank Syariah Malaysia and Indonesia

The results in table 6 & 7 showed that CAR did not have a significant positive effect on the level of liquidity risk taking in the form of FDR in Malaysian Islamic banks with a probability value of 0.146> 0.05. It is known that the regression coefficient of 0.8746521, means that CAR in banks cannot reduce the level of risk taking by Islamic banks in Malaysia if the other independent variables remain. While CAR in Indonesian Islamic banks also does not have a significant negative effect on liquidity risk taking in the form of FDR on Islamic banks in Indonesia with a Probability value of 0.735> 0.05. With a regression coefficient of -0.0585692 so it can be concluded that the magnitude of the increase in CAR in Islamic banking in Indonesia does not affect the level of risk taking by Islamic banks. This research is in line with the research conducted by Prayudi (2010) who said that CAR is used to measure existing capital capabilities to cover possible losses in credit activities and securities trading, while bank losses due to credit activities and trade in securities declined. so CAR does not affect the LDR. And having different results from the research conducted by Hersugondo & Tamtomo (2009) which states that CAR has a positive and significant effect on the LDR.

CAR in Malaysia and Indonesia Islamic liquidity risk taking is not significantly negative because the average CAR value of Malaysian Islamic banks is 14.1% and Indonesian banks of 20.3% are still in numbers and good conditions can show the resilience of Islamic banks maintained above the provisions, so that risk is not a major problem for Islamic banks in their capital, the amount of funding provided by banks is not affected by the value of CAR. And we can also conclude that even though capital or deposits increase, it cannot be ascertained that FDR also rises due to the economic slowdown that occurred both from Indonesia and Malaysia.

D. Effect of Bank Age on Malaysian and Indonesian Syariah Bank Credit Risk Taking Rates

The results showed that Bank ages had a significant negative effect on the level of risk taking in the form of FAR in Malaysian Islamic banks with a probability value of 0,000 <0.05. It is known that the regression coefficient value is -0.0057961, meaning that the increase in Bank age by 1% in banks can reduce the level of risk taking by Islamic banks in Malaysia by 5% if the other independent variables remain. The results of this study are in line with the research conducted by Ahmed et al (2011) which states that the older the age of a bank, the more risks that have been faced. Therefore, when banks get older, they indicate that their business experience is increasing and make banks more courageous in taking risks.

Whereas bank Age in Indonesian Islamic banks does not have a significant negative effect on the level of credit risk taking in Islamic banks in Indonesia with a

Probability value of 0.549> 0.05. With a regression coefficient of -0,0009964, it can be concluded that Bank ages in Islamic banking in Indonesia do not affect the level of risk taking by Islamic banks if other variables remain. This research is not in line with the research conducted by Ahmed et al (2011) and Bouwman et al (2018) which said bank age had an effect on banking. From this research, it can be seen that not all banks, if they are older, indicate that the Bank is getting better at taking risks. In Indonesia, when the age of the Bank gets older, it makes the Bank increasingly makes the Bank less risky.

Based on this research, it can be seen that the age of the company effects credit risk taking in Malaysia because if the Bank gets older, the Bank is accompanied by increased capital so that many banks make bigger capital reserves to meet their liquidity needs and make larger investments to increase profits. and greater funding distribution to its customers so that the Bank can improve its function as an intermediary to the community such as the first standing Bank and the longest in Malaysia, the Bank Islam Malaysia Berhad (BIMB). However, unlike the Islamic banks in Indonesia, the age of the company does not affect risk taking. Which proves that if Islamic banks in Indonesia are getting older, the existing capital of the Bank is reduced so that they are afraid to take risks, namely Muamalat Indonesia bank. a company is getting worse and declining technology equipment is getting older so the BUS must continue to make improvements and development in its operational so that it continues to run well so that the funds obtained are channeled to the development of the company.

E. **Effect of Bank Age on Malaysian and Indonesian Islamic Liquidity Risk Taking Rates**

The results in table 6 & 7 showed that Bank ages did not have a significant negative effect on the level of liquidity risk taking in the form of FDR in Malaysian Islamic banks with a probability value of 0.072> 0.05. It is known that the regression coefficient of -0.0077554, means that Bank Age in banks cannot reduce the level of risk taking by Islamic banks in Malaysia if other independent variables remain. While the bank Age in Indonesian Islamic banks also does not have a significant positive effect on liquidity risk taking in the form of FDR on Islamic banks in Indonesia with a Probability value of 0.121> 0.05. With a regression coefficient of 0.0052464, it can be concluded that the magnitude of the increase in bank age in Islamic banking in Indonesia does not affect the level of risk taking by Islamic banks.

The age of the company does not affect liquidity risk taking. Which proves that if Islamic banks in Indonesia and Malaysia, the existing capital in the Bank is reduced so that they are afraid to take risks. With a little capital, banks cannot make bigger reserves to meet their Liquidity. This research is in line with the research conducted by Loderer & Waelchli (2010) who in his research said that when companies get older, the performance of a company becomes worse and the technology equipment decreases that gets older so that BUS must continue to make improvements and development in order to keep running so that the funds obtained are channeled to the development of the company. And this research is not in line with the research

conducted by Ahmed et al (2011) and Bouwman et al (2018) which said bank age had an effect on banking.

F. **The Effect of NPF on Malaysian and Indonesian Syariah Bank Credit Risk Levels**

The results in table 4 & 5 showed that NPF had a significant negative effect on the level of risk taking in the form of FAR in Malaysian Islamic banks with a probability value of 0.003 <0.05. It is known that the regression coefficient of -1.419288 means that an increase in NPF of 1% in banks can reduce the level of risk taking 141.9% by Islamic banks in Malaysia.

The results of the study are in line with the research conducted by Murdiyanto (2012) where NPL / NPF has a significant negative effect on the provision of credit by conventional banks. When the higher the NPF, the Bank will be more selective in lending to minimize risk. However, it is contrary to the research conducted by Annur (2017) which states that NPF has no effect in banking for a short period of time.

Whereas NPF in Indonesian Islamic banks does not have a significant negative effect on the level of credit risk taking in Islamic banks in Indonesia with a Probability value of 0.273> 0.05. With a regression coefficient of -0.5466171 so it can be concluded that NPF in Islamic banking in Indonesia does not affect the level of risk taking by Islamic banks. The results of this study are in line with the research conducted by Annur (2017) which states that NPF has no effect in banking for a short period of time. However, it is different from the research conducted by Murdiyanto (2012) where NPF has a significant negative effect on the provision of credit by conventional banks. When the higher the NPF, the Bank will be more selective in lending to minimize risk

In this study, it can be seen in Malaysia that NPF has an effect on credit risk taking in Islamic banks while at Bank Indonesia NPF has no effect on credit risk taking. So that it can be concluded that Malaysian Islamic banks have a better ability than Indonesian Islamic banks in covering the risk of failure of credit returns by NPF debtors, so that the credit risk borne by Malaysian banks is smaller compared to Indonesian Islamic banks. And from assets contained in banks, Malaysia also looks bigger and capital owned is greater than Indonesian Islamic banks so that when there is a payment failure / bad credit from Malaysian debtors already have reserves of account investment. Whereas Indonesia, which has not been regulated in its contract of money coming in for investment, can be distributed anywhere and can be taken back, and when there is a failure in payment Indonesia does not have reserves so that the risk in handling risks is greater than Indonesia. Funds can be seen from Figure 3 below this NPF trend in the last 3 years.
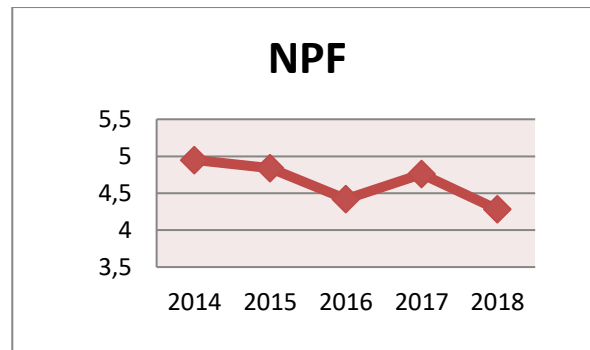
Source: Otoritas Jasa Keuangan Indonesia (OJK)
Figure 3 NPF Indonesia Islamic bank

The above Figure 3 shows that the NPF conditions in Islamic banks in Indonesian Islamic banking are still relatively safe. The NPF of Islamic Bank still below the OJK maximum value of 5%. In the 2014, the NPF is the highest among the observed time since it is almost 5%; amounted 4.89%. The value of NPF than decrease to 4.7% (2015) and went 4.5% in 2016. The trend was going up again into 4.7% in 2017 and end up in 4.4% in 2018 (which is the best NPF in the period of 2014 to 2018). Again, it is shown that NPF is not a major problem in financing distribution because the numbers are still below the maximum provisions that apply, so if there is no correlation between the two does not become a problem that is so risky.

G. **The Effect of NPF on the Level of Liquidity Risk Taking of Islamic Banks Malaysia and Indonesia**

The results in table 6 & 7 showed that NPF did not have a significant positive effect on the level of liquidity risk taking in the form of FDR in Malaysian Islamic banks with a probability value of 0.961> 0.05. It is known that the regression coefficient is 0.0689607, meaning that the NPF in banks cannot reduce the level of risk taking by Islamic banks in Malaysia if the other independent variables remain. While NPF in Indonesian Islamic banks also does not significantly positively affect liquidity risk taking in the form of FDR on Islamic banks in Indonesia with a Probability value of 0.820> 0.05. With a regression coefficient of 0.231078, it can be concluded that the magnitude of the increase in NPF in Islamic banking in Indonesia does not affect the level of risk-taking by Islamic banks. This research is in line with study conducted by Annur (2017). Their results show that NPF does not positively affect a significant relationship to liquidity risk and is supported by Ervina's (2016) study, which states that NPF has no significant negative impact on the level of Liquidity.

H. **Effect of ROA on Malaysian and Indonesian Syariah Bank Credit Risk Levels**

The results in Tables 4 & 5 showed that ROA had a significant negative effect on the level of risk-taking in the form of FAR in Malaysian Islamic banks with a probability value of 0,000 <0.05. It is known that the regression coefficient of -0.1668084 means that an increase in the value of ROA of 1% in banks can reduce the risk-taking rate of 16.68% in Islamic banks in Malaysia if the other independent variables remain.

because of the changes in TPF products contained in the investment account, so the profits obtained from ROA are only taken by the Bank, because the Bank is only a proker and only takes profit. Here also can be seen a high ROA value compared to the FAR value should when the ROA is high then the FAR value is also high, but here the FAR value is low, and the ROA value is high. Because of that, we can conclude that even though the profits obtained by Malaysian Islamic banking are large, deposits are also expensive, so they have no effect.

While ROA in Indonesian Islamic banks does not have a significant positive effect on the level of credit risk-taking in Islamic banks in Indonesia with a Probability value of 0.749> 0.05. Regression coefficient of 0.1752554, it can be concluded that ROA in Islamic banking in Indonesia does not affect Islamic banks' risk-taking level. This research is in line with the study conducted by Pratiwi & Hindasah (2014), which results in ROA not affecting bank lending due to the existence of several funding priorities besides credit funding. The results of this study are in line with the research conducted by Pratiwi, Susan & Hindasah (2014), which states that ROA does not affect bank lending because there are several funding priorities besides credit funding. And according to Dendawijaya in Partiwi (2009), ROA funds invested in fixed assets could be used for company growth. Besides that, ROA is also a significant source of funds in banks, so that when the value of ROA rises or falls does not affect the amount of credit distribution.

I. **Effect of ROA on the Liquidity Risk-Taking Rates of Islamic Banks in Malaysia and Indonesia**

The results in table 5&6 showed that ROA had a significant negative effect on the level of liquidity risk-taking in the form of FDR in Malaysian Islamic banks with a probability value of 0,000> 0.05. It is known that the regression coefficient of -0.4318041, means that ROA in banks of 1% can reduce the level of risk taking by Islamic banks in Malaysia by 43.1% if the other independent variables remain. This research is in line with the research conducted by Ervina (2016) which results in ROA having a negative and significant effect on FDR, which indicates that the smaller the ROA income level ratio will not affect the decrease in credit or financing distribution but it will have an impact on the decreasing level of Liquidity. And supported by research conducted by Annur (2017), the results of ROA have a significant negative effect on liquidity risk.

While ROA in Indonesian Islamic banks does not have a significant positive effect on liquidity risk taking in the form of FDR on Islamic banks in Indonesia with a Probability value of 0.216> 0.05. With a regression coefficient of 1.385054, it can be concluded that the magnitude of the increase in ROA in Islamic banking in Indonesia does not affect the level of risk taking by Islamic banks. This research is in line with the research conducted by Pratiwi, Susan & Hindasah (2014) who in his research said that the Return on Assets (ROA) does not affect credit channeling in banks because it also has no effect in banking liquidity. Can be seen in Figure 4 below the value of ROA from 2014-2018.
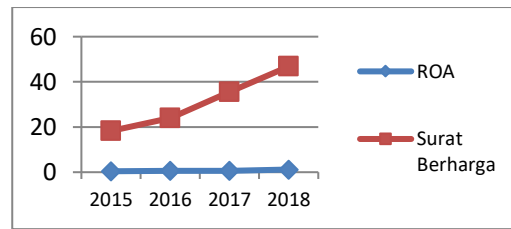
Source: Otoritas Jasa Keuangan Indonesia (OJK)
Figure 4 Growth of ROA and Indonesian banking book of Islamic Bank

From the picture above, we can see that the profits obtained by Indonesian Islamic banking are sourced from the gain that resulted from the investment in equities such as sukuk. As data given in above Figure 4, the Sukuk in Islamic Bank increased from 20% form Islamic Bank asset to the 50% of Islamic Bank asset in the period of 2015 to 2018. This investment helps the Islamic Bank profit in hard time. It is shown that the ROA of Islamic Bank increase fro, 0.49% in 2015 to 0.63 % in 2016 and 2017 and rose sharply to 1.28% in 2018.

Taswan (2010) said that funds that generated ROA are placed on fixed assets and inventory to operate banking activities properly. And also, according to Dendawijaya in Pratiwi (2014), ROA is not the main fund in a bank's Liquidity because the main funds in banking are obtained from Third Party Funds, and if there is an increase in ROA it does not affect the amount of credit and liquid distribution or whether or not bank funds.

Conclusion

The change of credit and liquidity risk in Indonesia and Malaysia has their cause. In Indonesia, the credit risk is caused by the Capital Adequacy Ratio while in Malaysia. Credit risk is driven by the Third-Party Fund, CAR, Bank Age, and ROA. Moving on the liquidity risk, the Indonesian& Malaysian Islamic banking liquidity risk is dependent on the Third-Party Fund and the Return on Asset (ROA).

There is considered to be taken into in this research, regarding the relationship between the ROA and Liquidity risk. In Malaysia's case, ROA has a negative effect on liquidity risk while in Indonesia it has a positive relationship. This thing happened due to the investment account product that is available in Malaysia and still has not implemented in Indonesia. The Malaysian investment account product gives Islamic Bank only a brokerage fee, while in Indonesia, the ROA depends on the profit form trading the securities and financing.

This research has its limitations. For future research, comparing the series data from Bank Negara Malaysia and OJK will be good to have the variability and robustness on the research on credit and liquidity risk. Moreover, the future researcher can employ the VAR/VECM to see the response of the dependent variable when the independent variable like TPF, ROA, NPF, Bank Age, and CAR change.
This research also advises the Otoritas Jasa Keuangan (OJK) to apply Syamlan (2018) idea on the investment account, which is the theoretical paper that was used to establish the Sharia Restricted Investment Account (SRIA).

References

[1]Ahmed, Naveed, Zulfaqar Ahmed, and Imran Haider Naqvi. 2011. "Liquidity Risk and Islamic Banks: Evidence from Pakistan." *Interdisciplinary Journal of Research in Business* 1 (9): 99–102.

[2]Alam, Nafis. 2013. "Impact of Banking Regulation on Risk and Efficiency in Islamic Banking." *Journal of Financial Reporting and Accounting*.

[3]Annur, Romario. 2017. "Analisis Faktor-Faktor Yang Mempengaruhi Risiko Likuiditas Bank Syariah Di Indonesia." Jakarta: Fakultas Ekonomi dan Bisnis UIN Syarif Hidayatullah Jakarta.

[4]Bin-Bahari, Zakaria. 2009. "The Changes of Product Structure in Islamic Banking: Case Study of Malaysia." *Islamic Perspectives on Management and Finance (UK), Downloadable: Www. Eprints. Usm. My*.

[5]Dewinta, Ida Ayu Rosa, and Putu Ery Setiawan. 2016. "Pengaruh Ukuran Perusahaan, Umur Perusahaan, Profitabilitas, Leverage, Dan Pertumbuhan Penjualan Terhadap Tax Avoidance." *E-Jurnal Akuntansi* 14 (3): 1584–1615.

[6]Fauzan, M. 2017. "Pengaruh Dana Pihak Ketiga Dan Modal Sendiri Terhadap Pembiayaan Murabahah." *Jurnal Investasi Islam* 2 (1): 1–20.

[7]Granita, Jen Kharisa, and Harjum MUHARAM. 2011. "Analisis Pengaruh DPK, CAR, ROA, NPL, NIM, BOPO, Suku Bunga, Inflasi, Dan Kurs Terhadap LDR (Studi Pada Bank Umum Swasta Nasional Devisa Periode 2002-2009)." Universitas Diponegoro.

[8]Hamidah, Nur Zahroh, and Dian Purnomo Jati. 2015. "Pengaruh Sistem Penjaminan Simpanan, Bank Size, Dan Leverage Terhadap Perilaku Pengambilan Risiko Bank." *Sustainable Competitive Advantage (SCA)* 5 (1).

[9]Hersugondo, Handy Setyo T. 2012. "Pengaruh CAR, NPL, DPK, Dan ROA Terhadap LDR Perbankan Indonesia." *Jurnal FE Universitas Stikubank Semarang*.

[10]Ifsb. 2012. *IFSB GP-12 Guiding Principles on Liquidity Risk Management*.

[11]IFSB. 2005. *Guiding Principles of Risk Management for Institutions (Other Than Insurance Institutions) Offering Only Islamic Financial Services*.

[12]Inderst, Roman, and Holger M Mueller. 2008. "Bank Capital Structure and Credit Decisions." *Journal of Financial Intermediation* 17 (3): 295–314.

[13]Indonesia, Ikatan Bankir. 2014. *Memahami Bisnis Bank Syariah*. Gramedia Pustaka Utama.

[14]Kusumawardani, Angrawit. 2012. "Analisis Pengaruh EPS, PER, ROE, FL, DER, CR, ROA Pada Harga Saham Dan Dampaknya Terhadap Kinerja Perusahaan LQ45 Yang Terdaftar Di BEI Periode 2005-2009."

[15]Loderer, Claudio, and Urs Waelchli. 2010. "Firm Age and Performance."

[16]Maidalena, Maidalena. 2014. "Analisis Faktor Non-Performing Financing (NPF) Pada Industri Perbankan Syariah." *HUMAN FALAH: Jurnal Ekonomi Dan Bisnis Islam* 1 (1): 127–38.

[17]Misman, Faridah Najuna, Ishaq Bhatti, Weifang Lou, Syamsyul Samsudin, and Nor Hadaliza Abd Rahman. 2015. "Islamic Banks Credit Risk: A Panel Study." *Procedia Economics and Finance* 31: 75–82.

[18]Murdiyanto, Agus. 2021. "Faktor-Faktor Yang Berpengaruh Dalam Penentuan Penyaluran Kredit Perbankan Studi Pada Bank Umum Di Indonesia Periode Tahun 2006-2011." In *Conference In Business, Accounting, And Management (CBAM)*, 1:61–75.

[19]Nurwati, Etty, Noer Azam Achsani, Didin Hafidhuddin, and Nunung Nuryartono. 2014. "Umur Dan Kinerja Perusahaan: Studi Empiris Perbankan Syariah Di Indonesia." *Jurnal Manajemen Teknologi* 13 (2): 173–88.

[20]Prasetyo, Dwi Agung, and Ni Putu Ayu Darmayanti. 2015. "Pengaruh Risiko Kredit, Likuiditas, Kecukupan Modal, Dan Efisiensi Operasional Terhadap Profitabilitas Pada PT BPD Bali." *E-Jurnal Manajemen* 4 (9).

[21]Pratiwi, Susan, and Lela Hindasah. 2014. "Pengaruh Dana Pihak Ketiga, Capital Adequacy Ratio, Return Nn Asset, Net Interest Margin Dan Non-Performing Loan Terhadap Penyaluran Kredit Bank Umum Di Indonesia." *Jurnal Manajemen Bisnis* 5 (2): 192–208.

[22]Ramadiyah, Rizki. 2014. "Model Sistem Manajemen Resiko Perbankan Syariah Atas Transaksi Usaha Masyarakat." *MENARA* 13 (2): 220–48.

[23]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* 5 (12): 199–215.

[24]Sriyana, Jaka. 2015. "Fiscal Capacity and Poverty Alleviation: A Panel Data Analysis for Yogyakarta Special Province, Indonesia." *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan* 16 (1): 1–10.

[25]Sukmawati, Fitri. 2017. "PENGARUH RETURN ON ASSET, RETURN ON EQUITY, ARUS KAS PADA RETURN SAHAM." In. Seminar Nasional Akuntansi dan Bisnis (SNAB), Fakultas Ekonomi Universitas ….

[26]Suwardi, Akbar. 2011. "STATA: TAHAPAN DAN PERINTAH (SYNTAX) DATA PANEL. EDISI: 2011." *Web. Accessed August* 25: 2013.

[27]Syamlan, Yaser Taufik. 2018. "Does Dual Banking System in Indonesia Differentiate Investment Account Requirement?" *Tazkia Islamic Finance and Business Review* 11 (1).

[28]Syamlan, Yaser Taufik, and Wardatul Jannah. 2019. "THE DETERMINANT OF CREDIT RISK IN INDONESIAN ISLAMIC COMMERCIAL BANKS." *Share: Jurnal Ekonomi Dan Keuangan Islam* 8 (2): 181–206.

[29]Syamlan, Yaser Taufik, and Ar Rizal Azinuddin. 2019. "Why Do Indonesian Islamic Banks Take the Risk?: The Case of Two Major Islamic Banks." *International Journal of Islamic Economics and Finance (IJIEF)* 1 (2): 187–208.

[30]Triyanta, Agus. 2009. "Implementasi Kepatuhan Syariah Dalam Perbankan Islam (Syariah)(Studi Perbandingan Antara Malaysia Dan Indonesia)." *Jurnal Hukum Ius Quia Iustum* 16.

[31]Zattira, Reza. 2016. "Pengaruh NPL, CAR, Inflasi, Suku Bunga Dan Kurs Melalui Jumlah Penyaluran Kredit Terhadap Profitabilitas Perbankan." *RELASI: JURNAL EKONOMI* 12 (2).