

# Comparison of Liquidity Risk and Credit Risk Stability of Islamic Banking and Conventional

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**Abstract.** This study analyzes the comparison of the stability of Islamic banks and conventional banks based on credit risk and liquidity risk. Researchers chose the bank stability variable with a proxy, namely the Z-score as a means of testing the effect of liquidity risk on bank stability. And using a descriptive statistical approach, the classical assumption test. To test the relationship between liquidity risk and credit risk, then the Mann-Whitney U test is to compare the performance of Islamic banks and conventional banks. The research data were obtained from Islamic and conventional banking companies in Indonesia for the period 2008-2018 to then compare and analyze the test results. The expected result is that there is a significant negative influence between liquidity risk on bank stability and the better performance of Islamic banks than conventional banks.

**Keywords:** Liquidity Risk, Credit Risk, Stability Bank, Comparison of Sharia Banking and Conventional

## 1. INTRODUCTION

Islamic banking has an important role in the center of Islamic finance. Although sharia banking was originally only for Muslims and within the Muslim population, after the subprime financial crisis this concept has spread throughout the world (Hassan et al. Al., 2018). The subprime financial crisis created a growing concern in all financial institutions, especially banking financial stability. This is due to the complex and mutually influencing relationship between financial stability and macroeconomic stability. So that financial stability is not guaranteed safe even in a stable macroeconomic environment. Therefore, financial stability analysis cannot be ignored (Phan et al, 2019).

It has been observed that the number of Sharia banks operating in various parts of the world in the last few decades has increased. Islamic banking has grown rapidly over the last thirty years (Hassan et al, 2018). This can be seen based on the increasing number of banks, as well as bank branch offices and the amount of capital invested (Khan, 2010). In Indonesia, according to the Financial Services Authority, for more than two decades, to be precise since 1992 the national Islamic banking industry has continued to increase following various economic growth rates according to economic conditions and various other factors that influence its development.

Islamic banking has the same function as conventional banks but the nature and structure of their products differently, Islamic banks are not allowed to engage in transactions based on interest (riba), uncertainty (gharar), and speculation/gambling (qimar) (Hassan et al, 2018). The fundamental difference between Islamic and conventional banks is in the profit and loss-sharing mode, ie on the liabilities side of their balance sheets (Obaidullah, 2005). Although according to the Sharia system in its operations, but Islamic banks can not be considered free from all risks faced by the conventional banking system (Hassan et al, 2018).

There are many studies such as by Beck, et al, 2013; Abedifar, et al, 2013; and Uddin Miah, 2017; explained that Islamic banks tend to be more stable, especially during the subprime financial crisis, but in fact some banks still experience bankruptcy, due to lack of liquidity. For example,

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one of the Islamic banks in Turkey which was founded in 1995 they operate by facilitating small investors and savers to save their investments in exchange for interest for free.

Research on bank stability has also been conducted by researchers who analyze the effect of liquidity risk on bank stability. Such as Wagner (2007) found that liquidity risk has a negative impact on bank stability. Furthermore Cornetta et al. (2011) showed that during the financial crisis, banks with high liquid assets were able to increase their liquidity and reduce borrowing. Whereas Čihák and Hesse (2010) and Almarzoqi et al. (2015) did not find a relationship between liquidity risk and stability in large Islamic banks but there is a significant negative correlation for small Islamic banks. Furthermore, Hassan et al 2018, found that in managing risk management, Islamic banks are better than conventional banks. In addition, Phan et al, 2019 found that apart from credit risk, bank size and market concentration can also have a positive effect on bank stability.

In Indonesia is there are two main problems faced by Islamic banks. First, low asset quality and capital are limited both. Both of these barriers faced by Islamic banking in Indonesia both Islamic banks (BUS) and sharia business unit (UUS) (Tri Adi). This statement is also supported by the evidence Progress reports total assets, the Labor Office Network, and Islamic Banking - 2016-2019 period reported by the Financial Services Authority through Islamic Banking Statistics data (SPS) is a media publication that presents data periodically Indonesian Islamic banking.

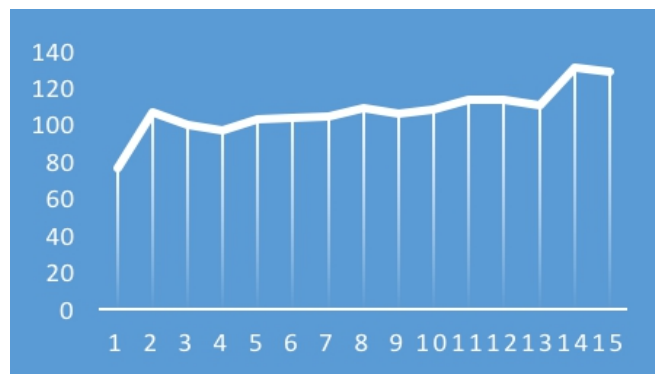


Figure 1. Chart of LDR Islamic Banking the period 2016-2019  
 Source: OJK

The graph above explaining that the LDR steadily increased over the past three years, it can lead to decreased liquidity of a bank which may result in increased liquidity risk of banks in Indonesia, but it also LDR increasing has exceeded the maximum limit of the LDR predetermined by the FSA of 90%.

Research conducted by Hasan et al (2018) compared bank stability in conventional and Islamic banks which is affected by liquidity risk and credit risk, the study found that liquidity and credit risk have a negative relationship in Islamic banks. In addition, there is a positive relationship between liquidity risk and bank stability (measured by z-score and default distance). Furthermore, there is a negative relationship during the post-subprime financial crisis between liquidity risk and stability in Islamic banks. according to Phan et al (2019) bank stability is affected by different liquidity risk and credit risk. This study shows that there is a positive coefficient for credit risk and a negative change for liquidity risk, and these results are significant for all models. This research shows that there is a trade-off between credit risk and bank stability; However, banks can improve their stability if their liquidity risks are controlled.

This study aims to analyze the stability of banking in Islamic banks compared to conventional banks which are measured based on credit risk and liquidity risk. To do this, according to research conducted by Hasan et al (2018), first to analyze the relationship between credit risk and liquidity risk, then look for the effect of liquidity risk on banking stability in the two banks. Liquidity risk arises from the difference in liabilities of all assets that can be withdrawn in a very short time, which can be cashed out quickly, at low fees, to cover expected and unexpected withdrawals. While credit risk is calculated based on dividing the difference between loan costs and loan repayments with the credit allowance for the previous year, Hasan et al (2018).

## 2. LITERATURE REVIEW

Risk management in Islamic banks has a different character from the conventional banks, mainly due to the types of typical risks inherent pad banks that operate by sharia. Basically, the difference between conventional banks and Islamic banks lies not in how to measure it, but in what is assessed (Karim, 2006).

Bank Indonesia as the central bank's regulatory policy-Indonesian banking regulations in consideration of the importance of a risk pengelolalan for Islamic banks and sharia business unit that operate in Indonesia. Therefore, Bank Indonesia issued Bank Indonesia Regulation Number 13/29 / PBI / 2009 regarding the Implementation of Risk Management Islamic Banks and Islamic Unit. The goal is to accommodate the business characteristics of Islamic Banks and Sharia Business Unit that is not entirely the same as conventional banking and to meet the mandate of Article 38 of Law No. 21 of 2008 concerning Islamic banking.

### A. Relationship between Liquidity and Credit Risk

Richard (2015) in its efforts to investigate the role of banks show three different theories in banking include:

1. Banks are defined as institutions that collect money from depositors and lend them to customers.
2. Banks in a bank reserve theory, assuming that the bank as a financial intermediary does not have the power to generate money but must be generated by the receiving banking system with "multiple deposit expansion".
3. Banks reject the role of banks as economics intermediaries as well as find that each bank has the effort to generate new credit and fund while giving loans.

Based on the above theory, particularly the financial intermediaries theory, proves that there is a relations on credit risk and liquidity in banking. Developing literatures as conducted by Allen and Carletti (2008); Cornetta et al. (2011), Imbierowicz & Rauch (2014) emphasize the existence of a positive relationship between the two risks, especially after the subprime financial crisis.

### B. Relationship Bank Size and Bank Stability

In the Islamic context, studies investigating the risk is lack. The study showed that smaller conventional banks less stable than smaller sharia banks (Cihak and Hesse, 2008). In addition, Phan et al. (2019) suggest that merger and acquisition activity might decrease the banking system competition, increase the size of the bank, market forces, and give the bank a benefit in

economy scale. The finding shows that the bank stability in one year before and the bank size seem to contribute to the increased stability of the bank. The smaller banks become less stable than larger banks, and less stable banks in future.

### 3. RESEARCH METHODS

The sampling technique is a method used to determine the number and members of the sample. Each member is part of the population that is selected after being grouped based on the similarity of characters. Sampling involves design selection and sample size decisions. The data used are data derived from individual financial reports which are publicly available on their respective websites for the period 2008-2018. To achieve the objectives of this study, the researchers chose banks that met the basic requirements, namely the two types of banks side by side (BUMN Conventional Bank and Adjunct Islamic Bank). So that we get a sample of 8 banks.

#### A. Variable Selection

In this study, the researcher chose two main risk factors, namely credit risk and cliche risk. Many studies such as Imbierowicz & Rauch (2014), Saeed & Izzeldin (2016), Kim & Sohn (2017) use credit and liquidity risk collectively or partially for a distinguish purposes. Furthermore, according to the existing literature on bank stability, the researcher chose the Z-score as the proxy variable for bank stability to examine the effect of risk of liquidity on banking stability.

#### B. Research Analysis

In analyzing research to describe the differences in the stability of conventional and Islamic banking companies in Indonesia as measured by credit and liquidity risk, data analysis was carried out by processing the data that had been obtained and then analyzed. followed a three-stage process:

1. Analyze data using a qualitative descriptive approach and classical assumption.
2. Examines the relations on credit risk and liquidity risk using virgin regression panels such as those used by (Pujianti and Sitorus, 2016).
3. Comparing bank statistics based on the performance of the two banks in terms of LR, CR, and Z-Score using the Mann-Whitney test with descriptive statistical mean values as used by (Hassan et al., 2009).

### 4. CONCLUSION

This study aims to analyze bank stability as measured by the Z-Score in Islamic banks and conventional banks as measured by comparing credit risk with NPL ratio and liquidity risk with LDR as the proxy. Furthermore, the two banks are compared. The expected result is that liquidity risk has a negative impact on bank stability and the performance of Islamic banks is better than conventional banks.

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