**Economics Studies and Banking Journal (DEMAND)**
Vol 1(1) 2024 : 17-25

# *The Effect of Economic Growth and Inflation on Liquidity in "Bank Syariah Indonesia"*

# Pengaruh Pertumbuhan Ekonomi dan Inflasi terhadap Likuiditas pada "Bank Syariah Indonesia"

**Muhammad Hidayat**
STIE Persada Bunda, Pekanbaru
*m.hidayat2901@gmail.com

**Coresponding Author*

***ABSTRACT***
*This study aims to evaluate the impact of external factors (macro economic), which consists of Gross Domestic Product (GDP) and Inflation, on Islamic bank liquidity risk as measured through the Financing to Deposit Ratio (FDR). The research method applied is time series data analysis using sample data from Bank Syariah Indonesia (BSI) in the 2021-2023 period with reference to monthly financial reports. The research results show that GDP has a negative and significant influence on liquidity risk represented by FDR. This means that a decrease in GDP contributes to an increase in liquidity risk in Islamic banks. Meanwhile, inflation has a positive influence on liquidity risk as measured by FDR, indicating that an increase in the inflation rate contributes to an increase in liquidity risk in Islamic banks. This increase in liquidity risk has the potential to cause inadequate FDR conditions. The analysis shows that around 40.3% of the variation in liquidity risk can be explained by GDP and inflation rates, while the remaining 59.7% is influenced by other factors not covered in this study.*

***Keywords : GDP, Inflation, Liquidity Risk, Sharia Bank***

**ABSTRAK**
Penelitian ini bertujuan untuk mengevaluasi pengaruh faktor eksternal (ekonomi makro) yang terdiri dari Produk Domestik Bruto (PDB) dan Inflasi terhadap risiko likuiditas bank syariah yang diukur melalui Financing to Deposit Ratio (FDR). Metode penelitian yang diterapkan adalah analisis data time series dengan menggunakan sampel data Bank Syariah Indonesia (BSI) periode 2021-2023 dengan mengacu pada laporan keuangan bulanan. Hasil penelitian menunjukkan bahwa PDB mempunyai pengaruh negatif dan signifikan terhadap risiko likuiditas yang diwakili oleh FDR. Artinya penurunan PDB berkontribusi terhadap peningkatan risiko likuiditas pada bank syariah. Sedangkan inflasi mempunyai pengaruh positif terhadap risiko likuiditas yang diukur dengan FDR yang menunjukkan bahwa peningkatan tingkat inflasi berkontribusi terhadap peningkatan risiko likuiditas pada bank syariah. Peningkatan risiko likuiditas ini berpotensi menyebabkan kondisi FDR tidak memadai. Hasil analisis menunjukkan bahwa sekitar 40,3% variasi risiko likuiditas dapat dijelaskan oleh PDB dan tingkat inflasi, sedangkan sisanya sebesar 59,7% dipengaruhi oleh faktor lain yang tidak dibahas dalam penelitian ini.

**Kata Kunci: PDB, Inflasi, Risiko Likuiditas, Bank Syariah**

## Introduction

Islamic banking liquidity refers to the ability of Islamic banks to meet their short-term financial obligations without experiencing significant losses. There are several theories and concepts related to sharia banking liquidity, such as liquidity as an asset, the effect of liquidity on profitability, and marketing strategies for sharia financing products. For example, a study regarding the influence of company size, capital adequacy, liquidity, and problematic financing on the profitability of Islamic banks in Indonesia shows that liquidity has a significant influence on the profitability of Islamic banks (Erlangga, 2015). Apart from that, another study highlights

the influence of the issuance of sukuk funds on sharia banking performance, which also includes analysis related to liquidity (Atika, 2018). This shows that liquidity plays an important role in sharia banking performance and strategy.

There are several macroeconomic factors that can influence the liquidity of Islamic banks, including GDP and inflation rates. A study on the influence of macroeconomic indicators on the profitability of Islamic banks in Indonesia found that GDP and the inflation rate had a significant impact on the profitability of Islamic banks (Mutaqqin, 2019). Meanwhile, a study on the factors that influence the liquidity of Islamic banks in Indonesia found that the rate of economic growth has a significant influence on asset liquidity (Prastiwi, 2021). Therefore, it can be concluded that GDP can influence the liquidity of Islamic banks indirectly through its impact. on profitability, while inflation can directly affect the liquidity of Islamic banks (Ibrahim, 2023).
It is very important to study the economic factors that influence sharia banking liquidity because these factors can influence the health and stability of sharia banking. Several macroeconomic factors that can influence sharia banking liquidity include GDP, inflation, exchange rates and third party funds. The studies that have been conducted show that these factors have a significant influence on the liquidity of Islamic banking in Indonesia. Therefore, a study of these factors can help Islamic banking in taking appropriate policies to maintain the health and stability of Islamic banking.

Previous research conducted by Bunda and Desquilbet (2008) concluded that Gross Domestic Product (GDP) growth had a positive effect on bank liquidity levels (Bunda, et al., 2008). In contrast to these findings, research conducted by Dinger (2009) states the opposite, even with the assumption that GDP growth occurs in developing countries (Dinger, 2009). Another difference emerges from Moussa's (2015) research which states that a decline in GDP triggers the implementation of expansionary economic policies by the government, which actually provides an opportunity for banks to earn more income and reduce liquidity risk. Specific research on Islamic banks by Abdul-Rahman et al. (2018) shows that the relationship between GDP growth and liquidity risk is negative. These results are in line with the findings of Yaacob et al. (2016), but there are still conflicting results, such as research by Sulaiman et al. (2013) which states that the relationship between GDP growth and Islamic bank liquidity is positive.

Advanced study of inflation, which is an indicator of a country's general price level that is negatively affected by the purchasing power of the national currency. Previous research shows varying results, such as Vodova (2011) who investigated the liquidity of Czech Republic banks and concluded that inflation has a positive impact on liquidity risk (Vodova, 2011). In contrast, Horvath et al. (2014) found that the inflation rate does not have a significant effect on bank liquid assets. Moussa (2015) examines the explanatory factors of liquidity risk of Tunisian banks and concludes that the impact of the inflation rate on liquidity risk is negative and significant. Finally, Sukri and Waemustafa (2016) investigated liquidity risk between Islamic and conventional banks in Malaysia, stating that the relationship between inflation rate/liquidity risk was positive for Islamic banks, while it was not significant for conventional banks.

Theoretically, inflation is considered to have a positive effect on liquidity, especially because banking liquidity positions are very responsive to inflation fluctuations. High inflation can reduce the ability of borrowers or financing customers to fulfill their obligations, resulting in a decrease in their real income. Therefore, rising inflation rates and unexpected fluctuations can result in problematic credit levels for banks. Based on financial intermediation theory, this can cause banks to face difficulties in meeting the demands of depositors who are trying to withdraw their money during times of depression. Therefore, theoretically, the relationship between inflation and liquidity should be positive (Nkusu, 2011).

However, there is a gap between theory and research results, as well as between previous research and the latest research. Therefore, researchers are interested in conducting a review with a focus on Islamic bank liquidity, considering that the number of studies that try to

identify factors that influence the liquidity risk of Islamic banks is still limited. It is hoped that this research can contribute to banking literature and help practitioners and policy makers in managing liquidity risk based on the implications of research findings.

## Literature Review

### Sharia Bank

Theories and concepts about Islamic banks are important in understanding how Islamic banks operate and are different from conventional banks. Sharia banks refer to Islamic law and teachings in carrying out transactions and guarantee obligations to all parties who withdraw their deposits

Some of the concepts that form the basis of Islamic banking include:

1. Musyarakah contract: A musyarakah contract is a cooperative agreement between capital owners which can occur between two people or several people in various forms to carry out a halal and productive activity with an agreement that has been determined fairly and proportionally in the distribution of margins and the advantage
2. Murābahah transactions: Murābahah transactions are financing transactions carried out by means of financing and refer to the concept of the time value of money (Time Value of Money).
3. Implementation of sharia accounting standards: Sharia banks refer to sharia accounting standards that have been developed, such as PSAK 102 and AAOIFI FAS No.2, to regulate transactions that include profit recognition, allowance for losses on receivables, and others.

Just like conventional banks which must meet adequate liquidity requirements, Islamic banks are also required to have sufficient levels of liquidity to obtain operational permits. Therefore, the management of Islamic bank liquidity risk management needs to be given serious attention, especially considering the possibility of an economic recession due to weak economic growth or uncontrolled rising inflation, which could have a significant impact on a number of banks. One result that often arises is an increase in liquidity risk, which is triggered by difficulties in paying obligations by debtors or financing partners (Ismail, 2010).

### Sharia Bank Liquidity

Islamic bank liquidity refers to the bank's ability to fulfill its obligations in paying customer or account holder funds when they are due, without causing a negative impact on the bank's operations. This includes the bank's agility in converting assets into cash without incurring significant losses. Sharia banks have a tendency to have asset portfolios that are oriented towards productive activities in accordance with sharia principles. Therefore, productive and liquid asset management is the key to maintaining liquidity balance.

Financing and funding structures, especially through sharia instruments such as mudharabah and musyarakah, also influence the level of liquidity. Alignment between financing and funding is important to maintain liquidity stability. Effective financing and investment risk management has a big influence on liquidity. The risk of default by debtors or investment partners can put significant pressure on Islamic banks' liquidity. Islamic bank liquidity management is always based on sharia principles, such as fairness, transparency and profit sharing provisions. These principles guide the bank's policies and actions in managing its liquidity by paying attention to sharia compliance.

The development of liquid and diverse sharia financial instruments is an important strategy in sharia bank liquidity management. With a developing sharia financial market, sharia banks can more effectively manage their liquidity needs. Islamic bank liquidity can be assessed through a liquidity risk calculation known as the Financing to Deposit Ratio (FDR). FDR reflects the bank's ability to return withdrawals by depositors by using funding sources as liquidity. The

terminology "financing" is used in the context of Islamic banks because these banks do not implement a loan or credit system, in contrast to conventional banks which use the term Loan to Deposit Ratio (LDR) to measure their liquidity risk (Simatupang, 2016).

FDR is the ratio between financing provided by sharia banks and funds successfully collected through sharia mechanisms such as murabahah contracts, mudharabah contracts, musyarakah contracts, etc. According to Bank Indonesia regulations, the permitted FDR ratio limit is 110%. This ratio reflects the extent to which Islamic banks are able to fulfill their obligation to pay funds to depositors by using financing as a source of liquidity (Kholiq, et al., 2020). The FDR liquidity risk ranking criteria can be measured based on percentages with the following categories: first, 50% ≤ FDR < 75% is very adequate; second, 75% ≤ FDR < 85% healthy; third, 85% ≤ FDR < 100% is sufficient; fourth, 100% ≤ FDR < 120% is inadequate; and fifth, FDR ≥ 120% is inadequate (Kholiq, et al., 2020).

**Economic Growth (GDP)**

Economic growth, measured by Gross Domestic Product (GDP), is a key concept in economics. Economic growth theory is concerned with efforts to understand and explain changes in a country's economic production and income over time. Several well-known theories, such as endogenous and exogenous growth theories, focus on factors that drive long-term growth, including capital accumulation, technological innovation, and increased efficiency. Significant economic growth tends to lead to an increase in overall economic activity. Business is growing, investment is increasing, and demand for credit from companies and consumers is also increasing. This increase could have an impact on banking liquidity because banks will face pressure to provide funds to support increased economic activity.

Although economic growth can bring potential liquidity through increased income and economic activity, banks also need to manage their liquidity risks carefully. Too rapid growth or economic uncertainty can create liquidity challenges that banks need to address through effective risk and liquidity management strategies.Although economic growth can bring potential liquidity through increased income and economic activity, banks also need to manage their liquidity risks carefully. Too rapid growth or economic uncertainty can create liquidity challenges that banks need to address through effective risk and liquidity management strategies.

**Inflation**

Inflation refers to a general and continuous increase in the price level of goods and services in an economy. Some theories regarding inflation involve factors such as:

1. Demand Theory: Indicates that inflation can occur when consumer and investment demand exceeds the economy's production capacity.
2. Cost Theory: Inflation can arise due to increases in production costs, such as increases in wages or raw material prices.
3. Monetary Theory: Related to increasing the amount of money circulating in the economy.

Inflation can affect interest rates. When inflation is high, the central bank may increase interest rates to control inflation. This can impact funding costs for banks and liquidity availability. Inflation can affect the real value of financing and credit risk. The real value of debt may decrease, while credit risk may increase if the value of money falls. Inflation can affect the number and real value of deposits and funds collected by banks. These changes can affect bank liquidity. Banks need to manage their liquidity risk by considering the impact of inflation on the funds raised and financing provided.

**Research Methods**

This research uses a quantitative approach by applying multiple regression analysis methods to time series data involving the 2021-2023 period with monthly reports as the basis for the analysis. The analysis tool used in this research is Eviews software. The research data comes from BSI Bank financial reports taken from the official website of Bank Syariah Indonesia, GDP reports from the Central Statistics Agency, and Inflation Reports from Bank Indonesia. By utilizing these three variables, total time series data can be calculated by detailing the relevant time period.

**Results and Discussions**

**Statistics Descriptive**

**Table 1 Descriptive Statistics**

| | FDR | PDB | INFLATION |
|---|---|---|---|
| Mean | 82% | 3807271.47 | 5.01% |
| Median | 80% | 2530634.4 | 4.52% |
| Minimum | 71% | 2058584.9 | 2.79% |
| Maksimum | 100% | 10949155.4 | 8.79% |
| Std. Dev | 13% | 2910696 | 1.65% |
| **Observation** | **36** | **36** | **36** |

**Source: Eviews Processed Data, 2024**

Table 1 is the result of descriptive statistical analysis on the independent variables, namely GDP and inflation, and the dependent variable, namely FDR. The data for these three variables is a time series for 3 years from 2021-2023 with quarterly reporting criteria. Based on the table above, it can be explained that the FDR data description which is a manifestation of BSI bank liquidity risk has an average value of 82%, a median of 80%, a minimum value of 71%, a maximum value of 100% and a standard
deviation is 13%.

Furthermore, the description of GDP data is based on the value of the rupiah with units of billion having an average of IDR 3,807,271, a median of IDR 2,530,634, a minimum value of IDR 2,058,584, a maximum value of IDR 10,949,155 and a standard deviation of 2,910,696. Finally, the description of inflation using the percentage value criteria has an average of 5.01%, a median of 4.52%, a minimum value of 2.79%, a maximum value of 8.79% and a standard deviation of 1.65%.

**Hypothesis Test Analysis**

**Table 2 Hypothesis Test (t Test)**

| Model | Unstandardized Coefficients | | Standardized Coefficients | | | |
|---|---|---|---|---|---|---|
| | B | | Std. Error | Beta | t | Sig |
| 1 | Constant | 28.146 | .027 | | 16.010 | .000 |
| | PDB | -39.470 | .931 | -38.445 | 7.613 | .028 |
| | Inflation | 30.416 | .149 | 29.476 | 6.100 | .035 |

The results of testing macro factors on liquidity risk can be seen in table 2 above, the influence of GDP on FDR is shown by a significance value of 0.028 < 0.05. A significance value smaller than 0.05 indicates that there is a significant influence between GDP and FDR. The direction of the relationship can be shown by the negative beta value or standard regression

coefficient of -38.445. Thus it can be concluded that GDP has a negative and significant effect on FDR.

Furthermore, the influence of inflation on FDR is shown by a significance value of 0.035 <0.05. A significance value smaller than 0.05 indicates that there is a significant influence between inflation and FDR. The direction of the relationship can be shown by the positive beta value or standard regression coefficient of 29,476. Thus it can be concluded that inflation has a positive and significant effect on FDR.

**Coefficient of Determination**

**Table 3 Coefficient of Determination**

| Model Summary[b] | | | |
|---|---|---|---|
| R | R Square | Adjusted R Square | Std. Error of the Estimate |
| .612a | .438 | .403 | .33634 |

a. Predictors: (Constant), PDB, Inflation

Based on table 3 above, it can be explained that the coefficient of determination or the magnitude of the influence of GDP and inflation on FDR is 0.403 or 40.3%. In other words, sharia banking liquidity risk as a proxy for the FDR value is influenced by Gross Domestic Product and Inflation by 40.3%, while the remaining 59.7% is influenced by other factors not analyzed in this research.

**Discussion**

**The Effect of GDP on Liquidity Risk**

The findings from this research show that Gross Domestic Product (GDP) has a negative and significant impact on Liquidity Risk. To understand this result, it needs to be clarified that Liquidity Risk, which is measured through the Financing to Deposit Ratio (FDR), indicates that the higher the FDR, the more inadequate the liquidity risk, and conversely, the lower the FDR value, the more adequate the liquidity risk becomes. Therefore, the research results can be interpreted that the higher the GDP, the liquidity risk of Islamic banks tends to decrease, while the lower GDP can increase liquidity risk.

This finding supports the previous theory which states that macroeconomic conditions, including GDP, can influence Islamic bank liquidity through its impact on the economic conditions of society. GDP, as an indicator of a country's economic growth, has an important role in establishing a healthy economic condition, increasing people's income and strengthening the real sector. Islamic banks, with their orientation towards financing rather than providing credit, are closely linked to real sector performance. Therefore, good economic growth can support the stability of Islamic bank liquidity.

In addition, these findings are in line with previous research by Abdul-Rahman et al. (2018) which states that GDP growth has a negative impact on the liquidity risk of Islamic banks, and with the results of research by Bunda and Desquilbet (2008) which states that GDP growth has a positive effect on the level of bank liquidity. However, these findings also contradict previous research by Dinger (2009) which stated that increasing GDP in developing countries could have a negative impact on bank liquidity levels. An explanation of Dinger's findings indicates that GDP growth in developing countries can create booming markets, increase the amount of money circulating outside banks, and can cause inflation which in turn affects bank liquidity. This finding is also in line with Moussa (2015) who stated that a decline in GDP could provide an opportunity for banks to earn more income and reduce liquidity risk.

**The Effect of Inflation on Liquidity Risk**

The research results show that inflation has a positive and significant impact on liquidity risk. This result can be interpreted that when the inflation rate is high, liquidity risk tends to increase, whereas at low inflation rates, liquidity risk tends to be lower. Inflation, which is the result of various economic activities that affect commodity values and currency strength, can have an impact on economic activities and real sectors financed by Islamic banks.

The influence of the weak value of money due to inflation can make economic activity sluggish, affecting the real sector funded by Islamic banks. In this situation, the Islamic bank's financing partners may have difficulty paying obligations on time, and in extreme cases, the Islamic bank may need to restructure as a precautionary measure against potential default.

The results of this research are consistent with the theory which states that inflation can have a positive effect on liquidity risk because banking liquidity is vulnerable to inflation fluctuations. High inflation can worsen the ability of borrowers or financing partners to repay obligations, and sudden and unexpected inflation fluctuations can increase the risk of non-performing loans for banks. This finding also supports previous research by Sukri and Waemustafa (2016) which found that the relationship between the inflation rate and liquidity risk was positive for Islamic banks, while it was not significant for conventional banks. This finding is also in line with Vodova (2011), who states that inflation has a positive impact on liquidity risk.

However, the results of this study contradict the findings of Horvath et al. (2014) which states that the inflation rate does not have a significant effect on bank liquid assets. This finding also challenges Moussa's (2015) research which states that the impact of inflation on liquidity risk is negative and significant. This latest finding also contradicts Sukri and Waemustafa (2016), who found that the relationship between the inflation rate and liquidity risk was positive for Islamic banks, but not significant for conventional banks.

**Conclusion**

GDP (Gross Domestic Product) has a negative and significant impact on liquidity risk, which is measured through FDR (Financing to Deposit Ratio). This means that when GDP decreases, the level of liquidity risk in Islamic banks will increase. This increased risk will affect the FDR condition, indicating that liquidity will become inadequate. The sharia bank financing system, which does not depend on interest but on sharia contract principles related to the investment system, means that the success of sharia banks is closely linked to the performance of the real sector. Thus, if the real sector grows along with the GDP indicator, FDR will also decrease, indicating that liquidity risk is becoming more adequate.

Inflation has a positive impact on liquidity risk as measured through FDR. This means that when the inflation rate increases, liquidity risk in Islamic banks will also increase. This increase in liquidity risk will affect the FDR condition to become inadequate. This positive influence between inflation and FDR is caused by the high sensitivity of Islamic banking liquidity to inflation fluctuations. High inflation can worsen the ability of financing partners to fulfill their obligations, especially because Islamic bank financing is based on sharia contract principles such as murabahah, mudharabah, musyarakah, and others.

**References**


Abdul-Rahman, Aisyah, Ahmad Azam Sulaiman, and Noor Latifah Hanim Mohd Said. "Does Financing Structure Affect Bank Liquidity Risk?"*Pacific-Basin Finance Journal* 52, no. C (2018): 26–39.

Adalsteinsson, Gudni.*The Liquidity Risk Management Guide: From Policy to Pitfalls*.

Antonio, S.*Sharia Bank for Bankers and Practitioners*. Jakarta: Bank Indonesia and Tazkia Institute, 1999.

Atika, A. (2018). ANALYSIS OF THE EFFECT OF ISSUING SUKUK FUNDS ON SHARIA BANKING PERFORMANCE. JOURNAL OF ACCOUNTING AND BUSINESS: Journal of the Accounting Study Program.

Atmadja, Adwin Arise. "INFLATION FROM INDONESIA : RESOURCES
*Avialble at: Www. Kahf. Net/Index. Html (Accessed January 20, 2007)*, 2000.

Bunda, Irina, and Jean-Baptiste Desquilbet. "The Bank Liquidity Smile across Exchange Rate Regimes." *International Economic Journal* 22, no. 3 (2008): 361– CAUSES AND CONTROL."*Journal of Accounting and Finance*1, no. 1 (1999): 54–67. doi:10.9744/jak.1.1.pp.

Dinger, Valeriya. "Do Foreign-Owned Banks Affect Banking System Liquidity Risk?" *Journal of Comparative Economics* 37, no. 4 (December 1, 2009): 647–57. doi:10.1016/j.jce.2009.04.003.

Erlangga, O.P. (2015). ANALYSIS OF THE INFLUENCE OF COMPANY SIZE, CAPITAL ADEQUACY, LIQUIDITY AND PROBLEM FINANCING ON THE PROFITABILITY OF SHARIA COMMERCIAL BANKS IN INDONESIA FOR THE PERIOD OF JANUARY 2010-DECEMBER 2014.

Ghenimi, Ameni, Hasna Chaibi, and Mohamed Ali Brahim Omri. "Liquidity Risk Determinants: Islamic vs Conventional Banks." *International Journal of Law and Management* 63, no. 1 (January 1, 2020): 65–95. doi:10.1108/IJLMA-03-2018-

Horvath, Roman, Jakub Seidler, and Laurent Weill. "Bank Capital and Liquidity Creation : Granger Causality Evidence." *Journal of Financial Services Research* 45 (November 20, 2012). doi:10.1007/s10693-013-0164-4.
https://money.kompas.com/read/2021/07/30/170825026/mengenal-apa-itu-pd b- or-produk-domestik-gross.

https://www.unisbank.ac.id/ojs/index.php/sendi_u/article/view/5062.

Ichsan, Nurul. "Sharia Bank Liquidity Management."*Al-Iqtishad: Journal of Islamic Economics 6*, no. 1 (January 28, 2014): 97–120.

Idris, Muhammad. "Knowing What That PDB or Product Domestic Gross."

Iqbal, M., & Mirakhor, A. (2011). An Introduction to Islamic Finance: Theory and Practice. John Wiley & Sons.

Ismal, Rifki. "Assessment of Liquidity Management in Islamic Banking Industry." *International Journal of Islamic and Middle Eastern Finance and Management* 3, no. 2 (January 1, 2010): 147–67. doi:10.1108/17538391011054381.
John Wiley & Sons, 2014.

Kahf, Monzer. "Treatment of Excess Liquidity in the Arab Gambian Islamic Bank."

Kholiq, Abdul, and Rizqi Rahmawati. "The Impact of Implementing Financing Restructuring on the Liquidity of Sharia Banks in the Covid-19 Pandemic Situation." El-Barka: Journal of Islamic Economics and Business 3, no. 2 (December 30, 2020): 282–316. doi:10.21154/elbarka.v3i2.2472.

Klepkova Vodova, Pavla. "Liquidity of Czech Commercial Banks and Its Determinants." International Journal of Mathematical Models and Methods in Applied Sciences 5 (January 1, 2011): 1060–67.

*KOMPAS.com*, July 30, 2021.

Mahfudz, Imam Laukhim. "Implementation of Sharia Bank Micro Financing Restructuring Policy in the Covid-19 Pandemic Situation (Case Study of Indonesian Sharia Bank Jombang)." JIES: Journal of Islamic Economics Studies 3, no. 2 (June 6, 2022):

Masyita, Emi, and Kahar by Harahap Scholars. "Financial Performance Analysis Using Liquidity and Profitability Ratios." Journal of Contemporary Accounting and Finance (JAKK) 1, no. 1 (2018): 33–46.

Moussa, Mohamed Aymen Ben. “The Determinants of Bank Liquidity: Case of Tunisia.” International Journal of Economics and Financial Issues 5, no. 1 (January 6, 2015): 249–59.

Muttaqin, M.I. (2019). ANALYSIS OF FACTORS AFFECTING SHARIA BANKING LIQUIDITY IN INDONESIA IN THE 2013-2017 PERIOD.

Nkusu, Ms Mwanza. Nonperforming Loans and Macrofinancial Vulnerabilities in Advanced Economies. International Monetary Fund, 2011.

Prastiwi, I.E. (2021). Analysis of Macroeconomic Conditions and Liquidity on Problematic Financing in Sharia Banking. Journal of Business Disruption: Scientific Journal of Management Study Program, Faculty of Economics, Pamulang University.

Purwoko, B. (2015). Influence of service quality and customer satisfaction and loyalty trust foreign tourists visit the attractions in East Java Indonesia. European Journal of Business and Management. ISSN, 2222-1905.

Rifa'i, Muhammad Anwar. "The effect of population growth on the percentage of poverty through per capita income in developing countries: Case study of Indonesia for the period 2011-2018." Masters, Maulana Malik Ibrahim State Islamic University, 2020. http://etheses.uin-malang.ac.id/21043/.

Rosly, S. A., & Aziz, M. A. (2014). Critical Issues on Islamic Banking and Financial Markets: Islamic Economics, Banking, and Finance. Springer.

Santosa, Agus Budi. “INFLATION ANALYSIS IN INDONESIA.” Proceedings SENDI_U, August 7, 2017.

Sholikhah, Nisa Ush, and Dyah Titis Kusuma Wardani. "Liquidity Analysis of Sharia Banks in Indonesia." Journal of Economics Research and Social Sciences 2, no. 2 (2018): 78–85. doi:10.18196/jerss.v2i2.9083.

Simatupang, Apriani, and Denis Franzlay. "Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), Operational Efficiency (BOPO) and Financing To Deposit Ratio (FDR) on the Profitability of Sharia Commercial Banks in Indonesia." Journal of Office Administration 4, no. 2 (2016): 466–85.

Waemustafa, Waeibrorheem, and Suriani Sukri. “Systematic and Unsystematic Risk Determinants of Liquidity Risk Between Islamic and Conventional Banks.” International Journal of Economics and Financial Issues 6 (September 1, 2016). doi:10.6084/m9.figshare.4052316.

Yaacob, Siti Fatimah, Aisyah Abdul Rahman, and Zulkefly Abdul Karim. "The Determinants of Liquidity Risk: A Panel Study of Islamic Banks in Malaysia." Journal of Contemporary Issues and Thought 6 (2016): 73–82.