# **Bank performance in achieving Islamic bank stability conditions: Evidence from Islamic Banks in Indonesia**

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#### ABSTRACT

This study aims to analyze the effect of Islamic bank performance on Islamic bank stability in Indonesia. Research using monthly time series data from OJK Sharia Banking Statistics 2015-2022. The analytical tool uses ECM and ECT tests to test the long-term impact and short-term response of operational efficiency, liquidity and bank size on the stability of Islamic banks. The research results found that the performance of Islamic banks in terms of operational efficiency has a negative effect on the stability of Islamic banks in both the short and long term. Furthermore, liquidity has no effect on the stability of Islamic banks in the long term, but has a positive effect in the short term. While bank size has a positive effect on the stability of Islamic banks in the long term, it has no effect in the short term

Keywords: Operational efficiency, liquidity, bank size, stability Islamic Bank.

#### ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh kinerja bank syariah terhadap stabilitas bank syariah di Indonesia. Penelitian dengan menggunakan data time series bulanan dari Statistik Perbankan Syariah OJK 2015-2022. Alat analisis menggunakan uji ECM dan ECT untuk menguji dampak jangka panjang dan respon jangka pendek dari efisiensi operasional, likuiditas, dan ukuran bank terhadap stabilitas bank syariah. Hasil penelitian menemukan bahwa kinerja bank syariah ditinjau dari efisiensi operasional berpengaruh negatif terhadap stabilitas bank syariah baik dalam jangka pendek maupun jangka panjang. Selanjutnya, likuiditas tidak berpengaruh terhadap stabilitas bank syariah dalam jangka pendek.

Kata kunci: Efisiensi operasional, likuiditas, ukuran bank, stabilitas bank syariah.

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#### **INTRODUCTION**

What is the purpose of the study? Why are you conducting the study? The main section of an article should start with an introductory section which provides more details about the paper's purposes, motivation, research methods and findings. The introduction should be relatively nontechnical, yet clear enough for an informed reader to understand the manuscript's contribution.

The slowdown in the global economic recovery was the result of a more aggressive response to the ongoing war in Ukraine, rising global inflationary pressures and tightening global monetary policy. Uncertainty in global financial markets is also high, resulting in restricted capital flows and further depreciation of exchange rates in various developing countries, including Indonesia. The financial system plays a very important role in the economy. As part of the economic system, the financial system is responsible for allocating funds from surpluses to deficits. If the financial system is unstable and does not function efficiently, fund allocation will not function well, and economic growth may be hindered.

Uncertainty in the global economy remains high, with growing risks of slowing economic growth and rising global inflation, as well as aggressive monetary tightening in various countries. Financial system stability is underpinned by strong intermediation performance, maintaining financial sector resilience, and strengthening financial inclusion (Bank Indonesia 2022). Indonesia's development of financial stability experienced a crisis caused by the impact of the 2008 global crisis. This can be seen from Figure 1 (Bank Indonesia 2018).



**Figure 1: Financial system stability index graph, 2018** Source: Kajian Stabilitas Keuangan Bank Indonesia, Maret 2018

Financial system resilience throughout Semester I 2022 was maintained in line with the improvement in the national economy. The Financial System Stability Index (FSIS) was maintained in the Normal zone, it can be seen in the figure 2.



**Figure 2: Financial system stability index graph, 2022** Source: Kajian Stabilitas Keuangan Bank Indonesia, September 2022

Banking aims to increase economic growth and ensure stability through its activities. Banking performance is a major factor in financial stability and banking efficiency is a supporting factor in market competition which is a consequence of the level of performance (Diaconu and Oanea, 2015). Some of the determinants of banking stability are banking efficiency, bad debts, capital ownership ratio, financial crisis and banking concentration (Diaconu and Oanea, 2015). With good economic growth and increased productivity, there will be liquidity and capital adequacy so that it will create operational efficiency which will reduce operating costs so that financial stability occurs (Ozili, 2019). Strict banking supervision does not lead to absolute banking stability due to differences in the quality of supervision in each country (Diaconu and Oanea, 2015).

The results of the above research can be concluded that bank performance will greatly affect banking stability in Indonesia. Banks continue to compete to produce good performance through effective supervision. However, ineffective supervision can also pose a risk of banking instability. Banking instability can be caused by poor regulation or ineffective supervision although both are related and cannot be studied separately (Diaconu and Oanea, 2015). Banks must maintain their stability as intermediaries in order to increase Indonesia's economic growth in the long term.

The Islamic banking system is believed to provide a solution to build a more stable and secure banking system because it is free from usury, maysir and gharar which have been found in the conventional banking system. The stability of Islamic banking can also be shown by the many international studies that prove that the Islamic banking system has better stability than the conventional banking system (Cihak and Hesse, 2008; Hasan and Dridi, 2010; Parashar and Venkatesh, 2010).

Research on banking stability has actually been conducted on banks in other countries, such as Nigeria, Tanzania, Turkey, Romania, Pakistan, Zimbabwe and others. However, these studies provide different results so that it is increasingly interesting to investigate further to determine the consistency of findings if applied to different environmental conditions. Some findings show that operational efficiency has an inconsistent effect on financial system

stability, which has a negative effect on banking stability (Christaria and Kurnia, 2016; Nahar and Prawoto, 2017; Nugroho and Bararah, 2018; Kusmayadi, 2018; Fatoni and Sidiq, 2019; Heniwati, 2019; Kusumastuti and Alam, 2019; Istan and Fahlevi, 2020), In contrast to this, operational efficiency has a positive influence on banking stability (Sudarsono, 2017). Next is the liquidity variable where the higher the number of this variable, the greater the proportion of bank assets invested in the form of credit, thus reducing the level of bank liquidity so that it has a negative impact on bank stability in taking risks. Several studies of liquidity conditions as a factor that significantly affects banking stability (Cihak and Hesse, 2008; Shahid and Abbas, 2012). However, there are still differences from these findings where liquidity conditions have a significant negative effect, when liquidity conditions decrease, stability will increase and the risk of default will decrease (Rahim and Zakaria, 2013; Ali and Puah, 2019).

Theoretically, the larger the size of the bank, the better its human resources, infrastructure, and risk management capabilities, thus positively impacting the stability of the bank. Large banks benefit from a wider reach of scale than smaller banks and this can affect their business model and performance (Laeven, Ratnovski, and Tong, 2016). By considering this theory, company size is used as an internal variable that is thought to have a positive effect on bank stability (Afiqoh and Laila, 2018). Meanwhile, the size of the bank can be measured by the total assets owned by the bank by using the bank's total assets as a proxy for the size of the bank (Cihak and Hesse, 2008; Rahim and Zakaria, 2013; Shahid and Abbas, 2012; Berger, Klapper, and Turk-Ariss, 2008; Purnamandari and Badera, 2015). This study aims to analyze the effect of Islamic bank performance in terms of operational efficiency performance, liquidity and size of Islamic banks on the stability of Islamic banks in Indonesia.

# LITERATURE REVIEW

#### Islamic banking stability

Banking stability cannot be separated from financial intermediation theory and competition theory. Financial intermediation theory is a theory that studies the processes that occur in existing economic sectors. Financial intermediation refers to the process of uniting parties who have excess funds and parties who lack funds.

The competition fragility theory suggests a negative correlation between banking competition and stability. This can be seen based on the fact that too intense competition between banks can negatively affect market power and profit margins. The competition stability theory emphasizes on banking stability due to the increase in interbank competition. This theory suggests a positive correlation between competition and stability. This can be seen from the decline in interest rates due to increased competition by various banks. In other words, this suggests that a lack of competition between banks will result in high interest rates charged by banks (Adhamovna, Obrenovic, and Akhunjonov, 2014).

Bank stability denotes an individual bank's distance from bank failure and insolvency (Beck et al., 2008). When a bank has financial stability, it conducts its financial intermediation cycle smoothly, building confidence among clients (Ahamed and Mallick, 2017). The key metrics for bank financial stability, according to the Basels Convention, include capital sufficiency, asset performance, sound management, earnings and productivity, liquidity, and market risk tolerance (Beck et al., 2008).

Financial stability is the ability of the financial system, consisting of market infrastructure, financial intermediaries and financial markets, to withstand financial shocks that could significantly affect the alternative investments state (Anatolyevna and Ramilevna, 2013). Financial turmoil has a significant negative impact on economic activity and promotes financial stability as well as systemic risk management (Davis, 2003).

The Z-score is considered a more comprehensive measure of a bank's stability compared to the liquidity ratio and bad debt ratio. This is because leverage (equity versus assets) data are combined with quality (return on assets) and risk (standard deviation of return on assets) to more accurately estimate the likelihood of commercial bank failures with higher levels of productivity and capitalization, the Z-score increases; it decreases with volatile earnings expressed by higher standard deviation in asset return. An increasing value of Z-score indicates a small risk profile for a bank and higher bank stability (Cihak and Hesse, 2008). Specifically, the Z-score indicates the standard deviation by which a bank's profitabilitas falls below expectations before it becomes depleted of capital and insolvent. Z-score increases with higher productivity and capitalization and decreases with more volatile earnings, reflecting higher standard ROA deviations (Ahamed and Mallick, 2017).

# Effect of operational efficiency on Islamic bank stability

Operational activities will run well if accompanied by factors supporting operational activities. These factors can be in the form of quality natural resources, reliable human resources, and technology that can help run operational activities. These factors will be obtained if the bank is willing to incur costs in order to obtain feedback in the future. One of the ratios that can be done as a measuring tool to test the level of efficiency of banks in carrying out their operational activities.

Competition theory suggests that the presence of high competition will increase a bank's operating costs, resulting in a decrease in a bank's profit (Bikker and Bos, 2008). One of the determining factors in determining the level of banking stability in Nigeria can be seen by measuring banking efficiency (Ozili, 2019). This is because if the operational efficiency is smaller, it means that the smaller the amount of budget spent on operating costs and obtaining large operating income, so the bank can be categorized as efficient because it can manage its operating costs and income well. Conversely, if the operational efficiency is getting bigger, it means that the bigger the amount of budget spent on operating costs and obtaining small operating income, so the bank can be concluded that it has not been able to control its operations properly. Thus, it can be concluded that operational efficiency will negatively affect banking stability.

# Effect of liquidity on stability Islamic Bank

Loan to asset ratio is a proxy of the liquidity condition of the bank. The higher the number of this variable, the greater the proportion of bank assets invested in the form of credit, thus reducing the level of bank liquidity which in turn has a negative impact on bank stability in taking risks. Several studies using loan to asset ratio as a factor affecting bank stability show that LAR has a significant effect on bank stability (Cihak and Hesse 2008; Shahid and Abbas

2012). Loan to asset ratio is negatively related to Z-score which is a proxy of financial stability, when loan to asset ratio decreases, stability will increase and the risk of default will decrease.

#### Effect of bank size on Islamic Bank Stability

Theoretically, the larger the size of the bank, the better its human resources, infrastructure, and risk management capabilities, thus positively impacting the stability of the bank. Large banks benefit from a wider reach of scale than smaller banks and this can affect their business model and performance (Laeven, Ratnovski, and Tong, 2016). By considering this theory, company size is used as an internal variable that is thought to have a positive effect on bank stability (Afiqoh and Laila, 2018). Meanwhile, the size of the bank can be measured by the total assets owned by the bank by using the bank's total assets as a proxy for bank size (Cihak and Hesse, 2008; Rahim and Zakaria, 2013; Shahid and Abbas, 2012; Berger, Klapper, and Turk-Ariss, 2008; Purnamandari and Badera, 2015).

#### METHODS

This study uses secondary data, namely time series data from all Islamic Commercial Banks in Indonesia during the period January 2015 to December 2022, totaling 96 data. This data is obtained from the Islamic Banking Statistics of the Financial Services Authority. Based on this data, the Z-score value will be sought for the calculation of the stability value of Islamic banking using the standard deviation of ROA with the help of the Microsoft Excel application, then after the data is complete, it is analyzed by the Eviews 12 application using the ECM (Error Correction Model) and ECT (Error Correction Term) methods. So that the equation made in the study is as follows:

 $Z\text{-}Score_t = C + \beta 1 (Operational\_Efficiency)_{it} + \beta 2 (Liquidity)_{it} + \beta 3 (Bank\_Size)_{it} + \epsilon_{it}$ 

# RESULTS

Intermediate ADF test results UNITILED				
Series	Prob.	Lag	Max Lag	Obs
Y	0.7145	1	1	94
Operational_Efficie	ency 0.7985	1	1	94
Liquidity	0.1287	1	1	94
Bank_Size	0.9923	1	1	94

Table 1. Level Stationary Test Intermediate ADF test results UNTITLEI

Source: Data Processing, 2023

Stationary test using the ADF (Augmented Dickey-Fuller) method, this ADF test uses intercept and trend types with the significance level used is 5%. Based on the results of stationary testing at the level level, it can be seen in the probability value where each variable used in this study as a whole can be said to be non-stationary because the resulting value is more than 5% so that it will be continued with the diffence stationary test.

Intermediate ADF test results D(UNTITLED)				
Prob.	Lag	Max Lag	Obs	
0.0000	1	1	93	
0.0000	1	1	93	
0.0000	1	1	93	
0.0000	1	1	93	
	Prob.   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000	Prob. Lag   0.0000 1   0.0000 1   0.0000 1   0.0000 1   0.0000 1   0.0000 1	Prob. Lag Max Lag   0.0000 1 1   0.0000 1 1   0.0000 1 1   0.0000 1 1   0.0000 1 1   0.0000 1 1	

Table 2. Stationary Difference Test Intermediate ADF test results D(UNTITLED)

**Source**: Data Processing, 2023

Based on the results of stationary testing at the level difference level, it can be seen in the probability value where from each independent variable used in this study as a whole can be said to be stationary because the resulting value is less than 5%, so it can be said to be suitable for ECM and ECT testing.

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic Test critical values:	1% level 5% level 10% level	-4.948948 -3.500669 -2.892200 -2.583192	0.0001

Table 3. Stasioner ECT Test

Source: Data Processing, 2023

Testing the stationarity of ECT (residuals) at the level level obtained a probability value of 0.0001. This value is smaller than 5%, so reject H<sub>0</sub>, meaning that the residual value of the regression variable can be said to be stationary at the level level. Since the regression model residuals are stationary at the level level, it can be concluded that the independent variables of this study have a long-term equilibrium relationship.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C Operational_Efficiency Liquidity Bank_Size	-2.097693 -0.110712 0.010538 1.129705	5.046487 0.014185 0.006324 0.306747	-0.415674 -7.804765 1.666258 3.682853	0.6786 0.0000 0.0991 0.0004

Table 4. Long-Term Error Correction Model (ECM)

Source: Data Processing, 2023.

Based on the tests that have been conducted on the long-term influence test, the operational efficiency and bank size variables used as research have a significant influence on the stability of Islamic banks in Indonesia in the long term because the probability value is less than 5%, while the liquidity variable does not have a significant influence on the stability of Islamic banks in the long term because the resulting value is more than 5%. The long-term influence model equation is as follows:

# $\label{eq:Y} Y = -2.097693 - 0.110712* Operational\_Efficiency + 0.010538* Liquidity + 1.129705* \\Bank\_Size$

The results of the long-term influence model equation illustrates that any increase in one unit will increase the positive addition of one unit on the liquidity variable, bank size and will reduce one unit on the operational efficiency variable. The model results have an R square value of 89.4%%, meaning that the amount of influence given by operational efficiency variables, liquidity and bank size to the stability of Islamic banks in Indonesia amounted to 89.4%. While testing the short-term influence can be seen in Table 5.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.031025	0.030942	1.002669	0.3187
D(Operational_Efficiency)	-0.092342	0.017217	-5.363387	0.0000
D(Liquidity)	0.019747	0.007994	2.470129	0.0154
D(Bank_Size)	-2.145796	1.383154	-1.551379	0.1243
ECT(-1)	-0.428747	0.086765	-4.941465	0.0000

**Source**: Data Processing, 2023.

Based on the results of the short-term influence model analysis in Table 5, the operational efficiency variable has a significant effect on the stability of Islamic banks in Indonesia, because the resulting probability value < 5%, while the bank size variable has no significant effect on the stability of Islamic banks in Indonesia, because the resulting value > 5%. The resulting model in the short term can be as follows:

$$\begin{split} D(Y) = 0.031025 - 0.092342* D(Operational\_Efficiency) + 0.019747* D(Liquidity) - 2.145796* D(Bank\_Size) - 0.42874* ECT(-1) \end{split}$$

#### Table 6. Diagnostic Tests

	Test		Results
Normality	Jarque Bera	Prob. 0.055364	Normality
Autocorrelation	Breusch-Godfrey Serial LM Test	Prob. Chi-Square: 0.4391 Prob. Chi-Square:	Not Autocorrelation
Heteroscedasticity	ARCH	0.9613	Not Heteroscedasticity
Multicollinearity	Variance Inflation Factor (VIF) D(Operational_Efficiency)	1.090715	Not Multicollinearity
	Variance Inflation Factor (VIF) D(Liquidity)	1.047703	Not Multicollinearity
	Variance Inflation Factor (VIF) D(Bank_Size)	1.069189	Not Multicollinearity
	<i>Variance Inflation Factor</i> (VIF) <i>ECT</i> (-1)	1.09661	Not Multicollinearity

Source: Data Processing, 2023.

The results of the short-term influence model equation illustrates that any increase in one unit will increase the positive addition of one unit on the liquidity variable, but in the case of operational efficiency, bank size and ECT if it increases by one unit it will reduce one unit of the resulting value of Islamic bank stability in Indonesia. The model results have an R square value of 35.6%, meaning that the amount of influence given by operational efficiency, liquidity and bank size variables on the stability of Islamic banks in Indonesia is 35.6%. The eligibility requirements of this model can be said to be feasible in the model, as in Table 6.

#### DISCUSSION

#### The effect of operational efficiency on Islamic Bank Stability

The level of efficiency of a bank is closely related to the stability of the bank. The more efficient the Islamic bank is, the lower the risk of bank default or bankruptcy. Based on the test results in tables 4 and 5, it can be seen that operational efficiency has a negative and significant influence both in the long term and short term on the stability of Islamic banking in Indonesia, meaning that if the operational efficiency of Islamic banks is getting smaller, it means that the smaller the amount of budget spent on operating costs and obtaining large operating income, so that banks can be categorized as efficient because they can manage their operating bigger, it means that the greater the amount of budget spent on operating costs and obtaining small operating income, so that banks can be concluded that they have not been able to control their operations properly. Thus, it can be concluded that operational efficiency will negatively affect the stability of Islamic banking in Indonesia. (Christaria and Kurnia, 2016; Nahar and Prawoto, 2017; Nugroho and Bararah, 2018; Kusmayadi, 2018; Fatoni and Sidiq, 2019; Heniwati, 2019; Kusumastuti and Alam, 2019; Istan and Fahlevi, 2020; Ketaren and Haryanto, 2020).

#### The effect of liquidity on stability Islamic Bank

Based on the results of the tests that have been carried out, it is found that in the long term it has a positive and insignificant effect, while for the short term it has a positive and significant effect on the stability of Islamic banks in Indonesia, meaning that the higher the liquidity rate, the greater the proportion of Islamic bank assets invested in financing, thereby reducing the level of liquidity of Islamic banks which in turn has a positive impact on the stability of Islamic banks in taking risks. Several studies using loan to asset ratio as a factor affecting the stability of Islamic banking show that LAR has a significant effect on bank stability (Cihak and Hesse, 2008; Shahid and Abbas, 2012). This result rejects the finding that the loan to asset ratio is negatively related to the Z-score which is a proxy for financial stability, when the loan to asset ratio decreases, stability will increase and the risk of default will decrease (Ali and Puah, 2019).

The conclusion obtained is that high risk taking by placing most of the assets in financing results in reduced liquidity owned by the bank to fulfill its obligations. This has an impact on the stability of Islamic banking, where the regression results show that liquidity has a positive effect on the stability of Islamic banking in Indonesia both in the short and long term.

#### The effect of bank size on Islamic Bank stability

The larger the size of the Islamic bank, the better the ability of its human resources, infrastructure, and risk management, so that it has a positive impact on the stability of Islamic banks. Based on the test results that have been conducted, it shows that bank size has a positive and significant influence in the long term on the stability of Islamic banks in Indonesia, meaning that the larger the size of the bank can reduce the financial stability of Islamic banks in the long term (Adusei and Elliott, 2015). However, in the short term, it has a negative and insignificant effect on the stability of Islamic banks in Indonesia. The negative relationship of the effect of bank size on the financial stability of Islamic banks is due to the non-linearity of the relationship, where the data shows that the level of financial stability of Islamic banks decreases when the size of the bank increases, otherwise the level of financial stability increases when the size of the bank decreases. This relationship is based on the assumption that smaller banks (small assets) tend to be stricter in controlling risk, and larger banks tend to have greater operating costs, causing cost inefficiencies. This assumption is supported by data showing that banks with decreasing bank size trends have an increasing trend in the level of bank financial stability. Bank size has a significant negative influence on the financial stability of Islamic banks.

#### CONCLUSION

The results showed that both in the short term and long term there is an influence between operational efficiency on the stability of Islamic banking in Indonesia with a negative and significant direction, then for the liquidity of Islamic banks has an influence on Islamic banks in Indonesia with a positive direction and insignificant in the long term and significant in the short term, while for the bank size variable shows that it affects the stability of Islamic banks with a positive direction and insignificant for the long term and negative and significant for the short term. Although the direction of positive and negative relationships in both the short and long term has differences from each variable used as research, further research is expected to expand its research by adding research periods and other independent variables that are thought to affect the stability of Islamic banking in Indonesia both in terms of the performance sector of Islamic banks and from the domestic and international external sectors.

#### REFERENCES

- Adhamovna, Bekmurodova Go'zal, Bojan Obrenovic, and Umidjon Akhunjonov. (2014). Banking competition and stability: comprehensive literature review. *International Journal of Management Science and Business Administration* 2 (6): 26–33.
- Adusei, Michael, and Caroline Elliott. (2015). The impact of bank size and funding risk on bank stability. *Cogent Economics & Finance* 3 (1): 1–19.
- Afiqoh, Luluk, Nisful Laila. (2018). Pengaruh kinerja keuangan terhadap risiko kebangkrutan Bank Umum Syariah di Indonesia (Metode Altman Z-score modifikasi). *Jurnal Ekonomi dan Bisnis Islam* 4 (2): 166–83.
- Ahamed, M. Mostak, and Sushanta K. Mallick. (2017). Is financial inclusion good for bank stability? International evidence. *Journal of Economic Behavior & Organization* 7 (27):

1–53.

- Ali, Muhammad, and Chin Hong Puah. (2019). The internal determinants of bank profitability and stability: An insight from banking sector of Pakistan. *Management Research Review* 42 (1): 49–67.
- Anatolyevna, Morozova Irina, and Sahabutdinova Liliya Ramilevna. (2013). Financial stability concept: Main characteristics and tools. *World Applied Sciences Journal* 22 (6): 856–58.
- Bank Indonesia. (2018). Penguatan SSK dalam upaya menjaga momentum pertumbuhan. *Kajian Stabilitas Keuangan* Maret (30): 1–228.
- ——. (2022). Sinergi dan inovasi kebijakan untuk menjaga stabilitas sistem keuangan dan mendukung pertumbuhan ekonomi nasional. *Kajian Stabilitas Keuangan* September (39): 1–81.
- Beck, Thorsten, Asli Demirguc-Kunt, Luc Laeven, and Ross Levine. (2008). Finance, firm size, and growth. *Journal of money, Credit and Banking* 40 (7): 1379–1405.
- Berger, Allen N., Leora F. Klapper, and Rima Turk-Ariss. (2008). Publication: Bank competition and financial stability. *Policy Research Working Paper* WPS (4696).
- Bikker, Jacob A., and J. W.B. Bos. (2008). Bank performance: A theoretical and empirical framework for the analysis of profitability, competition and efficiency. Routledge International Studies in Money and Banking. Madison Ave, New York.
- Christaria, Fiola, and Ratnawati Kurnia. (2016). The impact of financial ratios, operational efficiency and non-performing loan towards commercial bank profitability. *Accounting and Finance Review (AFR)* 1 (1): 43–50.
- Cihak, Martin, and Heiko Hesse. (2008). Islamic banks and financial stability: An empirical analysis. *International Monetary Fund* 08 (16): 1–29. https://www.imf.org/external/pubs/ft/wp/2008/wp0816.pdf.
- Davis, E Philip. (2003). Towards a typology for systemic financial instability. *Public Policy Discussion Papers Economics and Finance Section* 03 (20): 1–23.
- Diaconu, Ioana-Raluca, and Dumitru-Cristian Oanea. (2015). Determinants of bank's stability. Evidence from CreditCoop. *Procedia Economics and Finance* 32 (15): 488–95.
- Fatoni, Ahmad, Sahabudin Sidiq. (2019). Analisis perbandingan stabilitas sistem perbankan syariah dan konvensional di Indonesia. *Ekspansi: Jurnal Ekonomi, Keuangan, Perbankan dan Akuntansi* 11 (2): 179–98.
- Hasan, Maher, and Jemma Dridi. (2010). The effects of the global crisis on islamic and conventional banks: A comparative study. *International Monetary Fund* 10 (201): 1–46. https://www.imf.org/external/pubs/ft/wp/2010/wp10201.pdf.
- Heniwati, Elok. (2019). Studi empiris kekuatan stabilitas keuangan perbankan syariah di Indonesia. Jurnal Ekonomi Bisnis dan Kewirausahaan 8 (2): 147–60.
- Istan, Muhammad, and Mochammad Fahlevi. (2020). The effect of external and internal factors on financial performance of Islamic Banking. *Jurnal Ekonomi & Studi Pembangunan* 21 (1): 137–45.
- Ketaren, Eka Violeta, Antonius Mulyo Haryanto. (2020). Pengaruh kinerja keuangan terhadap stabilitas perbankan yang terdaftar di Bursa Efek Indonesia (Studi kasus pada bank yang terdaftar di BEI tahun 2014-2018). *Diponegoro Journal Of Management* 9 (2): 1–13.

- Kusmayadi, Dedi. (2018). Analysis of effect of capital adequacy ratio, loan to deposit ratio, non performing loan, BOPO, and size on return on assets in rural banks at Indonesia. *Saudi Journal of Business and Management Studies* 3 (7): 786–95.
- Kusumastuti, Wahyu Intan, and Azhar Alam. (2019). Analysis of impact of CAR, NPF, BOPO on profitability of Islamic Banks (year 2015-2017). *Journal of Islamic Economic Laws* 2 (1): 30–59.
- Laeven, Luc, Lev Ratnovski, and Hui Tong. (2016). Bank size, capital, and systemic risk: Some international evidence. *Journal of Banking & Finance* 69 (1): 25–34.
- Nahar, Faiza Husnayeni, and Nano Prawoto. (2017). Bank's profitability in Indonesia: Case study of Islamic banks period 2008-2012. *Jurnal Ekonomi & Studi Pembangunan* 18 (2): 164–72.
- Nugroho, Lucky, Herda Nezzim Bararah. (2018). Pengaruh good corporate governance dan biaya operasional dan pendapatan operasional (BOPO) terhadap stabilitas keuangan bank umum syariah di Indonesia tahun 2012-2017. *INOBIS: Jurnal Inovasi Bisnis dan Manajemen* 6 (2): 114–22.
- Ozili, Peterson K. (2019). Determinants of banking stability in Nigeria. *Forthcoming in: CBN Bullion* 43 (2): 1–14.
- Parashar, Sat Paul, and Jyothi Venkatesh. (2010). How Did Islamic Banks Do During Global Financial Crisis? *Banks and Bank Systems* 5 (4): 54–62. https://www.researchgate.net/publication/298435983\_How\_Did\_Islamic\_Banks\_Do\_Du ring\_Global\_Financial\_Crisis.
- Purnamandari, Ni Putu Ayu Lisna, I Dewa Nyoman Badera. (2015). Kemampuan prediksi rasio keuangan dan ukuran bank pada risiko gagal bank. *E-Jurnal Akuntansi* 12 (2): 172–87.
- Rahim, Siti Rohaya Mat, and Roza Hazli Zakaria. (2013). Comparison on stability between Islamic and conventional banks in Malaysia. *Journal of Islamic Economics, Banking and Finance* 9 (3): 131–49.
- Shahid, Muhammad Ali, and Zaheer Abbas. (2012). Financial stability of Islamic banking in Pakistan: An empirical study. *African Journal of Business Management* 6 (10): 3706–14.
- Sudarsono, Heri. (2017). Analisis pengaruh kinerja keuangan terhadap profitabilitas Bank Syariah di Indonesia. *Economica: Jurnal Ekonomi Islam* 8 (2): 175–203.