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Financial Stability : Islamic Banks in Indonesia

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Abstract: This research aims to analyze the performance of islamic banking and macroeconomics on the financial stability of islamic banking in Indonesia. The main factors that cause banking financial stability to fluctuate are caused by internal factors (fundamental factors) are factors originating from within islamic banking such as NPF, FDR, CAR, while external factors (non-fundamental factors) are caused by economic conditions such as inflation, interest rates and GDP. Researchers used the period 2017 to 2023, where the years were based on looking at phenomena before and after the Covid-19 pandemic. This research uses dynamic panel regression with Generalized Method of Moments (GMM) estimation. The results of the GMM estimation analysis produced test results that had a significant effect on the Zscore variables including the NPF, FDR and CAR variables, while macroeconomic variables such as GDP, inflation and BI rate did not have a significant effect on the financial stability of islamic banking.

Keywords: performance of Islamic banking, macroeconomics, financial stability, GMM

1 Introduction

The Islamic finance sector became a focus after the global financial crisis (GFC) based on several studies showing that its performance was relatively better than its counterpart in conventional banks (Raouf & Ahmed, 2021). Islamic financial banking experienced rapid growth during the post-crisis period and global assets of US$ 2.19 trillion in 2018, the Islamic finance industry has become systematically significant in many jurisdictions. The total value of IFSI which exceeded the regulatory standard of US$ 2 trillion for the first time in 2017, further increased to US$ 2.19 trillion in 2018 due to the significant improvements in the three sectors of Islamic banking, Islamic capital markets and takāful (IFSB, 2019). The increase in IFSI resilience based on financial stability indicators using the zscore measure in the United States and the European Union is able to satisfy most international regulations or agreements. Based on the problems that occur in various countries, this study will examine the issue of Islamic banking in Indonesia.

A strong, stable, and competitive economy greatly requires funding from the non-banking and banking financial sectors that work efficiently (Cahyaningrum & Antikasari, 2017; Widarjono, 2020). This is because the economy requires liquidity in carrying out all economic transactions (Aithal, 2016). The growth of the economic sector will move optimally if it is able to maintain and preserve the stability of the financial sector properly. In Indonesia, the financial sector is still dominated by the banking sector. The stability of the banking system is indicated by healthy banking conditions and the proper functioning of the intermediation function. If these conditions are well maintained, the process of money circulation and the mechanism of monetary policy transmission in the economy, which mostly takes place through the banking system, will also run well (Acharya & Ryan, 2016; Henry Ntarmah et al., 2019). If there is an increasing weakening of the exchange rate and inflationary pressure, the market risk faced by banks will increase so that banks will tighten by raising high interest rates. Of course, this will have a negative impact on the stability of the banking system (Al-Khouri & Arouri, 2016; El Karfi & Mentagui, 2020).

Instability in the global financial system will affect the growth and development of the economy in various countries, especially in the banking sector. Rizvi et al. (2020) said that this happens because banking functions as an intermediary connecting surplus and deficit units, facilitating funds for productive purposes, thereby contributing to economic development. Daoud & Kammoun (2020) argues that fluctuations and risks in the capital market have led to increased attention to empirical studies on financial stress, banking performance and risk management in the banking industry. Thus, an institution is needed that can stabilize the country's economy.

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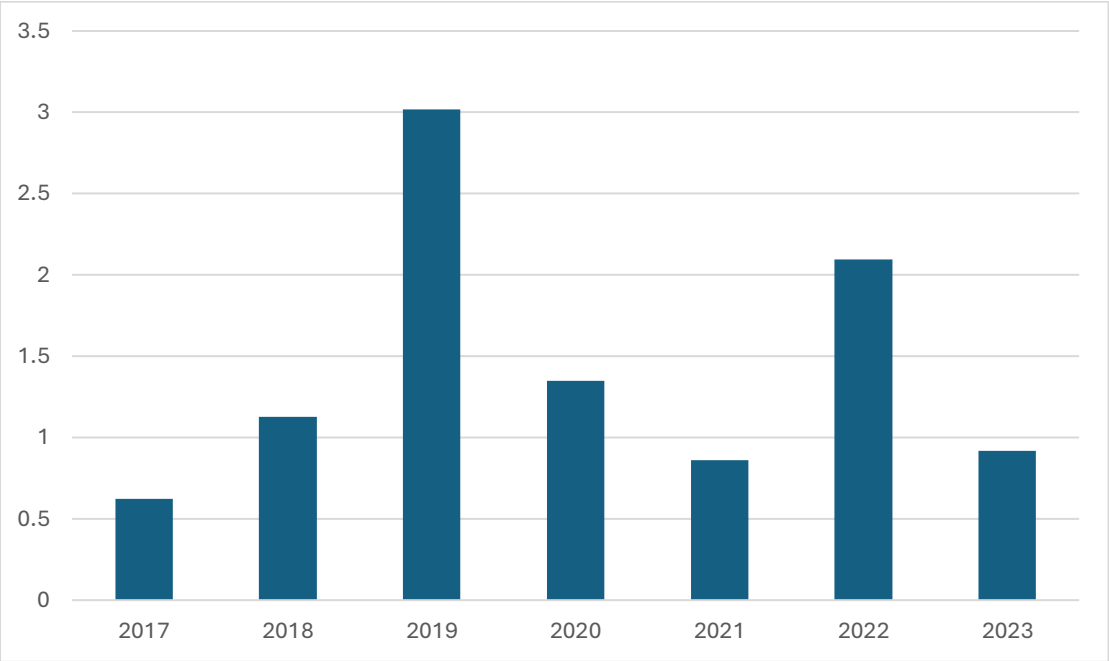
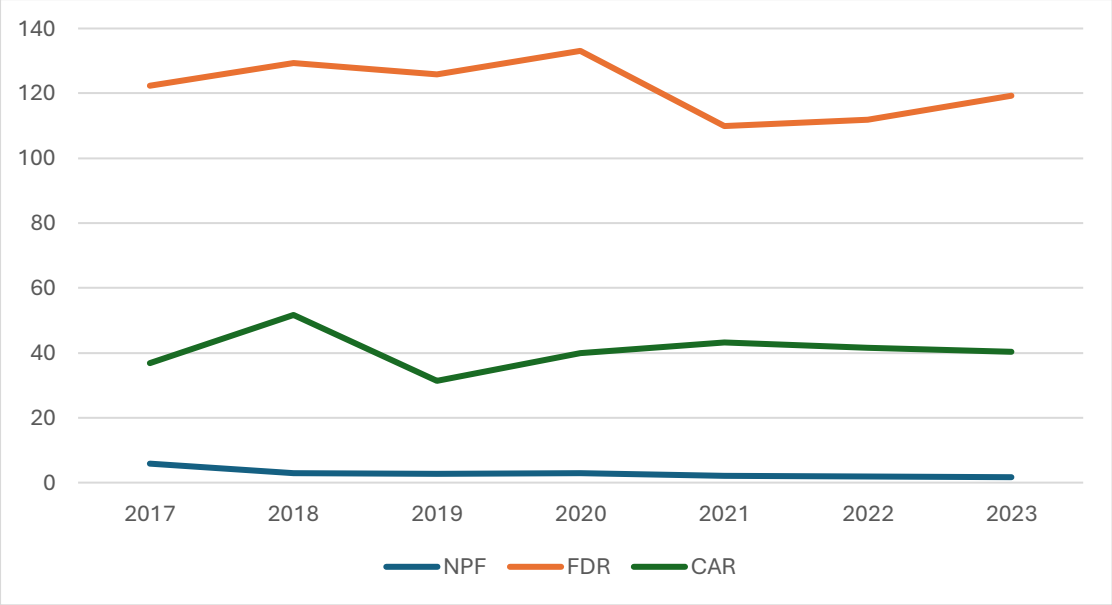


Source: processed data (Islamic Bank Annual Report)
Fig. 1. Islamic banking financial stability index (Zscore) graphic image

Based on Figure 1, the banking financial stability index fluctuates according to the conditions at that time. In 2017 to 2019 it increased, in 2019 it had the highest peak with a value above 3 indicating that the condition of Islamic banks was very stable. Raouf & Ahmed (2021) explained that the higher the Zscore value, the more stable a bank will be. In 2020 to 2021 there was a decline in stability and a monetary crisis due to the global Covid-19 pandemic disaster, so that government action was needed to recover from the crisis. The Financial System Stability Index, which is one of the indicators used to monitor the stability of the financial system, was updated by carrying out several strengthening measures. The strengthening carried out was such as expanding the scope as a determining factor in banking financial stability with indicators of banking financial performance and macroeconomics.



Source: processed data (Islamic Bank Annual Report)
Fig. 2. Graphic image of NPF, FDR and CAR of Islamic banking

Based on Figure 2, the NPF, FDR and CAR ratios of Islamic banks in Indonesia fluctuate every year. Non-Performing Financing of Islamic banks is still relatively well maintained, reflected in the NPF ratio which is still below the regulatory limit of 4%, except in 2017 when it was 5.8%. The gross NPF ratio appears to have decreased, this is due to the increasing slowdown in cash flow for a number of debtors, resulting in higher financing risks

that must be borne. The FDR ratio shows a stable value from 2017 to 2020, then there is a relaxation in 2021 of 109%. This happened because the growth of third party funds (DPK) was quite rapid, liquidity was at a healthy level to anticipate various uncertainties during the Covid-19 pandemic.

Table 1. Indonesian Macroeconomic Indicators for the 2017-2023 Period

Year	GDP (Billion Rp)	Inflation (%)	BIrate (%)
2017	9.912.928.100	3,81%	4,25%
2018	10.425.851.900	3,20%	6,00%
2019	10.949.155.400	3,03%	5,00%
2020	10.723.054.800	1,92%	3,75%
2021	11.118.868.500	1,56%	3,50%
2022	19.588.400.000	5,51%	5,75%
2023	20.892.400.000	2,61%	6,00%

Source: Badan Pusat Statistik (BPS)

Based on Table 1, GDP, inflation and BIrate as reflections of economic stability and government policy are external factors that also influence the amount of financing (Priyanto et al., 2016). The real sector as the main basis for implementing conventional bank operational activities is greatly influenced by the level of inflation occurring in the economy so that it has a direct impact on the performance of islamic banking. Inflation during the study period tended to fluctuate. The inflation rate will increase significantly by 5.51% in 2022. Meanwhile, in terms of volatile food prices, the downward trend continues. BIrate or interest rates also experience fluctuating movements from 2017 to 2023.

GDP, Inflation and BI-Rate as reflections of economic stability and government policy are external factors that also influence the amount of financing (Firdaus et al., 2022; Priyanto et al., 2016). The real sector as the main basis for implementing conventional bank operational activities is greatly influenced by the level of inflation occurring in the economy so that it has a direct impact on the performance of sharia banking. Inflation during the study period tended to fluctuate. In 2021-2022, inflation is likely to increase. The most significant increase in inflation will be seen in 2022, inflation is caused by an increase in government-administered prices. Meanwhile, in terms of volatile food prices, the downward trend continues. Core inflation was recorded at 3.36% (yoy), an increase compared to the previous month which was recorded at 3.30%. This reflects the continued strength of public consumption, which is also reflected in the increase in inflation for several expenditure groups, such as housing, recreation and personal care, and other services. Meanwhile, the downward trend in volatile food group inflation continued where it was recorded at 5.61% (yoy), lower than November inflation which reached 5.70%. However, on a monthly basis (mtm) food prices have increased along with the Christmas and New Year (Nataru) celebrations and the arrival of the rainy season, such as chicken meat and eggs, as well as fresh fish, various vegetables (tomatoes, cayenne peppers, spinach), and rice. .

The main factors that cause the rise and fall of banking stability are influenced by internal factors (fundamental factors) are factors that come from within the company and can be controlled by company management, while external factors which are factors (non-fundamental) are caused by economic conditions such as inflation, Birate and GDP. The fundamental factors discussed in this study are banking performance. According to (Firdaus et al., 2022) said that the banking performance factors in this study include the Non Performing Financing (NPF), Financing to Deposit Ratio (FDR) dan Capital Adequacy Ratio (CAR). Islamic banking is the focus of this study, so the replacement variables are the NPF, FDR and CAR variables. Fakhrunnas (2019) that the macroeconomic factors that influence outside bank performance that will be discussed in this study are GDP, inflation and BIRate.

Firdaus et al. (2022) this study is to analyze the effect of banking performance and macroeconomics on banking stability in Indonesia. Researchers use the period of years after the issuance of the OJK regulation from 2014 to 2021. This study uses dynamic panel regression with Generalized Method of Moments (GMM) estimation. The results of this study are that the variables NPL, GDP, inflation, and Bi Rate have a significant effect on banking stability. Karim et al. (2016) studied macroeconomic indicators and banking stability in Indonesia that their findings showed a long-term relationship between the stability of commercial banks and economic factors. Macroeconomic variables are indicated by GDP, Bi rate and inflation indicators, while stability variables are measured by the Z-score. The long-term relationship and impact of bank stability, using the Cholesky standard deviation shock model, ARDL and Impulse Response Function (IRF). ARDL and IRF are conducted independently and repeatedly on data for three different models. The sample of Islamic banks is 5 banks out of a total of 10 Islamic banks, due to insufficient data, compared to the number of commercial banks taken as samples, there is no evidence of a long-term relationship between the stability of Islamic banks and macroeconomic factors.

Banks that cannot maintain and develop their performance will be threatened with a decline in the quality of their banking. Therefore, to prevent bad things from happening, there must be actions to measure conventional

conditions in their health. The purpose of this study is to analyze the variables of banking performance and macroeconomics on the financial stability of Islamic banking in Indonesia. From these problems and the differences in the results of previous studies, this study is important to be conducted in order to analyze the financial stability of conventional banks to assess and provide scientific input. This study is used as a study entitled Financial Stability: Islamic Banks in Indonesia.

2 Literature review

A literature review is a written summary containing information and theories from various sources, such as journals, books and other documents. Literature review is an important part of the research process, several variables will be explained in the following explanation:

2.1 Banking Financial Stability

The many risks faced by banks make them vulnerable to fragility. So various efforts need to be made to minimize this risk, including maintaining bank financial stability. The literature also argues that in facing a crisis it is not enough for banks to just survive, but they must also be able to control the quality of their performance, or in other words banks must have stable financial performance. A common indicator in measuring financial stability is Zscore (Ibrahim & Rizvi, 2017).

Zscore shows the risk of bankruptcy from profitability, leverage and volatility measurements. A study conducted Rajhi (2012) during 2000-2008 shows that the Z-Score value of Islamic banks is on average higher than conventional banks, meaning that Islamic banks show higher stability than conventional banks (except for small Islamic banks).

Altman (1968) and Turk & Erdem (2017) explain that Z-Score Analysis was first proposed by Edward I Altman in 1968 as a result of his research. After selecting 22 financial ratios, 5 ratios were found that can be combined to see which companies are bankrupt and which are not bankrupt. Altman conducted several studies with company objects in different conditions. Therefore, Altman produced several different formulas to be used in several companies with different conditions. The Z-Score assessment criteria > 2.99 is categorized as a very healthy company. 1.81 < Z-Score < 2.99 is in the gray area so that the possibility of being saved and the possibility of going bankrupt is the same depending on the policy decisions of the company management as the decision maker. A Z-Score < 1.81 is categorized as a company that has very large financial difficulties and is at high risk so that the possibility of bankruptcy is very large. Raouf & Ahmed (2021) explains that the higher the Zscore value, the more stable a bank will be.

2.2 Banking Performance

El Karfi & Mentagui (2020) financial performance is an analysis carried out to see the extent to which a company has implemented financial implementation rules properly and correctly. Good company financial performance means that the implementation of applicable regulations has been carried out properly and correctly. Conclusions that can be drawn from several performances are the results of work or comparisons in terms of quality and quantity, whether physical or mental, physical or non-mental, a picture of the company's financial condition both regarding the collection and distribution of funds, which are usually measured by indicators of capital adequacy, liquidity and profitability, in realizing goals, objectives, vision and mission in improving the company.

Setiawati (2020) explains that internal factors, also called fundamental factors, are factors that originate from within the company and can be controlled by company management, while external factors, which are non-fundamental factors, can usually be caused by economic conditions such as interest rates and government policies. The fundamental factors discussed in this research are, LDR (Loan to Deposit Ratio), NPL (Non Performing Loan) and CAR (Capital Adequacy Ratio).

2.3 Macroeconomics

Macroeconomics is a part of economics that specializes in studying the working mechanisms of the economy as a whole. The aim of macroeconomics itself is to understand economic events or phenomena and to improve economic policy. Here we can get an idea that macroeconomics is not an economic tool or doctrine, but rather a useful method to help develop thinking about how to work and improve economic conditions (Putong, 2013). Mankiw (2016) macroeconomics is a study of the economy as a whole, trying to answer questions related to income growth, poverty, inflation, price stability, recession, depression, unemployment and others.

Macroeconomics is a branch of economics that studies economic events in aggregate. The aggregate concept in observing economic events can be interpreted as the overall activities of economic actors, such as overall

producer activities, overall consumer activities, government activities, and foreign economic activities (Putong, 2013). Maintaining monetary stability is one of the dimensions of national stability which is an integral part and target of national development. Solid monetary stability has a broad influence on economic activities, including activities in the banking sector.

Several studies on the influence of macroeconomic variables on Islamic bank risk taking have been carried out by many researchers. Fakhrunnas (2019) believes that macroeconomic variables have a long-term relationship with risk-taking behavior in the banking industry in Indonesia during 2010-2017. Fakhrunnas (2019) concludes that islamic banks are more resistant to macroeconomic shocks than conventional banks. In addition, Lin et al. (2016) found that risk taking in the banking industry, represented by credit risk, has a significant relationship with macroeconomic factors such as interest rates, GDP and inflation rates. Karim et al. (2016) researched macroeconomic indicators and banking stability in Indonesia, and their findings showed a long-term relationship between commercial bank stability and economic factors. Macroeconomic variables macroeconomics are shown by indicators of GDP, BI rate and inflation.

3 Methodology

3.1 Research Scope

The scope of this study is banking stability in Indonesia which is influenced by banking performance such as NPF, FDR, CAR and macroeconomics such as GDP, inflation, BIRate. The dependent variable in this study is banking stability as measured by Zscore. The independent variables in this study are banking performance as measured by NPF, FDR, CAR and macroeconomic variables as measured by GDP, inflation, BI Rate (Fakhrunnas, 2019; Firdaus et al., 2022).

3.2 Types and Sources of Data

This study uses secondary data/panel data obtained from Annual Reports, Badan Pusat Statistik (BPS), Islamic Financial Services Board (IFSB) and International Monetary Fund (IMF). The population of Islamic banks registered with the Otoritas Jasa Keuangan (OJK) is 10 banks, not using the Bank Syariah Indonesia sample because it was just merged and established in 2021. This study uses purposive sampling consisting of 10 Islamic banks in Indonesia during the period 2017 to 2023, where the year is based on seeing the phenomena before and after the Covid-19 pandemic.

3.3 Simulation Design

This study uses STATA software version 16 to produce good analysis output. This test is carried out on data that will be used to analyze the influence of internal and external factors on the Zscore. This study uses a dynamic panel with Generalized Methods of Moment (GMM) estimation, the advantage of estimation is that it allows for more detailed estimation of research data that has parameter uncertainty problems such as data that has autocorrelation and heteroscedasticity problems. The data quality tests that will be carried out include unit root tests, cointegration, and hypothesis tests. The selection of the three tests refers to research conducted by (Louzis et al., 2012; Fakhrunnas, 2019; Firdaus et al., 2022).

The estimation test will be tested by testing the GMM Arellano-Bond estimation. The results of this estimation are carried out in order to obtain efficient estimation results where in the dynamic panel equation if using OLS estimation becomes inconsistent but also biased. Therefore, in order to eliminate this problem using GMM estimation. (Gujarati, 2021) explains that the approaches used in estimating dynamic panel data regression models are first-difference GMM (FD-GMM) and system GMM (SYS-GMM). If the results of the FD-GMM method indicate that the instrument used is invalid, then the SYS-GMM method is used, and vice versa. The following is an explanation of the panel data regression model approach:

3.3.1 First-Difference Generalized Method of Moments (FD-GMM)

FD-GMM was developed by Arellano and Bond (1991). This approach produces unbiased, consistent, and efficient estimators. The following is an AR(1) autoregressive panel data model without including exogenous variables:

$Yit = \delta Y_{i,t-1} + u_{it}$

Estimator δ one-step consistent estimator is obtained by setting a weighting matrix, namely (Arellano & Bond, 1991):

$$A_N = \left(N^{-1}\sum_{i=1}^{N} W_i^T G W_i\right)^{-1}$$

The results of the one-step consistent estimator GMM Arellano-Bond estimation are as follows:

$$\hat{\delta} = \left[\left(N^{-1}\sum_{i=1}^{N} \Delta Y_{i,t-1}{}^T W_i\right) A_N \left(N^{-1}\sum_{i=1}^{N} W_i^T \Delta Y_i\right)\right]^{-1} \left[\left(N^{-1}\sum_{i=1}^{N} \Delta Y_{i,t-1}{}^T W_i\right) A_N \left(N^{-1}\sum_{i=1}^{N} W_i^T \Delta Y_i\right)\right]$$

with W_i is a matrix of instrument variables. Instrument variables are variables that are not correlated with the error, but correlated with the explanatory endogenous variable. The two-step consistent estimator is obtained by replacing using the optimal matrix as follows (Arellano & Bond, 1991):

$$\hat{V}_N^{-1} = \left[N^{-1}\sum_{i=1}^{N} W_i^T \Delta\hat{v}_i \Delta\hat{v}_i^T W_i\right]^{-1}$$

with $\Delta\hat{v}$ is a residual vector obtained from the first-step consistent estimator.

3.3.2 System Generalized Method of Moments (SYS-GMM)

Blundell and Bond (1998) stated the importance of utilizing initial conditions in producing efficient estimators of dynamic panel data models when the size is small. System GMM is a method used to estimate a system of equations by combining first difference condition moments and level condition moments.

The autoregressive model is one that has a lag on the dependent variable as well as on the independent variable so that the model is stated as a dynamic model:

$$Zscore_{i,t} = \beta_0 + \delta Zscore_{i,t-1}\ \beta 1NPF_{i,t} + \beta 2FDR_{i,t} + \beta 3CAR_{i,t} + \beta 4GDP_{i,t} + \beta 5Inflation_{i,t} + \beta 6BIRate_{i,t} + e_{i,t}$$

Where:

β_0	: constant
i	: Cross Section (i=1,….,n)
t	: Time Series
$Zscore_{i,t}$	: Banking Stability
$\delta Zscore_{i,t-1}$	: Banking Stability Lags (1)
NPF_{it}	: Non Performing Financing
FDR_{it}	: Financing to deposit Ratio
CAR_{it}	: Capital Adequacy Ratio
GDP_{it}	: Gross Domestic Product
$Inflation_{it}$	: Inflation
$BIRate_{it}$	: Bank Interest Rates
$\beta_{i1,2,3,4,5,6}$	: Coefficient
e_{it}	: Error term

The model specification test is a test of the consistency of the estimates obtained from the results of the Arellano-Bond GMM analysis and also to determine the validity of the instrument variables that have instruments exceeding the number of estimated parameters. The method used is (Yuniar, I A and Kusrini, 2019).

4 Finding and Result

The purpose of this study is to analyze the performance variables of banking and macroeconomics on the financial stability of Islamic banking in Indonesia. This study is used to determine the level of financial stability in Islamic banking in Indonesia, the financial stability variable is used as a dependent variable measured by the Zscore value. In this study, independent variables such as financial performance will be measured by the value of Non Performing Financing (NPF), Financing to Deposit Ratio (FDR) and Capital Adequacy Ratio (CAR). While macroeconomic variables will be measured by the value of Gross Domestic Product, Inflation and Interest Rates.

Table 2. Banking Financial Stability Sargan Test (Zscore)

Test	Statistical Values	P-Value
Sargan Test	25,31828	0.316

Source: processed data (STATA)

Based on table 2 on the Sargan test (instrument validity) on banking financial stability, it shows a p-value of 0,316 > 0,05. This result results in H_0 being rejected and H_a being accepted where there are no instrument variables that are correlated with the error, so the instrument variables are valid (Yuniar, I A and Kusrini, 2019).

The following are the results of the Arellano-Bond test analysis which is intended to determine consistent estimates, namely there is no autocorrelation between the residual and the endogenous variable which is shown

through the dynamic panel data estimation system. The following is the Arellano-Bond test table for banking financial stability:

Table 3. Arellano-Bond Consistency Test of Banking Financial Stability

Test	Statistical Values	P-Value
AR(m_1)	-1,3675	0,1715
AR(m_2)	-0,18724	0,8515

Source: processed data (STATA)

Based on table 3 on the Arellano-Bond consistency test, it shows a p-value of 0,8515 > 0,05 so it is not significant. This result shows that the p-value fails to reject H0 so that no autocorrelation is detected in the dynamic panel data estimation system.

Table 4. GMM Parameter Estimation

Variable	Coefficient	Std. Error	Statistical Test	P-Value
Zscore	0,3524064	0,1116872	3,16	0,003
NPF	-0,8288679	0,2823879	-2,94	0,005
FDR	0,0682566	0,020504	3,33	0,002
CAR	0,0454876	0,0219977	-2,07	0,044
GDP	1,2210	1,1510	-1,06	0,294
Inflasi	0,5005128	0,4234911	1,18	0,243
BIRate	-0,2411744	0,5599719	-0,43	0,668

Source: processed data (STATA)

Based on table 4 about parameter estimation using GMM dynamic panel shows the results of simultaneous test of variables that influence the model. The use of NPF, FDR, CAR, GDP, Inflation and BIRate variables shows different effects on the results of the estimation model. Based on the results of the GMM estimation analysis, the test results have a significant effect on the Zscore variable, including the NPF, FDR and CAR variables because the P-Value shows <0,05. The NPF variable shows a negative and significant effect on the Zscore variable where the p-value is 0,005 <0,05 with a coefficient value of -0,8288679. The FDR variable shows a positive and significant effect on the Zscore variable where the p-value is 0,002 < 0,05 with a coefficient value of 0,0682566. The CAR variable shows a negative and significant effect on the Zscore variable where the p-value is 0,044 < 0,05 with a coefficient value of -0,0454876.

5 Discussion

This section will discuss the discussion of the research results that have been studied. The discussion of the results of this research contains the original thoughts of the researcher to provide an explanation and interpretation of the results that have been analyzed to answer the research questions. The following is an interpretation of the research results. The estimation results on the NPF variable show a negative and significant effect on the Zscore. Based on these results, it is explained that low non-performing financing in banks will increase the financial stability of banking in Indonesia. Financing problems will have an impact on the bank in obtaining income from the financing offered, this will reduce income which will have a negative impact on the financial stability of banking. The high growth rate of financing problems will make a bank's cash flow not smooth, conditions like this will cause a decrease in financing that can be distributed by the bank. The results of this study are in line with the research of (Jayakumar et al., 2018; (Al-Khouri & Arouri, 2016; Setiawati, 2020) which state that the high risk of bad credit will cause the bank to be unstable.

The estimation results on the FDR variable show a positive and significant effect on the Zscore. Based on these results, it is explained that the proportion of the increase in funds received by the bank is proportional to the proportion of the increase in financing provided. If the FDR increases significantly, it will indicate that bank income will increase, increase ROA, and show that Islamic banks are optimal in developing their industry. These results are in accordance with research (Acharya & Ryan, 2016; Setiawati, 2020).

The estimation results on the CAR variable show a positive and significant effect on the Zscore variable. Based on these results, it is explained that the bank's ability to provide funds or capital for the development of its business needs to increase its risky assets. The goal is to increase its assets and capital to improve bank performance and maintain banking stability. These results are in accordance with research (Jayakumar et al., 2018; Al-Khouri & Arouri, 2016; Setiawati, 2020) which shows that CAR does not have a significant effect on the bank's Zscore which indicates bank stability.

Based on these results, it is explained that increasing a country's income does not affect the financial stability of Islamic banking in Indonesia. GDP is basically a country's output of goods and services in a certain period. The relationship between gross domestic product and the balance of payments is that an increase in output of goods and services means an increase in production capacity. This will improve the balance of payments and stabilize finances in banking in Indonesia (Fatoni & Sidiq, 2019; Sadrinata, F & Rani, 2019).

Based on these results, it is explained that low inflation in a country does not have a significant effect on the financial stability of Islamic banking in Indonesia. Inflation does not have a significant effect on the financial stability of Islamic banking in Indonesia due to several reasons, namely: Islamic banks prefer to manage portfolios with low risk so as not to disrupt the sustainability of their internal capital. Islamic banks face a liquidity management dilemma, namely if they distribute to the real sector, the risk of default is high. These results are in accordance with research (Acharya & Ryan, 2016). Based on these results, it is explained that increasing the BIrate in islamic banks does not have a significant effect on the financial stability of islamic banking in Indonesia. Interest rates do not have a significant effect on the stability of islamic banking because islamic banks do not implement an interest system.

There are no macroeconomic indicators that have a significant influence, meaning that GDP, inflation and BIrate factors do not have a significant influence on the level of stability of Islamic banking in Indonesia. Based on the findings of the study, this study answers the hypothesis and objectives of the study that the problem of banking stability in Indonesia is less stable due to poor banking financial performance and macroeconomic variables. This can be input to stakeholders in determining their policies so that banking in Indonesia can maintain banking financial stability in order to maintain its existence.

6 Conclusion

A strong, stable, and competitive economy greatly requires funding from the non-banking and banking financial sectors that work efficiently. This is because the economy requires liquidity in carrying out all economic transactions. The growth of the economic sector will move optimally if it is able to maintain and preserve the stability of the financial sector properly. In Indonesia, the financial sector is still dominated by the banking sector. The stability of the banking system is indicated by healthy banking conditions and the proper functioning of the intermediation function.Islamic banks in Indonesia that cannot maintain and develop their performance will have the threat of a decline in the quality of their banking. Therefore, to prevent bad things from happening, there must be actions to measure the condition of banking stability in its performance. This study needs to be conducted because it is to determine the effect of the financial stability of Islamic banking which is influenced by banking and macroeconomic performance. This study uses a sample of 10 Islamic banks in the period 2017 to 2023 and uses a dynamic panel model with Generalized Method of Moment (GMM) estimation. In this study, a simultaneous influence was found between the variables NPF, FDR, CAR, GDP, inflation and BIrate on the financial stability of Islamic banking (Zscore). Islamic banks in Indonesia have a more stable condition compared to commercial banks, this is because the average capital is small so that in managing it there is little risk.

Pressing the financing problem requires evaluating bank performance and paying attention to the capital that must be held carefully and precisely so that financing distribution can run well. FDR increases significantly will cause bank income to increase, increase ROA, and show that Islamic banks are optimal in developing their industry. The government as a monetary regulator is expected to supervise and re-evaluate monetary policies related to the amount of capital and business performance activities at banks in Indonesia in mitigating risks in order to increase banking stability in Indonesia. The government is expected to be able to spur economic growth, for example by developing infrastructure so that the economy can run more smoothly in order to increase people's income. With high income, it can affect the increase in deposit fund collection. The monetary authority (Bank Indonesia) is expected to be able to maintain the stability of the SBI interest rate, so that depositors are interested in depositing their funds because it has been proven that the SBI interest rate can affect the collection of deposit funds. The government needs to pay attention to the rate of inflation in its influence on banking stability. A low inflation rate will make people dare to spend their money to buy goods and services, this will stabilize the financial balance so that the financial system will be more stable. The interest rate level in controlling inflation in the short term includes the need to restore domestic and foreign investor confidence, the implementation of banking restructuring programs, the disbursement of foreign aid to finance the APBN, and foreign exchange intervention, while in the long term it can be considered the limitation of foreign obligations of both private and government, the obligation to place part of short-term capital in the Central Bank, the establishment of regional surveillance, and regulations for international investors. The researcher suggests that further similar research increase the time period and sample of banks used, so that the results obtained are better and more accurate. Further researchers also need to expand the analysis of determinant factors that influence the financial stability of Islamic banking in depth by adding research variables that have not been discussed in this study.

References

Acharya, V. V., & Ryan, S. G. (2016). Banks' Financial Reporting and Financial System Stability. *Journal of Accounting Research*, *54*(2), 277–340. https://doi.org/10.1111/1475-679X.12114

Aithal, P. S. (2016). Ideal Banking Concept and Characteristics. *International Research Journal of Management, IT and Social Sciences*, *3*(11), 46–55. https://doi.org/10.21744/irjmis.v3i11.311

Al-Khouri, R., & Arouri, H. (2016). The simultaneous estimation of credit growth, valuation, and stability of the Gulf Cooperation Council banking industry. *Economic Systems*, *40*(3), 499–518. https://doi.org/10.1016/j.ecosys.2015.12.005

Altman, E. (1968). FINANCIAL RATIOS, DISCRIMINANT ANALYSIS AND THE PREDICTION OF CORPORATE BANKRUPTCY. *The Journal of Finance*, *XXIII*(4), 589–609.

Cahyaningrum, Y. W., & Antikasari, T. W. (2017). Pengaruh Earning Per Share, Price To Book Value, Return on Asset, Dan Return on Equity Terhadap Harga Saham Sektor Keuangan. *Jurnal Economia*, *13*(2), 191. https://doi.org/10.21831/economia.v13i2.13961

Daoud, Y., & Kammoun, A. (2020). Financial Stability and Bank Capital: the Case of Islamic Banks. *International Journal of Economics and Financial Issues*, *10*(5), 361–369. https://doi.org/10.32479/ijefi.10147

El Karfi, K., & Mentagui, D. (2020). Monetary policy and financial stability. *Journal of Advanced Research in Dynamical and Control Systems*, *12*(5 Special Issue), 1453–1459. https://doi.org/10.5373/JARDCS/V12SP5/20201905

Fakhrunnas, F. (2019). The Effect of Macroeconomic and Bank-Specific Variables to Risk-Taking of Islamic Bank in Indonesia. *International Journal of Islamic Economics and Finance (IJIEF)*, *1*(2), 165–186. https://doi.org/10.18196/ijief.129

Fatoni, A., & Sidiq, S. (2019). Analisis Perbandingan Stabilitas Sistem Perbankan Syariah Dan Konvensional Di Indonesia. *Ekspansi: Jurnal Ekonomi, Keuangan, Perbankan Dan Akuntansi*, *11*(2), 179–198. https://doi.org/10.35313/ekspansi.v11i2.1350

Firdaus, A. A., Mafruhah, I., & Tri Rahayu, S. A. (2022). Analysis of the Influence of Banking Performance and Macroeconomic on Banking Stability in Indonesia. *International Journal of Economics, Business and Management Research*, *06*(07), 239–250. https://doi.org/10.51505/ijebmr.2022.6717

Gujarati, D. N. (2021). *Essentials of econometrics*. SAGE Publications.

Henry Ntarmah, A., Kong, Y., & Kobina Gyan, M. (2019). Banking system stability and economic sustainability: A panel data analysis of the effect of banking system stability on sustainability of some selected developing countries. *Quantitative Finance and Economics*, *3*(4), 709–738. https://doi.org/10.3934/qfe.2019.4.709

Ibrahim, M. H., & Rizvi, S. A. R. (2017). Do we need bigger Islamic banks? An assessment of bank stability. *Journal of Multinational Financial Management*, *40*, 77–91. https://doi.org/10.1016/j.mulfin.2017.05.002

IFSB. (2019). Stability Report 2019. In *The edge markets*. https://www.theedgemarkets.com/article/malaysias-islamic-banking-industry-will-achieve-40-market-share-2020-says-aibim

Jayakumar, M., Pradhan, R. P., Dash, S., Maradana, R. P., & Gaurav, K. (2018). Banking competition, banking stability, and economic growth: Are feedback effects at work? *Journal of Economics and Business*, *96*, 15–41. https://doi.org/10.1016/j.jeconbus.2017.12.004

Karim, N. A., Al-Habshi, S. M. S. J., & Abduh, M. (2016). Macroeconomics Indicators and Bank Stability: a Case of Banking in Indonesia. *Buletin Ekonomi Moneter Dan Perbankan*, *18*(4), 431–448. https://doi.org/10.21098/bemp.v18i4.609

Lin, H.-Y., Farhani, N. H., & Koo, M. (2016). The Impact of Macroeconomic Factors on Credit Risk in Conventional Banks and Islamic Banks: Evidence from Indonesia. *International Journal of Financial Research*, *7*(4). https://doi.org/10.5430/ijfr.v7n4p105

Louzis, D. P., Vouldis, A. T., & Metaxas, V. L. (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. *Journal of Banking and Finance*, *36*(4), 1012–1027. https://doi.org/10.1016/j.jbankfin.2011.10.012

Mankiw, G. (2016). *for Mankiw , MACROECONOMICS , Ninth Edition*.

Priyanto, T., Fahmi, I., & Ismal, R. (2016). Faktor-Faktor Yang Memengaruhi Pembiayaan Berbasis Bagi Hasil (Equity Financing) Pada Bank Syariah X. *Jurnal Aplikasi Bisnis Dan Manajemen*, *2*(3), 281–290. https://doi.org/10.17358/jabm.2.3.281

Putong, I. (2013). *Economics: Pengantar Mikro dan Makro* (Edisi Keli). Mitra Wacana Media.

Rajhi, W. (2012). Islamic Banks and Financial Stability: A Comparative Empirical Analysis between MENA and Southeast Asian Countries. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2010126

Raouf, H., & Ahmed, H. (2021). Risk governance and financial stability: A comparative study of conventional and Islamic banks in the GCC. *Global Finance Journal*, *December 2019*, 100599. https://doi.org/10.1016/j.gfj.2020.100599

Rizvi, S. A. R., Narayan, P. K., Sakti, A., & Syarifuddin, F. (2020). Role of Islamic banks in Indonesian banking industry: an empirical exploration. *Pacific Basin Finance Journal*, *62*(February), 101117.

https://doi.org/10.1016/j.pacfin.2019.02.002

Sadrinata, F & Rani, L. (2019). ANALISIS PERBANDINGAN PENGARUH VARIABEL MAKRO EKONOMI TERHADAP STABILITAS BANK SYARIAH DAN BANK KONVENSIONAL DI INDONESIA PERIODE TAHUN 2010-2017. *Jurnal Ekonomi Syariah Teori Dan Terapan*, *6*(10), 2095–2109.

Setiawati, R. I. (2020). Analisis Pengaruh Faktor-Faktor Fundamental Kinerja Bank Dan Makro Ekonomi Terhadap Stabilitas Perbankan Di Indonesia. *Jurnal Ilmiah Bisnis Dan Ekonomi Asia*, *14*(2), 123–132. https://doi.org/10.32812/jibeka.v14i2.194

Turk, Z., & Erdem, A. (2017). Financial Failure Estimate in Bist Companies With Altman (Z-Score) and Springate (S-Score) Models. *Bilimler Fakültesi Dergisi Journal of Economics and Administrative Sciences Cilt:1, Sayı*, *1*(1), 1–14.

Widarjono, A. (2020). Stability of Islamic banks in Indonesia: Autoregressive Distributed Lag Approach. *Jurnal Keuangan Dan Perbankan*, *24*(1), 40–52. https://doi.org/10.26905/jkdp.v24i1.3932

Yuniar, I A and Kusrini, D. (2019). *Penerapan Regresi Data Panel Dinamis untuk Pemodelan Ekspor dan Impor di Asean*. *1991*, 111–119.