CP2022-A-1941140-Soecipto-Influence of Risk Management and Macro Economy on the Performance of Islamic Bank in Indonesia

by Soecipto Soecipto

THE INFLUENCE OF RISK MANAGEMENT AND MACRO ECONOMY ON THE PERFORMANCE OF SHARIA BANK IN INDONESIA

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Abstract: Islamic banking has developed rapidly in recent years, especially in Indonesia, so it is necessary to conduct research to examine the effect of risk management and macroeconomics on the performance of Islamic banking in Indonesia. Data analysis used the panel regression method with 14 Islamic commercial bank companies starting from 2016 to 2020. The results showed that the financing to deposit ratio had an effect on the performance Islamic banks, while net-performing financing and the cost to income ratio had a negative effect on performance. Islamic Bank. Even so, the interest rate and inflation variables have no significant effect on the performance of Islamic banks.

Keywords: *Financial Ratios, Macroeconomics, Bank Performance, Sharia*

1. Introduction [Times New Roman 12 bold]

A number of countries and institutions that have experienced the impact of the subprime mortgage crisis are showing signs of recession. The crises in Greece, Spain, Turkey, Southeast Asia, China economic downturn, the policy of increasing interest rates in the United States, followed by the COVID-19 pandemic have affected the world economy including Southeast Asian countries. This phenomenon gives the impression that the crisis will happen again (Iqbal et al., 2022).

Even though many industries have been affected by the global crisis and the COVID-19 pandemic, Islamic financial institutions have shown resilience in the midst of the COVID-19 pandemic with positive growth in Islamic financial assets that will continue to grow until 2021. In Southeast Asia, there are 2 countries that are building Islamic banking aggressively namely Indonesia and Malaysia (Iqbal et al., 2022). Based on data from the 2020 Global Islamic Finance Report, Indonesia is ranked in the top 10 in the world in the field of Islamic finance (Zakhariah & Hesniati, 2022).

Picture 1.
Growth of Total Assets of Islamic Commercial Banks in Indonesia

Total Aset BUS (dalam Milyar Rupiah)
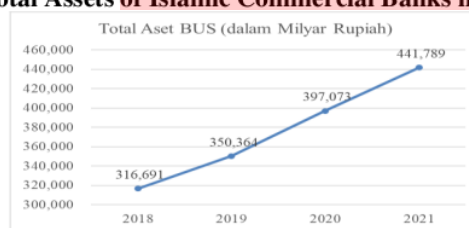
Source: OJK (2021)

Based on data from the Financial Services Authority (OJK), asset growth in Islamic Commercial Banks (BUS) in Indonesia has increased by 39.15% from 2018 to 2021. Figure 1 shows that every year BUS assets in Indonesia experience significant growth. The rapid asset growth has also prompted policy makers to issue a number of new regulations to maintain financial

resilience. Because the performance of financial institutions plays an important role in national economic growth (Ledhem & Mekidiche, 2020). This can be seen from the OJK institutions acting to oversee the sharia financial services industry through OJK Regulation Number 16 of 2022 concerning Islamic Commercial Banks that banks are required to carry out business operations accompanied by the application of sharia principles along with risk management and corporate governance.

The challenge of risks to sharia banking profits continues to be the impact of POJK Number 28 of 2021 concerning national economic stimulus, namely providing relaxation of loan payments for debtors affected by COVID-19. Due to the end of the stimulus on March 31, 2023, there has been concern about bank liquidity (Kholiq & Rahmawati, 2020). Banks must be able to control the level of liquidity to prevent bankruptcy. Liquidity risk is the company's inability to fund its assets and pay its maturing obligations. The prohibition of interest-based or riba-based loans in Islamic banks has limited the ability of banks to manage their liquidity positions. Islamic banks may face liquidity risks that arise due to limited accessibility to money markets that comply with Islamic principles which makes it difficult for Islamic banks to raise funds during liquidity shortages (Ghenimi et al., 2021). Liquidity risk involves withdrawing savings and time deposits so that it is measured by the ratio of financing / loans to deposits (Majeed & Zainab, 2021).

In addition, during the credit restructuring it is also feared that it will become a problem in the future that will be faced by banks will be even higher. Credit risk is a situation when the borrower is unable to pay his obligations. Even though the bank's income comes from lending to debtors. If many debtors are unable to repay loans, it can have a negative impact on banking performance. The high Net-performing Loan (NPL) is always the main reason when a financial crisis occurs and will weaken the national economy (Siddique et al., 2022). In Islamic banks, NPL is known as NPF (Net-performing Financing ratio).

Operational risk refers to the risk caused by the failure of internal processes, people and systems. In the case of Islamic banks, operational risk may also increase from possible losses as a result of non-compliant Sharia and failure in fiduciary. Therefore, controlling operational risk is also very important. The greater the comparison of the cost to income ratio (BOPO) can result in a decrease in the performance of Islamic banks (Muthia et al., 2020).

There are also systematic risks that cannot be diversified by banks, such as macroeconomic factors. Macroeconomics can affect bank performance, such as loan interest rates and inflation. Low loan interest rates can result in a decrease in bank profits. Rising inflation will also increase the risk of bank loans (Majumder & Li, 2018). Therefore, the authors will focus on examining the effect of risk and macroeconomics on the performance of Islamic banking in Indonesia.

Islamic Bank Performance

Profitability indicates the performance of a bank and growth prospects. A bank that has good performance has a strong financial position and solvency (Dsouza et al., 2022). In Islamic banks, profitability is obtained from productive assets through production sharing contracts, buying and selling, and leasing. The collection of deposits from third parties uses production sharing contracts or mudharabah (deposits) and wadiah (savings and current accounts) (Zuhroh, 2022).

Effect of Finance to Deposit Ratio (FDR) on Islamic Bank Performance

FDR describes the realization of the value of Islamic bank financing from third party funds. FDR has a significant positive effect on the performance of Islamic banks. Banks that can channel financing well, the potential for banks to get positive profits will be even great (Zuhroh, 2022).

The results of research on Majeed and Zainab (2021) show that FDR in Islamic banks has a significant positive effect on the performance of Islamic banks. This is aided by the tight financial policies implemented by Islamic banks so that liquidity in Islamic banks is higher than that of

conventional banks. The findings from Hacini et al. (2021) and Anwar (2016) also show that financing of deposits has a significant negative effect on bank performance.

H1: FDR has a significant positive effect on Islamic bank performance

Effect of Non-Performing Financing (NPF) on Islamic Bank Performance

NPF is a ratio intended to take into account bank credit risk. NPF has a very important role in determining bank performance because lending is the main activity of banks in contributing to economic development (Priyadi et al., 2021).

NPF has a significant negative effect on bank performance because a high NPF indicates bad and failed financing thereby reducing the profit potential generated by banks (Zuhroh, 2022). The results of this study are also similar to those of Siddique et al. (2022) where the high financing of non-performing loans is accompanied by a lack of supervision and oversight of debtors, market problems and a lack of debtor knowledge of borrowing. Ekinci and Poyraz (2019) also found NPF to have a significant negative effect on bank performance and advised banks to control and monitor bad loans because bad loans can reduce the profits generated by companies.

H2: NPF has a significant positive effect on Islamic bank performance

Effect of Cost to Income Ratio (BOPO) on Islamic Bank Performance

Dsouza et al. (2022) in research reveals that BOPO has a significant negative effect on bank performance. This result is also similar to Siddique et al. (2022) which states that banks that can control operational costs can generate better profits. Sari et al. (2022) suggests that BOPO has a significant negative effect on bank performance. The results of Nuha and Mulazid's (2018) research explain that BOPO has a significant negative effect on bank performance. The average value of the sample shows a healthy BOPO level so that lower costs to income can increase bank profits.

H3: BOPO has a significant positive effect on Islamic Bank Performance

Effect of Interest Rates (SB) on Islamic Bank Performance

Interest rates are considered as the main factor in determining a bank's income. An increase in deposit rates will be accompanied by an increase in loan interest rates, so this will affect the debtor's ability to pay loan interest (Priyadi et al., 2021). The results of research by Ho and Mohd-Raff (2019) suggest that interest rates have a significant positive effect on the performance of Islamic banks. When interest rates increase, Islamic banks tend to achieve higher profits.

H4: Interest rates has a significant positive effect on Islamic Bank Performance

Effect of Inflation (INF) on Islamic Bank Performance

Inflation is a condition where the prices of goods and services increase over time. If inflation is not accompanied by an increase in income, then this situation will weaken the debtor's ability to pay installments so that it will affect bank performance (Priyadi et al., 2021). Research by Ekinci and Poyraz (2019) also Anwar (2016) found a significant negative effect of inflation on bank performance.

H5: Inflation has a significant positive effect on Islamic Bank Performance

2. Research Method

The object of this research is all Islamic commercial banks operating in Indonesia and listed on the Indonesia Stock Exchange with a total of 14 BUS. This study applies panel data with a time series from 2016 to 2020. Secondary data collection techniques are carried out by downloading BUS financial reports from the OJK website and macroeconomic data obtained from the BPS website. The data will be tested using a panel data regression model that uses the Chow test, Hausman test, F test, and t test.

The dependent variable used in this study is the ROA ratio as a representative of BUS performance. While the independent variables studied were FDR as a representative of liquidity risk, NPF as a representative of credit risk, BOPO as a representative of operational risk, Interest Rate and Inflation as a representative of macroeconomics. Operational measurements are shown in the Table below:

Table 1.
Variable Measurement

Variable	Measurement	Source
ROA	Profit / Total Assets	Siddique *et al.* (2022)
FDR	Financing / Savings	Zuhroh (2022)
NPF	NPF / Financing	Zuhroh (2022)
BOPO	Operating Costs / Operating Income	Syakhrun *et al.* (2019)
SB	Credit Benchmark Interest Rate	BPS
INF	The relative change in the consumer price index over time	BPS

Source: Author (2022)

3. Results and Discussion

Descriptive Statistics

In this study, descriptive statistics are explained in several descriptions of values consisting of the maximum (highest) value, the minimum (lowest) value, then the mean (average) value as a measurement of central tendency values, and the standard deviation value (distribution or variability) as measurement of the value of the distribution of data on research variables. Therefore, descriptive statistics on the variables of this study regarding the effect of financial and macroeconomic ratios on the performance of Islamic banks, which are specifically Islamic commercial banks, are described in the table below:

Table 2.
Research Variable Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Return on Assets (ROA)	70	-0.108	0.241	0.016	0.049
Finance to Deposit Ratio (FDR)	70	0.001	5.066	0.965	0.673
Non-Performing Financing (NPF)	70	0.000	0.050	0.020	0.017
Cost to Income Ratio (BOPO)	70	0.562	2.174	0.945	0.253
Interest Rates (SB)	70	0.038	0.060	0.048	0.008
Inflation (INF)	70	0.017	0.036	0.028	0.007
Bank Size (SIZE) (In Billion Rupiah)	70	662	126,908	23,164	27,808

Source: Data Processed Using EViews 12 SV (2022)

Referring to the descriptive statistics table above, it is known that this study has a total of 70 data observations. In the first variable, namely ROA as the dependent variable, it has an average value of 0.016, with a maximum value of 0.241 and a minimum of -0.108, and a standard deviation of 0.049. Next is the independent variable in the form of financial ratios consisting of FDR with a mean value of 0.965, a maximum value of 5.066 and a minimum of 0.001, and a standard deviation of 0.673. The next financial ratio variable is NPF, which has an average value of 0.020 with a value of 0.000 and 0.050 respectively as the minimum and maximum values, and 0.017 as the standard deviation value. Next is BOPO as the last financial ratio variable which has a mean value of 0.945, a maximum value of 2.174, a minimum value of 0.562, and a standard deviation value of 0.253.

Furthermore, the macroeconomic variables consisting of interest rate have a mean value of 0.048, minimum and maximum values of 0.038 and 0.060 respectively, and a standard deviation

of 0.008. The next macroeconomic variable, namely inflation, has an average value of 0.028, a minimum and maximum value of 0.017 and 0.036 respectively, and a standard deviation value of 0.007. Finally, the SIZE variable or bank size, which is measured in billions of rupiah, has a mean value of Rp. 23.164 billion, then a minimum and maximum value of Rp. 662 billion and Rp. 126.908 billion respectively, and a standard deviation of Rp. 27.808 billion.

Panel Regression Test
1) Chow Test

Table 3.
Research Variable Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.875133	(13,50)	0.0566
Cross-section Chi-square	27.798413	13	0.0097

Source: Data Processed Using EViews 12 SV (2022)

Through the chow test table above, the resulting cross-section F probability value is 0.0566. This figure shows a significant value above 0.05 which means that the Common Effect Model (CEM) model is a good model to use in this study. Therefore, the panel regression test was continued with the Lagrange Multiplier Test to ensure that the best model was used in this study.

2) Lagrange Multiplier Test

Table 4.
Research Variable Lagrange Multiplier Test

Alternative Hypotheses	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	1.954537 (0.1621)	0.979841 (0.3222)	2.934378 (0.0867)

Source: Data Processed Using EViews 12 SV (2022)

Based on the Lagrange multiplier test table above, the cross-section probability value for the Breusch-Pagan alternative hypothesis is 0.1621. This probability value indicates a significant number above 0.05 and the Common Effect Model (CEM) model is a good model to use in this study. As a whole, CEM is the model that will be used for all data testing in this study.

Hypothesis Test
1) Simultaneous Significance Test (F Test)

Table 5.
Research Variable Simultaneous Significance Test

Dependent Variable	F-Statistic	Prob.	Conclusion
Return on Assets (ROA)	16.01494	0.0000	Significant

Source: Data Processed Using EViews 12 SV (2022)

Based on the F test table above, it is known that the probability value of the F-statistic is 0.0000 and is smaller or below the number 0.05. Therefore, these results conclude that the variables FDR, NPF, BOPO, SB, and INF as variables of financial and macroeconomic ratios simultaneously significant influence ROA as a variable of financial performance in Islamic banks in Indonesia, especially Islamic commercial banks in the 2016-2020 period.

2) Individual Parameter Significance Test (t Test)

Table 6.
Research Variable Individual Parameter Significance Test

Variable	t-Statistic	Prob.	Conclusion
Finance to Deposit Ratio (FDR)	2.221456	0.0299	Positive Significant
Non-Performing Financing (NPF)	-2.243630	0.0284	Negative Significant
Cost to Income Ratio (BOPO)	-6.736986	0.0000	Negative Significant
Interest Rates (SB)	-0.367399	0.7146	Insignificant
Inflation (INF)	1.229270	0.2235	Insignificant
Bank Size (SIZE)	-0.318727	0.7510	Insignificant

Source: Author (2022)

Based on the t test table above, it can be seen that the ROA variable in Islamic commercial banks in Indonesia has a positive effect on one of the financial ratio variables, namely FDR. The test results are similar to the research by Syakhrun et al. (2019) conducted in Indonesia, where they argued that the higher the FDR ratio, the more effective an Islamic commercial bank would be in disbursing its financing so that its income would increase. Therefore, the H1 hypothesis is accepted that the FDR ratio has a significant positive effect on the performance of Islamic banks.

Then the ROA on Islamic commercial banks in Indonesia has a significant negative effect on other financial ratios, namely NPF and BOPO. This is similar to research conducted by Dwinanda and Tohirin (2021) in Indonesia which argues that the higher the NPF, the higher the problems that will arise in Islamic banks, the resulting losses will increase and lead to lower profitability generated by the bank. The NPF descriptive statistical value also shows that the maximum value is 5%, this is in accordance with the soundness level of a bank determined by the OJK that a healthy NPF is below 5%. Thus, the H2 hypothesis is accepted that the NPF ratio has a significant positive effect on the performance of Islamic banks.

Likewise, an increasing BOPO ratio will result in an increase in operational expenses for Islamic banks, so that the capital owned by banks in carrying out their business will decrease, which will lead to lower profits earned by these banks. As a result, the H3 hypothesis is accepted that the performance of Islamic banks has a significant positive effect on the BOPO ratio.

Meanwhile, in Islamic commercial banks in Indonesia, the ROA variable does not have a significant effect on the macroeconomic variables, which consist of SB and INF. These results are similar to Zuhroh (2022) in his research in Indonesia. In his research, he provides an argument that the interest rate and inflation that occurred during the research period were still conducive to the development of the real sector. The results of the descriptive statistical tests also show that the standard deviation of interest rates is 0.008 and inflation is 0.007 so it can be concluded that the data deviation is still small. Thus, the H4 and H5 hypotheses are rejected because interest rates and inflation respectively do not have a significant effect on the performance of Islamic banks.

3) Coefficient Determination Test (R^2 Test)

Table 7.
Research Variable Coefficient Determination Test

Dependent Variable	R-squared	Adjusted R-squared
Return on Assets (ROA)	0.603997	0.566282

Source: Author (2022)

Based on the R-squared test table above, an adjusted R2 value of 0.566282 or 56.63% is obtained. This value means that the ability of independent variables such as liquidity, credit risk, operational efficiency, interest rates and inflation to explain the dependent variable is a return on

assets of 56.63%. While the remaining value of 43.37% will be explained by other variables from outside this study.

4. Conclusion

Overall this research is aimed at analyzing the effect of risk management and macroeconomics on the performance of Islamic banks, especially Islamic commercial banks in Indonesia for the 2016-2020 period. The results of this study conclude that the variable Finance to Deposit Ratio (FDR) as a risk management ratio has a significant positive effect on the variable Return on Assets (ROA) as a ratio on the performance of Islamic banks. Then the Non-Performing Financing (NPF) and Cost to Income Ratio (BOPO) variables as other risk management ratios have a significant negative effect on the performance ROA of Islamic banks. Meanwhile, the interest rate (NB) and inflation (INF) variables as macroeconomic variables did not significantly affect the ROA variable as the performance of Islamic banks in Indonesia in that period.

In the process of completing the preparation of this article, there are several limitations experienced by the author in this study. First, this study only uses data for a five-year period, namely from 2016-2020. Second, there are many other variables that can be discussed but are not included in this study, such as Capital Adequacy Ratio (CAR), Net Operating Margin (NOM), and Third Party Funds (DPK) as risk management variables. Then the variable Return on Equity (ROE) as a variable performance of Islamic banks. And finally, the variables of Exchange Rate and Gross Domestic Product (GDP) as macroeconomic variables.

In addition to conclusions and limitations, there are also recommendations for similar research in the future. First, carrying out similar research with a time period of more than 5 years. Second, conducting research by adding research objects other than Islamic commercial banks, such as Islamic business units and Islamic rural credit banks. Finally, carrying out a similar study by adding other new variables, such as CAR, NOM, DPK, ROE, exchange rate, and GDP.

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