



## **The Influence of CAR, FDR, and BOPO on Sharia Banking Profitability (Bank Muamalat Indonesia for the 2013-2021 Period)**

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**Abstract.** One metric used to assess how well a business is performing is profitability. An organization's capacity to turn a profit can be used to measure performance. A high profitability level indicates excellent success for the organization. Return On Assets (ROA) is the ratio used to determine the degree of profitability. At the same time, the Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Operating Expenses and Operating Income (BOPO) ratios are known to have an impact on the degree of profitability. This research aims to examine how CAR, FDR, and BOPO affect profitability. This quantitative study utilizes information gathered from Bank Muamalat Indonesia's quarterly financial reports issued between 2013 and 2021. This study employed multiple linear regression with the e-views Nine program as the research method. According to the research's findings, the degree of profitability is significantly impacted by the FDR and BOPO variables but not by the CAR variable. Furthermore, the study's findings indicate that the CAR, FDR, and BOPO variables significantly affect the profitability level simultaneously. The findings of the coefficient of determination (R<sup>2</sup>) analysis, which indicate that CAR, FDR, and BOPO have an impact on the profitability level, which is 98.60% and 1.40% with the influence of other factors from outside the analysis model, support this.

**Keywords:** CAR, FDR, BOPO and Profitabilit

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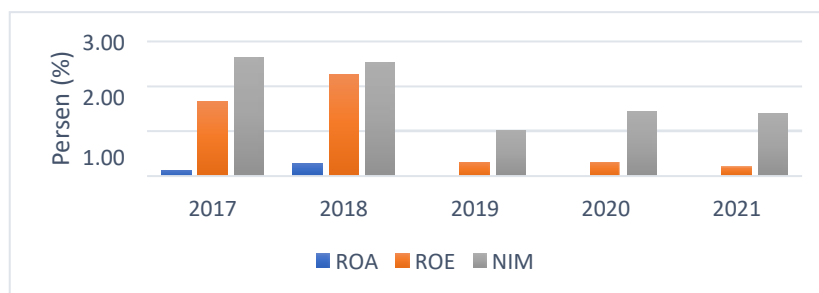
### **INTRODUCTION**

A bank is a commercial entity that functions as a financial institution. It is one of the critical tools society uses today to gather money from the general public, which is then given to borrowers to be utilized as investments or capital for the industrial sector. According to Abdullah and Tantri (2014), the outcomes of these economic activities contribute to the advancement of rising living standards.

In Indonesia, the financial landscape is shaped by two distinct types of banks: Islamic banks and conventional banks. The former, in particular, have been making significant strides, as highlighted in the Financial Services Authority report (2020) available in Indonesia. These Islamic banks, including Sharia People's Financing Banks (BPRS), Sharia Commercial Banks (BUS), and Sharia Business Units (UUS), play a crucial role in the country's economic development.

The growth of Islamic banks in Indonesia can be quantified through ratio analysis. When assessing performance, these banks consider five key factors, commonly known as CAMELS (Capital et al., Earnings, Liquidity), by the relevant Bank Indonesia regulations. These factors are evaluated using specific financial ratios, such as the Capital Adequacy Ratio for Capital, Non-Performing Financing for Assets, Operating Expenses and Operating Income for Earnings, and Financing to Deposit Ratio for Liquidity. These ratios provide a comprehensive view of the bank's profitability, solvency, and liquidity.

Because it indicates the banking performance, profitability is valued highly in the banking sector. Evaluating performance in light of the company's capacity to turn a profit is the concept of a profitability ratio (Sutrisno, 2015, p. 238). Bank Muamalat Indonesia is one of the first and oldest Sharia Commercial Banks to be founded in Indonesia. Based on the bank's financial statements, the following summarizes the profitability ratios for 2017–2021:



Source : Bank Muamalat Indonesia Financial Report 2021  
 Figure 1. Bank Muamalat Indonesia Profitability Ratio for the 2017-2021 Period

The data presented in Figure 1 indicates a consistent decline in Bank Muamalat Indonesia's Return On Asset (ROA), particularly in 2019. Nevertheless, the bank is still working to enhance management and raise ROA, ROE, and NIM. Bank Muamalat Indonesia's profitability is declining despite the favorable growth and development of Sharia banks. The Effect of Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Operating Expenses and Operating Income on Sharia Banking Profitability (Case Study of Bank Muamalat Indonesia for

2013–2021) is a study that the author conducted in order to further her understanding of the impact of Islamic banking financial ratio analysis.

## **METHOD**

Secondary data was indirectly gathered for this study using various existing sources. The information is available as time series data for all ratio variables at Bank Muamalat Indonesia, including the capital adequacy ratio, financing to deposit ratio, operating income and expenses, and return on assets. The data was collected between 2013 and 2021 and was published by the bank through its official website using E-Views 9 research tools. Quantitative descriptive analysis, which describes a phenomenon using data expressed as numerical values, is the analytical technique that underpins this study. The following analysis technique aims to examine the impact of BOPO, FDR, and CAR on ROA at Bank Muamalat Indonesia using multiple linear regression.

## **DISCUSSION**

### **Classical Assumption Test**

#### **Normality Test**

The Normality Test in question is to test with the OLS approach using *the Jarque-Bera Test* so that residual data is obtained in the form of a normally distributed linear regression model, not on independent variables or dependent variables.

The normality test results obtained a probability level value of 0.540, whereas the data obtained a probability of  $0.540 > 0.05$  to prove a normal distribution. This can be explained by reference if the probability number  $> 0.05$  so that the data from the results of this test prove to be normally distributed, but on the contrary, if the probability number  $< 0.05$ , then the data is proven to be no normal distribution.

#### **Multicollinearity Test**

Multicollinearity exists because there is a cause-and-effect relationship between two or more independent variables with simultaneous explanatory variables influenced by other variables outside the model. To test the existence of multicollinearity in terms of the value of *the Variance Inflation Factor* (VIF), if obtained below 10, it can be stated that the model is free from multicollinearity.

Our research on multicollinearity in the regression model of the three independent variables (CAR, FDR, BOPO) has yielded significant results. The VIF values for these variables

were 1,311, 1,979, and 1,740, respectively, all below the threshold of 10. This finding confirms that our model is indeed free from multicollinearity, a key conclusion of our study.

### **Heteroscedasticity Test**

Heteroscedasticity exists because there is an inequality of variance in a state from the overall residual observation in the regression model. To determine the heteroscedasticity in this study, it is carried out to regress the absolute value with independent variables using *times series data* so that later, the value of Prob. *F-Statistic* (F count) will be the decision maker. If the value of Prob. *F-Statistic* (F count) more than alpha level 0.05 (5%) for H0 is accepted, which means it is free from heteroscedasticity, but if the value of Prob. *F-Statistic* (F count) less than 0.05 alpha level (5%) for H0 rejected, which means detectable heteroscedasticity.

In this study, based on data from the heteroscedasticity test, the value of Prob was obtained. *F-Statistic* (F count) of 0.9563 where the value is more than the alpha level of 0.05 (5%) for H0 accepted, which means free from heteroscedasticity

### **Autocorrelation Test**

The results of this test are determined based on the amount of *Durbin-Watson* value or D-W value obtained. Readings from the magnitude of the value, for D-W values below  $-2$  are classified as positive autocorrelation, D-W values between  $-2$  and  $+2$  are classified as no autocorrelation, and D-W values above  $+2$  are classified as negative autocorrelation. The data collected with these provisions obtained a D-W value of 1.6637. This proves that the number obtained lies between  $-1$  and  $+2$ , so it is stated that there is no autocorrelation, either positive or negative.

### **Multiple Linear Regression Analysis**

In this study, statistical analysis used multiple linear regression. The analysis serves to understand the influence of each independent variable indicator on the dependent variable in the form of data. The data are then calculated together through a multiple linear regression equation.

The results of data processing give the equation:

$$Y = 8.834839 + 0.009708 x_1 + 0.003557 x_2 - 0.093132 x_3$$

After processing the data obtained in this study, CAR gave a coefficient value of 0.009708, while the coefficient value of FDR was 0.003557, and the coefficient value of BOPO was -0.093132.

## Hypothesis testing

### T-Test

The T-test is carried out to analyze the relationship between each independent variable and the dependent variable segmentally (individually) at the value of Prob. T Calculate less than the alpha level of 0.05; it is said that the independent variable has a significant effect on the dependent variable, but if the value of Prob. T Count beyond alpha level 0.05 is said to be the independent variable and has no significant effect on the dependent variable.

Based on the table listed, the T-Statistic CAR value is also obtained as much as 1.937205 with the analysis that the T-Calculate value is  $1.937205 < 2.0369334$  T-Table values. As much as  $0.0616 > 0.05$  was obtained at the significance level, H0 was accepted, while H1 was rejected. Then, a conclusion was drawn based on the hypothesis test results, which showed no significant influence on the CAR variable on ROA. At the same time, the FDR T-Statistics value is 3.816964, and the analysis shows that the T-Calculate value is  $3.816964 > 2.0369334$  T-Table values. At the significance level obtained as much as  $0.006 < 0.05$ , H0 is rejected while H2 is accepted. Based on the hypothesis test results, it was concluded that the FDR variable had a positive and significant influence on ROA.

Based on the table listed below, it can be seen that the BOPO t-statistic value is  $-35.14201$ , with the analysis showing that the T-Calculate value is  $35.14201 > 1.69389$  T-Table value. At the significance level, several  $0.000 < 0.05$  is obtained so that H0 is rejected while H3 is accepted. Then, it was concluded that it was proven that the BOPO variable had a negative and significant influence on ROA.

### Test F

The implementation of the F test (Simultaneous Test) is useful to find out whether there is the same influence on all independent variables on the dependent variable. Based on the results of Test F, this study obtained F-statistical test results of  $826.3228 > F\text{-Table} = 2.901120$  with Prob (F Statistical) of  $0.000 < 0.05$ . These results show that ROA is affected and significant simultaneously by independent variables (CAR, FDR, and BOPO).

### Coefficient of Determination Test

Based on data processing from Bank Muamalat Indonesia for the results of *the Adjusted R-Squared* value, data on the determinant coefficient (R2) of 0.986061 was obtained, which means that there are 98.60% of ROA detected variables that influence it, namely CAR, FDR, and BOPO, while for the rest, other variables outside the model are 1.40%.

### **The Effect of Capital Adequacy Ratio on Return on Assets**

Based on Bank Muamalat Indonesia's reference data, test results were obtained that CAR had no influence and was significant on ROA. I was judging the *Capital Adequacy Ratio* (CAR) coefficient figure. If there is an increase in CAR by one percent, profitability (ROA) will also increase by 0.009708%. A positive coefficient indicates a positive relationship between CAR and profitability (ROA). So, it can be concluded that the higher the CAR value obtained, the higher the profitability value (ROA). Furthermore, for the CAR T-Statistics value obtained as much as 1.937205, then the T-Calculate value was obtained as much as  $1.937205 < 2.0369334$  T-Table values. The significant level obtained was  $0.0616 > 0.05$ , so  $H_0$  was accepted while  $H_1$  was rejected.

Therefore, the value of CAR has a positive but not significant effect on the level of profitability. The value of CAR cannot determine the value obtained by ROA at Bank Muamalat Indonesia. This is because Bank Muamalat is very careful when channeling funds through asset investment or financing when using capital. In addition, it is also caused by the fact that some of the capital in the bank will be used as reserves to maintain bank liquidity against the risks that will be faced in the future so that it does not significantly affect the profits obtained. CAR is not significant in providing influence because Bank Indonesia applies regulations that require a minimum of 8% of funds for reserves, so banks continue to strive to maintain and comply with these regulations. These results are in line with the results of previous research conducted by Hanum Yuniastika Ristia (2018), Utami & Muslikhati (2019) and Rofiul Wahyudi (2020).

### **The Effect of Financing to Deposit Ratio on Return on Assets**

Based on Bank Muamalat Indonesia's reference data, test results show that FDR significantly influenced ROA. This is proven by the *Financing to Deposit Ratio* (FDR) coefficient number obtained, which is 0.003557. From the result data, it can be stated that if the FDR value increases by one percent, profitability (ROA) will also increase by 0.003557%. The value of a positive coefficient is defined as a positive relationship from FDR to the value of profitability (ROA). So, the higher the FDR value, the higher the profitability value (ROA). In addition, the FDR t-statistic value of 3.816964 was also obtained, so the T-Count value was  $3.816964 > 2.0369334$  T-Table values. However, for the significance level obtained by  $0.006 < 0.05$ ,  $H_0$  is rejected while  $H_2$  is accepted. The results were then analyzed by showing that the FDR value at Bank Muamalat Indonesia had a significant positive effect on ROA. This is evidenced by the higher the FDR, which shows that the use of bank funds to channel financing is

getting bigger. With this happening, the more margin received (in murabahah contract) and profit sharing (in mudharabah), the greater profits will be obtained, resulting in higher ROA value. These results are in line with the results of previous research conducted by Iqbal Ramadhani (2018), Putri Ayu Permatasari (2020), and Dinda Naza Febriani (2021).

### **The Effect of Operating Expenses and Operating Income on Return on Assets**

Based on Bank Muamalat Indonesia's reference data, test results were obtained that BOPO had a significant adverse effect on ROA. This is evidenced by the number of Operating Expenses and Operating Income (BOPO) coefficient of  $-0.093132$ . With these result data, it can be stated that if BOPO increases by one percent, profitability (ROA) will decrease by  $0.093132\%$ . The negative coefficient is a positive relationship between BOPO and profitability (ROA). So, it can be concluded that the higher the BOPO value, the lower the value for profitability (ROA). Based on the BOPO T-Statistics value of  $-35.14201$ . Mean t-count value  $35.14201 < 1.69389$  t-table value. At the same time, the significance level is  $0.000 < 0.05$ , so  $H_0$  is rejected while  $H_3$  is accepted.

The analysis concludes that Bank Muamalat Indonesia's BOPO value has a negative impact on ROA. This means that a decrease in BOPO leads to an increase in ROA, and vice versa. This finding aligns with the theory that a lower BOPO value indicates more efficient operational activities, optimal financing, and higher profitability. It underscores the importance of efficient operations in driving bank profitability. In addition, the high value of BOPO due to high costs incurred and low income makes the ROA value decrease to be smaller. These results are the results of research from Iqbal Ramadhani (2018), Rofiul Wahyudi (2020), and Rahma Aulia (2021).

### **CONCLUSION**

During the study, the data were normally distributed using several classical assumption tests (normality, multicollinearity, heteroscedasticity, and autocorrelation) without variable deviations so that it could be stated that the data from Bank Muamalat Indonesia had met the provisions as a multiple linear regression equation model.

In Bank Muamalat Indonesia data, a hypothesis test of multiple regression analysis was carried out consisting of 3 independent variables, namely CAR, FDR, and BOPO, and one dependent variable, namely ROA, so that the results of the T-Test statistical calculation were obtained that *the Capital Adequacy Ratio* (CAR) variable did not have a significant effect due to the enactment of Bank Indonesia regulations which required a minimum of 8% of funds for reserves so that the bank continued to strive to maintain and comply with these regulations.

Meanwhile, in the T-test using Bank Muamalat Indonesia data, *the variable Financing to Deposit Ratio (FDR)* significantly positively affects the value of profitability (ROA). This proves that using bank funds to channel financing is getting bigger. With this happening, the more margin received (in murabahah contract) and profit sharing (in mudharabah), the greater profits will be; thus, the higher the ROA value.

The results of statistical calculations using the T-Test showed that the BOPO variable on the level of profitability (ROA) had a significant negative influence on Bank Muamalat Indonesia. This shows that the higher the variable value of BOPO, the less efficient a bank's operational activities due to increased costs. As a result, ROA, which is used as a benchmark for bank profits, has also decreased.

In Bank Muamalat Indonesia data, an independent variable test (CAR, FDR, BOPO) was carried out, proving that the free variable had a significant effect on the ROA value, which was 0.9860. This showed that 98.60% of the ROA detected variables that influenced it, namely CAR, FDR, and BOPO, while for the rest, other variables outside the model were 1.40%.

As for suggestions for future researchers, the scope of research needs to be expanded, not only bank operational variables. However, macroeconomic variables can also be used to affect profitability growth. The period can be extended to 9 years, and Islamic banking is used by more than one bank to compare one bank and another. The management of Bank Muamalat Indonesia is expected to increase the value of *the financing-to-deposit ratio* through financing, both murabahah and mudharabah, which will increase the margin obtained to increase the value of *Return on Asset* or bank profitability.

However, paying more attention to credit risk in financing is also necessary. Moreover, banks are better able to increase the efficiency of the company. The value of the BOPO variable coefficient, which is high and significantly negative, is -0.093132, indicating that if management can emphasize the magnitude of the BOPO value, it can increase efficiency to increase profits, which can be seen from the magnitude of ROA.

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