

# How is the Profitability of Islamic Commercial Banks affected by the Financing to Deposit Ratio

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**Abstract.** Banking growth is always followed by the challenges it faces. The challenge that must be passed by every Islamic bank is banking performance. One of the ratios that can measure the level of bank net income is ROA. The purpose of this study was to determine the effect of the variables CAR, NPF, SIMA, and BI Rate on Profitability by using FDR as an intervention variable. This type of research uses a quantitative approach. The results of the study show that CAR, SIMA, and BI Rate have a positive effect on ROA. Then in path analysis, FDR is not able to be a mediator between internal variables and external variables on profitability.

**Keywords:** CAR, NPF, SIMA, BI Rate, FDR, and Profitability

## 1 Introduction

The growing growth of a bank is always followed by the challenges it faces. This challenge is a major problem that must be overcome for every bank, one of which is financial performance. The financial performance of Islamic banking at this time has increased quite rapidly when compared to conventional banks. Based on statistical data released by the OJK (2021) the growth of Islamic bank assets this year reached 12.22%. This increase was due to several driving factors, such as support from the government for the development of the sharia industry. In this case, the government develops sharia principles through the National Sharia Economic and Finance Committee (KNEKS). The existence of this support brings fresh air to banks, both shareholders and owners. This has a positive impact on Islamic banks which has an effect on increasing their profitability.

Return on Assets (ROA) is a ratio that can analyze income from assets owned. In addition, the advantages of this ratio can measure how appropriate a bank is in managing its funds. ROA is calculated based on net income after tax divided by total assets. The results of this calculation use percentages. So, if the ROA percentage is high, the better the bank's business will be in carrying out its activities. However, if the percentage is small, the company in managing its business is less effective. This will affect the company's rate of return on its assets, one of which is a high rate of return on investment.

In 2020, the ROA of Islamic banks experienced a lower decline than in previous years. This decline is very worrying for Islamic banking. The reason is, this shows that Islamic banks are less effective and productive in operating their assets, and can affect the decline in

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the bank's position. However, in overcoming this, Islamic banks try to maintain a stable profitability ratio, namely by increasing their assets. This effort is certainly not easy,

Table 1 The Development of ROA 2016-2020 in 2016-2020

Tahun	2016	2017	2018	2019	2020
ROA	0,63%	0,63%	1,28%	1,73%	1,40%

Source: [www.ojk.go.id](http://www.ojk.go.id)

especially during a pandemic like this. Every company is required to be able to make every challenge as an opportunity. In order to maintain its performance during the pandemic, Islamic banking in disbursing its financing with the principle of prudence. This step is taken so that Islamic banks continue to earn profits in difficult times. This is evidenced by Islamic banks with a relatively good ROA percentage at 1.40%. Of course, the most important thing that is being done by Islamic banking today is to reduce the cost of funds and carry out quality financing so that the bank continues to run well.

Table 2 Development of CAR, NPF, SIMA and FDR in 2016-2020

Variabel	2016	2017	2018	2019	2020
CAR	16.63%	17.91%	20.39%	20.59%	21.64%
NPF	4.42%	4.76%	3.26%	3.23%	3.13%
SIMA (Miliar)	2.930	2.245	2.417	2.242	1.46%
FDR	85.99%	79.65%	78.53%	77.91%	76.36%

Source : [www.ojk.go.id](http://www.ojk.go.id)

Based on table 2 it can be seen the development of the ratio of CAR, NPF, SIMA, FDR, and ROA each year. For the CAR ratio, it can be seen that there is an increase every year, from 2016 to 2020. However, ROA has decreased in 2020 by 0.33% so that the result is 1.40%. This is not in line with the theory which states that CAR has a positive effect on ROA. The higher the ROA, the better the bank's performance ability. This research is also supported by Pravasanti (2018) which states that CAR has a negative and significant effect on the profitability of Islamic banks. Meanwhile, according to Mustafa (2020) CAR has a positive and significant effect on the profitability of Islamic banks.

In 2016 to 2020 NPF experienced fluctuations in its development, however, ROA only decreased in 2020. In 2019-2020 the NPF ratio decreased from 3.23% to 3.13% followed by a decrease in ROA in the same year from 1.73% to 1.40%. Of course, this contradicts the theory which states that NPF has a negative effect on ROA. That the higher the NPF ratio will affect the bank's profits and operating income. This research is supported by Aldiansyah (2018) which states that NPF has a positive and significant effect on the profitability of Islamic banks. This result is different from Pravasanti (2018) which states that NPF has a negative effect on the profitability of Islamic banks.

Furthermore, the FDR ratio experienced a rapid decline from 2016 to 2020. However, ROA only decreased in 2020 by 0.33%. In 2016-2017 FDR decreased from 85.99% to 79.65%, but ROA did not decrease in that year. But the percentage remains stable at 0.63%. This condition contradicts the theory which states that FDR has a positive effect on ROA. The higher the amount of financing provided, the higher the return will be. This study was supported by Pitaloka et al. (2019) stated that FDR had a negative and significant effect on the profitability of Islamic banks. However, it is different from Anggraini & Mawardi (2020) which states that FDR has a positive and significant effect on the profitability of Islamic banks.

SIMA ratio in 2016 to 2020 fluctuated in its development. In 2020 SIMA experienced a drastic decline compared to the previous year. This can happen because the income received by the bank is not stable. An investment can run smoothly if it is followed by increased public deposits. If the Islamic bank has raised enough funds, it will distribute the funds through securities investment. IMA certificates are certificates issued by BUS and UUS which have

excess funds to make short-term investments by sharing the profits between the bank as mudharib and the owner of the funds. Islamic banks will get a ratio of the investment results according to the contract agreement. This research is supported by Manaf & Bawono (2019) which states that SIMA has a positive and significant effect on ROA. This is contrary to Nurhasanah (2020) which argues that SIMA has no effect on the ROA of Islamic banks.

**Table 3** Interest rate of development in 2016-2020

Variabel	2016	2017	2018	2019	2020
BI Rate	6,00%	4,56%	5,10%	5,62%	4,25%

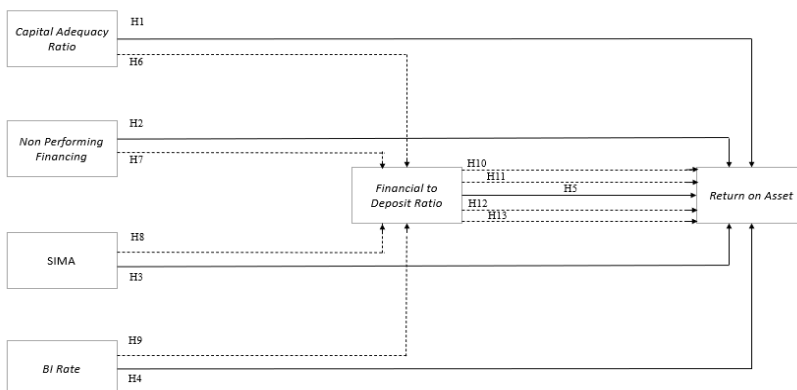
Source: [www.ojk.go.id](http://www.ojk.go.id)

Table 3 shows that the BI Rate in 2016 to 2017 decreased by 1.44%. Then in 2018 and 2019 interest rates increased by 0.54% and 0.52%, but in 2020 again decreased by 1.37% to become 4.25%. The decline in interest rates is indicated by low inflation as well. If BI lowers interest rates, it can provide good news for banks, because many customers will borrow money from banks. However, the decline in interest rates does not have a direct effect on the credit made by Islamic banks to customers, besides that this reduction in interest rates can also reduce the operations of Islamic banks. A decrease in interest rates will have an impact on deposits, which will move their savings books to conventional banks. As a result, this will affect the decline in profits received by Islamic banks. This research is supported by Adhista (2021) who argues that the BI Rate has a negative and significant effect on ROA. This study contradicts Amzal (2016) which states that the BI Rate has a positive and significant effect on ROA.

## 2 Research Method

The purpose of this study is to identify what factors can affect the financial performance of Islamic banks. In this study, the researcher added a macro variable, namely the BI Rate, to the independent variable. The goal is that researchers can find out whether macro and micro variables can affect profitability with FDR as an intervention variable.

This type of research uses a quantitative approach. According to Sugiyono (2015) a quantitative approach is research based on philosophy to conduct tests on the population which will later be selected randomly by selecting data using statistical instruments and data analysis. This method is based on numbers which will later be processed and analyzed. to test the established hypothesis. This quantitative approach is carried out to analyze whether the sample owned is in line with the formulated hypothesis. The sample of this research comes from the financial statements of Islamic Commercial Banks in Indonesia from 2016-2020.



**Figure 1.** Research Framework

### 3 Result and Discussion

#### 3.1 Result

##### Deskriptive Statistic of Research Variables

**Table 4** Deskriptive Statistical Analysis

	ROA	CAR	NPF	SIMA	BIRATE	FDR
Mean	0.108200	20.39920	2.597400	4712292.	5.106000	86.86860
Median	0.470000	19.30000	2.675000	1067521.	5.100000	84.49000
Maximum	2.630000	45.30000	4.990000	22580455	6.000000	196.7300
Minimum	-10.77000	11.51000	0.010000	113912.0	4.250000	63.94000
Std. Dev.	2.310218	6.804365	1.436523	5829146.	0.653768	18.40706
Skewness	-3.334008	1.599326	-0.012135	1.385496	0.044502	4.312895
Kurtosis	14.45507	5.984241	2.027160	4.162759	1.521089	26.64175
Jarque-Bera	366.0022	39.86889	1.972931	18.81334	4.573124	1319.451
Probability	0.000000	0.000000	0.372892	0.000082	0.101615	0.000000
Sum	5.410000	1019.960	129.8700	2.36E+08	255.3000	4343.430
Sum Sq. Dev.	261.5183	2268.670	101.1164	1.66E+15	20.94320	16602.17
Observations	50	50	50	50	50	50

Source: Secondary Data Sources are Processed, 2022

Based on table 4 the descriptive test results for each variable consist of 50 observations from 10 Islamic Commercial Banks for the 2016-2020 period. Thus, the explanation of each variable is as follows:

1. ROA. The minimum ROA value is -10.77000, then the maximum value is 2.630000. The total of the 50 observational data above obtained a mean of 0.108200 with a standard deviation of 2.310218.
2. CAR. The minimum CAR value is 11.51000, then the maximum value is 45.30000. The total of the 50 observational data above obtained a mean of 20.39920 with a standard deviation of 6.804365.
3. NPF. The minimum number of results from the NPF is 0.010000, then the maximum value is 4.990000. A total of 50 observational data, then obtained a mean of 2.597400 with a standard deviation of 1.436253.
4. SIMA. The minimum number of SIMA values is shown at 113912.0, then the maximum value is 22580455. The total of the 50 observation data, the mean is 4711692. With a standard deviation of 5829090.
5. BI Rate. The minimum value for the BI Rate is indicated by a number of 4.250000, then the maximum value of 6.000000. A total of 50 observation data, the mean is 5.106000 with a standard deviation of 0.653768.
6. FDR. The minimum number of results obtained by FDR is 63,94000, for the maximum value obtained is 196,7300. A total of 50 observational data obtained a mean of 86,86860 with a standard deviation of 18,40706.

#### Stationarity Test

Table 5 shows that the probability value is  $< 0.05$ , meaning that this data is stationary. Thus, all of these variables are said to be feasible and can be tested further.

**Table 5** Stationarity Test Results

No	Variabel	Prob.**	Note
1	CAR	0.0000	Stationary data
2	NPF	0.0000	Stationary data
3	SIMA	0.0000	Data Stationer
4	BI RATE	0.0000	Data Stationer
5	ROA	0.0000	Data Stationer
6	FDR	0.0000	Data Stationer

Source: Secondary Data Sources are Processed, 2022

**Test Statistic**

**Table 6.** Main Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.638454	3.739706	-0.705524	0.4842
CAR	0.075468	0.052213	1.445393	0.1554
NPF	-0.534087	0.241606	-2.210567	0.0323
SIMA	1.08E-07	6.20E-08	1.745172	0.0879
BIRATE	0.328823	0.481305	0.683191	0.4981
FDR	0.004669	0.018189	0.256678	0.7986
R-squared	0.281566F-statistic			3.448865
Adjusted R-squared	0.199926Prob(F-statistic)			0.010252

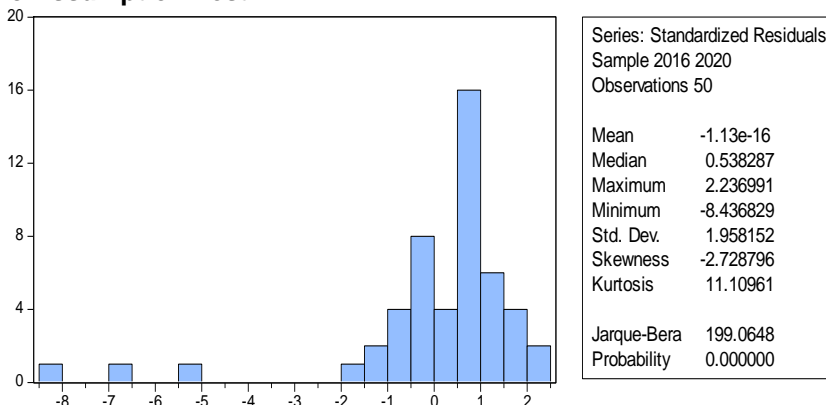
Source: Secondary Data Sources are Processed, 2022

**Table 7.** Intervening Variable Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	94.86190	27.19308	3.488458	0.0011
CAR	0.102895	0.427655	0.240603	0.8110
NPF	1.903807	1.959735	0.971461	0.3365
SIMA	-1.32E-06	4.68E-07	-2.828629	0.0070
BIRATE	-1.722692	3.936356	-0.437636	0.6637
R-squared	0.222543F-statistic			3.220251
Adjusted R-squared	0.153436Prob(F-statistic)			0.020840

Source: Secondary Data Sources are Processed, 2022

**Classic Assumption Test**

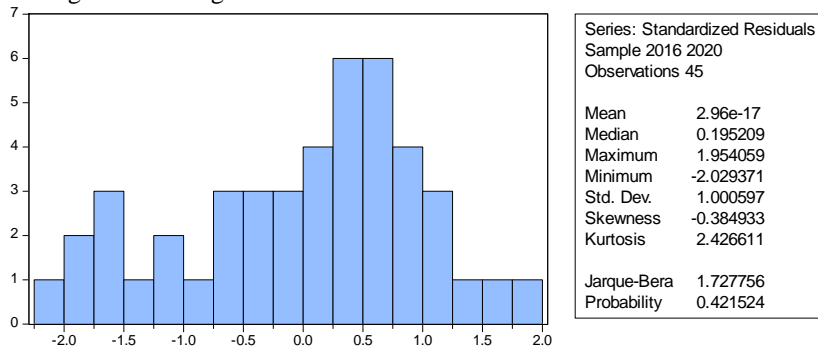


Source: Secondary Data Sources are Processed, 2022

**Figure 2.** Main Regression Normality Test Results

The test results in Figure 2 can be seen the probability obtained is 0.000000. This test proves that the data being tested is not normally distributed. In order for these data to be

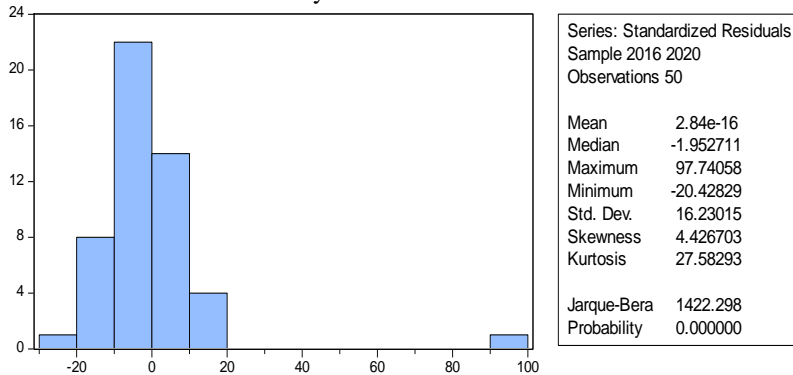
usable, treatment is needed on this issue. For this reason, the data on the dependent variable must be changed first in log form. So the results obtained are as follows.



Source: Secondary Data Sources are Processed, 2022

**Figure 3.** Main Regression Normality Test Healing Results

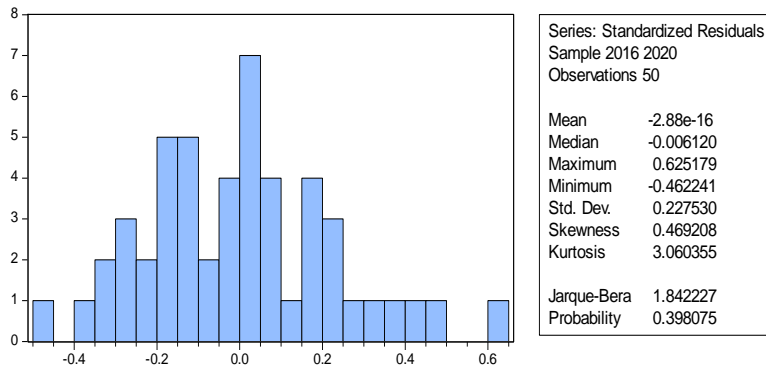
The picture shows that the independent and dependent variables are in accordance with the normality test requirements, namely with a probability value of 0.0421524. Thus, it can be concluded that this data is normally distributed.



Source: Secondary Data Sources are Processed, 2022

**Figure 4.** Intervening Variable Normality Test

From the test in Figure 4 explains that the probability value is 0.000000. This means that the data being tested is not normally distributed. In order for these data to be usable, treatment is needed on this issue. So the dependent variable must be changed first in log form. The results obtained are as follows:



Source: Secondary Data Sources are Processed, 2022

**Figure 5.** Intervening Variable Normality Healing Test

Figure 5 is explained if the independent and dependent variables are in accordance with the requirements of the normality test, namely the results obtained with a probability of 0.398075. So that this data has been declared normally distributed.

**Table 8** Main Regression Multicollinearity Test

	CAR	NPF	SIMA	BIRATE	FDR
CAR	1.000000	-0.390947	-0.217182	-0.195267	0.082990
NPF	-0.390947	1.000000	-0.208043	0.017849	0.219873
SIMA	-0.217182	-0.208043	1.000000	-0.188296	-0.447075
BIRATE	-0.195267	0.017849	-0.188296	1.000000	0.013015
FDR	0.082990	0.219873	-0.447075	0.013015	1.000000

Source: Secondary Data Sources are Processed, 2022

In table 8 it can be seen that the CAR, NPF, SIMA, BIRATE, and FDR variables have a correlation coefficient of  $< 0.8$ . So it can be concluded that there is no multicollinearity.

**Table 9** Intervening Variable Multicollinearity Test

	CAR	NPF	SIMA	BIRATE
CAR	1.000000	-0.390947	-0.217182	-0.195267
NPF	-0.390947	1.000000	-0.208043	0.017849
SIMA	-0.217182	-0.208043	1.000000	-0.188296
BIRATE	-0.195267	0.017849	-0.188296	1.000000

Source: Secondary Data Sources are Processed, 2022

Based on the results of the multicollinearity test in table 9 it can be seen that each variable CAR, NPF, SIMA, and BIRATE has a correlation coefficient value of  $< 0.8$ . So this shows that there is no multicollinearity.

The autocorrelation test is the ability to influence the residuals of one study on the residuals of other studies. To see if there is autocorrelation in this regression, it is necessary to test the autocorrelation using the Durbin-Waston (DW) test. The following are the results of the autocorrelation test.

**Table 10** Main Regression Autocorrelation Test

**Breusch-Godfrey Serial Correlation LM Test:**

F-statistic	2.186647	Prob. F(2,42)	0.1249
Obs*R-squared	4.715315	Prob. Chi-Square(2)	0.0946

Source: Secondary Data Sources are Processed, 2022

In table 10 the chi-square probability value (which is Obs \*R-squared) is 0.94. This result indicates a probability  $> 0.05$ . So that this study does not experience autocorrelation.

**Table 11.** Intervening Variable Autocorellation Test

**Breusch-Godfrey Serial Correlation LM Test:**

F-statistic	0.453683	Prob. F(2,43)	0.6383
Obs*R-squared	1.033274	Prob. Chi-Square(2)	0.5965

Source: Secondary Data Sources are Processed, 2022

In Table 11 the chi-square probability (which is Obs \*R-squared) is 0.59. This result indicates a probability  $> 0.05$ . Thus, in this study there was no autocorrelation problem.

Heteroscedasticity test was conducted to determine the effect of the residual of one study on another study. In order to know the problem of heteroscedasticity, this research uses the Breusch-Pagan-Bridfey Test method. If the probability value of Obs\*R-Squared  $> (0.05)$  it can be stated that the data does not experience heteroscedasticity, while the probability of Obs\*R-Squared  $< (0.05)$  then it can be stated that the data is heteroscedasticity. The following are the results of the Breusch-Pagan-Bridfey test:



**Table 12** Main Regression Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.381986	Prob. F(5,44)	0.2495
Obs*R-squared	6.786429	Prob. Chi-Square(5)	0.2370
Scaled explained SS	26.56508	Prob. Chi-Square(5)	0.0001

Source: Secondary Data Sources are Processed, 2022

Table 12 shows the probability result of 0.2370. Thus, it can be concluded that the ROA variable in this study did not experience heteroscedasticity.

**Table 13** Intervening Variable Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.584898	Prob. F(4,45)	0.1947
Obs*R-squared	6.174175	Prob. Chi-Square(4)	0.1865
Scaled explained SS	66.47170	Prob. Chi-Square(4)	0.0000

Source: Secondary Data Sources are Processed, 2022

Table 13 shows the probability result of 0.2370. Thus the intervening variable in this study did not experience heteroscedasticity.

### T Test

The basis for making decisions on this T test is if the probability value of the variable used this value is less than 0.05, then the independent variable has a significant influence on the dependent variable. The results of the multiple regression test for the main regression and the intervening regression decided that there are two variables that have a probability value of less than 0.05, the variable is NPF against ROA with a result of 0.0323 and SIMA variable on FDR of 0.0070. so from these results it can be concluded that there are 2 independent variables which have a significant influence on the dependent variable.

### F Test

The basis for decision making for the F test is if the probability value of the F-test is less than 0.05, then the independent variable has a simultaneous influence on the dependent variable. The results of the main regression and the intervening regression can be seen in table 6 and table 7. The respective probability F-tests are 0.010252 and 0.020840 which are less than 0.05. so it can be concluded that the main regression and intervening regression independent variables simultaneously affect the dependent variable.

### Coefficient of Determination Test

This test was conducted to obtain the results of the coefficient of determination test on the main regression and intervening variables. In the main regression obtained an R-squared main regression of 0.282 showing the effect of the dependent variable at 28.2%. The remaining 71.8% is explained by other variables outside the study. Then the results of the intervening variable obtained an R-squared of 0.2223 showing the ability to influence the dependent variation of 22.23%. The remaining 77.77% is explained by other variations outside the study.

## 3.2 Discussion

### CAR on Profitability

Coefficient assessment on CAR obtained 0.075468. This result indicates that CAR has a positive effect on ROA, then the probability obtained is  $0.1554 > 0.05$ . So it can be explained if CAR has a positive and insignificant effect on ROA. It is shown that every increase or decrease in CAR does not affect the size of the profits obtained by profitability. This study is not in line with previous research by Aninda & Diansyah (2020) which stated that CAR had a negative effect on ROA. So that the first hypothesis is accepted.

CAR is a capital adequacy ratio that every bank must have. Bank Indonesia has set a minimum CAR value of 8%. Capital is a vital ratio for every bank, because a bank can be



declared healthy if it has a stable and consistent amount of capital. This also affects public trust for bank profitability. So that every bank must be able to balance between high capital with good investment and distribution of funds, because if it can be balanced properly then CAR can have a lot of effect on profitability. This research is supported by Mustafa (2020) who argues that CAR has a positive effect on Profitability (ROA).

### **NPF on Profitability**

The NPF coefficient assessment is  $-0.534087$ . This means that NPF has a negative effect on ROA, then the probability obtained is  $0.0323 < 0.05$ . Thus, these results explain if NPF has a negative and significant effect on ROA profitability. So that every increase or decrease in NPF affects the size of the profits obtained by profitability. The results of this test are not in line with research by Aldiansyah (2018) and Munir (2018) which argue that NPF has a positive and significant effect on ROA. So that the second hypothesis is rejected.

NPF is the ratio of bad loans. This high ratio indicates that bank lending is deteriorating. Banks must be able to process the distribution of funds properly, because the distribution of these funds is the largest income for Islamic banks. If the number of NPF increases, the income received by the bank will worsen. The results of this test are supported by Marginingsih (2018) who argues that NPF has a significant effect on ROA. This statement is based on an increase in non-performing financing accompanied by an increase in pre-tax profits. So it can be interpreted if the NPF has a significant effect on ROA.

### **SIMA on Profitability**

When SIMA increased by 1 unit, profitability also increased by  $1.08E-07$  with other variables held constant. This statement is evidenced by the SIMA regression coefficient value of  $1.08E-07$  and gives a positive direction. That is, SIMA has an influence on profitability in a positive direction. This is evidenced by the results of data processing with the acquisition of the SIMA variable regression coefficient  $0.000000108$  in positive results and the probability obtained is  $0.0879 > 0.05$ . This study is in accordance with Manaf & Bawono (2019) who argue that SIMA has a positive influence on profitability. Then this research is also supported by Bahti (2018) who argues that SIMA has a positive influence on profitability. So that the third hypothesis is accepted.

The IMA certificate is one of the instruments used to obtain higher profitability. Sharia bank fund management activities require the existence of an Interbank Money Market. In this case, automatically managing funds in accordance with sharia principles must be implemented. One alternative solution is the Sharia Interbank Money Market (PUAS). This PUAS will manage the shortage and excess funds efficiently based on sharia principles. One of the PUAS products is the IMA Certificate. The IMA certificate functions to obtain short-term funds through investments that have been made, due to the lack of funds. This certificate is also useful for Islamic banks for investment facilities when experiencing excess liquidity to earn profits.

### **BI Rate on Profitability**

After the calculation, the BI Rate coefficient value is  $0.328823$ , while the probability value is  $0.4981$ , which means the probability is  $>$  from  $0.05$ . These results show that despite a decrease or increase in interest rates, profitability did not face a substantial decline. This gain can occur because every contract in Islamic banks does not have the principle of interest, so it does not have a negative effect on Islamic banking. This study is in accordance with Rahmawati (2018) who said that the BI interest rate had a positive and significant effect on profitability. Then this research is also supported by Amzal (2016) which states that interest rates have a positive effect on profitability. So that the fourth hypothesis is accepted.

In practice, Islamic banks are not guided by the rise or fall of interest rates at that time. Anticipation made by Islamic banks to avoid losses due to rising interest rates that may occur is to increase the profit sharing ratio. This is done because Islamic banks cannot change the agreement as in the beginning. Islamic banks in getting customers in accordance with sharia

principles that always avoid usury, many customers save with deposits. Deposits are funds that are deposited based on a certain period of time and cannot be withdrawn by customers at any time. So it takes a certain period of time to take deposits in order to get maximum results. The difference between Islamic bank deposits and conventional ones is that they are managed differently. Islamic banks use the mudharabah principle, which means that profits are shared between customers and Islamic banks.

#### **FDR on Profitability**

The FDR result is 0.004669, this explains that FDR has a positive effect on ROA, then the probability obtained is  $0.7986 > 0.05$ . So that the positive FDR is not significant to ROA profitability. These results indicate if the increase or decrease in FDR has no impact on profitability. The research conducted is supported by Almunawwaroh & Marliana (2018) and Angraini & Mawardi (2020) who argue that FDR has a significant positive effect on ROA. So that the fifth hypothesis is accepted.

The high FDR owned by each bank certainly affects the profits received by the bank as well. If the bank has a stable amount of liquidity, then the distribution of funds can be done properly in order to obtain maximum profit. This advantage will also have an impact on higher bank liquidity. The results of this study are not in line with Hanafia & Karim (2020) which state that FDR has a significant negative effect.

#### **CAR on FDR**

The high FDR owned by each bank certainly affects the profits received by the bank as well. If the bank has a stable amount of liquidity, then the distribution of funds can be done properly in order to obtain maximum profit. This advantage will also have an impact on higher bank liquidity. The results of this study are not in line with Hanafia & Karim (2020) which state that FDR has a significant negative effect.

The high capital owned has a positive effect with increasing liquidity owned by the bank. This is based on the capital adequacy ratio which increases compared to the decrease in RWA. The increase in capital will also increase the number of third party funds so that banks will distribute more and more financing. However, banks are required to reduce RWA which has an impact on banks being more careful in disbursing financing. Thus, this study is not in line with Utami & Muslikhati (2019) which argues that FDR can be negatively and significantly affected by CAR.

#### **NPF on FDR**

An increase in NPF worth 1 unit, will be followed by an increase in FDR worth 1.903807 with the assumption that other variables are considered constant and have a positive effect. These results are reinforced by the NPF regression coefficient which shows the number 1.903807 in a positive direction with a probability value of 0.3365 which is higher than 0.05. So the conclusion is that NPF has a positive direction on FDR but is not significant. The test results are in line with Somantri & Sukmana (2020) and Tho'in & Heliawan (2020) who stated that NPF had a positive effect on FDR. So that the seventh hypothesis is declared accepted.

If a bank experiences bad credit, it will have an impact on changes in financing and liquidity. According to IBI and LSPP (2014) the amount of net NPF that is the benchmark by BI is 5%. If the bank experiences an NPF below 5%, the bad credit experienced by Islamic banks is still classified as good. This study is not in line with Ichwan & Nafik (2017) which states that FDR can be negatively and significantly affected by NPF.

#### **SIMA on FDR**

An increase in SIMA worth 1 unit will be followed by a decrease in FDR which shows the number 1.320006 with other variables considered constant. This statement is reinforced by the results of the coefficient value, which is -1.320006 in a negative direction. So in conclusion, SIMA has a negative direction towards FDR. This result is also explained by the probability number of 0.0070 which is less than 0.05. These results are not in line with

research by Syafuddin (2018) and Erlita (2016) that SIMA has a significant negative effect on profitability. So the eighth hypothesis is rejected.

The results of this study are in line with Maharani (2021) who said that FDR was able to be positively and significantly influenced by SIMA. This relationship has an inverse relationship. This means that if there is an increase in SIMA, there will be a decrease in liquidity. The uncertainty of profits from the business sector carried out in the SIMA instrument has resulted in only a few banks and is reluctant to allocate excess liquidity to the SIMA instrument.

#### **BI Rate on FDR**

BI Rate has a coefficient of -1.722692 with a probability of 0.6637. The results obtained indicate that the BI Rate has a negative and insignificant effect on the liquidity of Islamic Commercial Banks. This result is not in accordance with Pertiwi (2021) which states that the BI Rate has a positive and significant effect on FDR. So the ninth hypothesis is rejected.

The test results between interest rates and liquidity do not affect each other. This means that any increase or decrease in interest rates does not have a significant impact on the level of bank liquidity. Thus, the operational activities carried out by Islamic banks are not affected by the interest rates that occur. The results of this study are supported by Ajiid (2020) who says that interest rates cannot affect liquidity.

#### **FDR as a Mediation between CAR and ROA**

Through analysis with the Sobel test, it is found that FDR does not have the ability to mediate CAR on ROA. This result can be seen from the t count  $1.470875 < t$  table  $2.01537$  with a significance of 5%. So this result shows that NPF cannot mediate between CAR and profitability. So that the tenth hypothesis can be declared rejected.

The conclusion of this analysis is that if there is an increase in the capital ratio, it does not have a constant influence on profitability. This result is in line with Manaf & Bawono (2019) who argue that FDR cannot mediate the effect of CAR on profitability. So, banks only want to maximize their capital without channeling their funds smoothly. This will have an effect on high liquidity so that it will result in high cash as well. In this case the bank cannot provide maximum profit for profitability.

#### **FDR as a Mediation between NPF and ROA**

In accordance with the results of the tests that have been carried out, it is obtained that the t-count is below or less than the t-table of  $-2.21961 < 2.01537$  with a significance of 5%. Then. The coefficient result is -0.007544599. so that the eleventh hypothesis can be declared rejected.

This research is supported by Bawono & Falakh (2018) who say that FDR is not able to mediate NPF on ROA. This can happen because the financing provided can lead to bad loans which actually cannot increase bank liquidity. So that in the next disbursement of funds the bank does this carefully. However, if the bank is careful in distributing its credit, the credit distribution will not be optimal. This has an impact on the loss of profit earned by the bank from its operational activities.

#### **FDR as a Mediation between SIMA and ROA**

In accordance with the results of the tests that have been carried out, the t-count is below or smaller than the t-table of  $1.804572 < 2.01537$  with a significance of 5%. Then. The coefficient result is 0.005946832. So that the twelfth hypothesis can be declared rejected.

Islamic banks in buying securities aim to meet the bank's liquidity level. However, at the time of trading these securities do not have a fast and fast return. As a result, the bank's liquidity, which should have benefited from this sale, could not be fulfilled, thus affecting the profitability received by the bank. The results of this study are in line with Syafuddin (2018) who said that securities have no effect on FDR. Thus, if the liquidity that is owned is not optimal, the bank's operational activities are not optimal in the distribution of financing. This is supported by Pitaloka et al. (2019) which states that the distribution of funds carried

out by ROA cannot run smoothly if the demand for financing is high but Islamic banks cannot provide the loan.

#### **FDR as a Mediation between SIMA and ROA**

In accordance with the results of the tests carried out, it was obtained that the t-count was below or smaller than the t-table of  $0.67494 < 2.01537$  with a significance of 5%. Then. The coefficient result is 0.00209716. So the thirteenth hypothesis is declared rejected.

Changes in interest rates that occur do not affect the operational activities that have been carried out by Islamic banks if there is an agreement with the customer. Islamic banks cannot change the agreement at any time. Therefore, to avoid losses that will occur, Islamic banks have prepared their policies from the start by having a stable level of liquidity. This is supported by Ajiid (2020) who argues that interest rates cannot affect FDR and Pitaloka et al. (2019) which states that FDR has no effect on profitability. As stated by the Liquidity Indicator (2021), if the liquidity of each bank is relaxed, this can lower interest rates. Loose liquidity while demand for financing is not yet good will encourage banks to carry out cost of funds through lower interest rates on deposits.

## **4 Conclusion**

Based on the results of the research and discussion above, it shows that CAR, SIMA, BI Rate and FDR have an influence on profitability. However, NPF does not have a positive effect on profitability. then through the mediating role of FDR, all independent variables have no significant effect on profitability. This means that FDR is not capable of being a mediator that can have an influence on ROA.

Conducting research on CAR, NPF, SIMA, and BI Rate on ROA through FDR as an intervening variable in Islamic commercial banks for the 2016-2021 period, it is suggested several things so that this research will be better in the future, namely as follows.

For further researchers, it is hoped that they can add external variables to this dependent variable so that not only one external variable is used. Then, use independent variables that are rarely used in order to add research references. Islamic banks must always maintain the level of capital adequacy, so that in the end with a sufficient level of capital adequacy, the bank's financial performance will improve. In addition, the bank's operational efficiency greatly influences the size of the profit earned by the bank. The more efficient the bank's operations, the greater the profit earned by the bank. Thus, for bank management, it is very important to pay attention to and control the movement of this ratio so that the bank is always at a level of efficiency that can generate optimal profits.

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