

## Impact Of Implementation and Operational Efficiency on the Profitability of Indonesia's Principal Bank Period 2014-2023

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### ABSTRACT

The purpose of this article is to discuss the influence of problematic financing and operational efficiency on Bank Muamalat Indonesia's profitability for the 2014-2023 period. This article is a type of descriptive quantitative research. The research population is the financial report of Bank Muamalat Indonesia, while the research sample is the financial report of Bank Muamalat Indonesia for 2014-2023. The research data used is secondary data obtained from the official website using library study techniques. Next, the data was analyzed through descriptive tests, classical assumption testing, multiple linear regression analysis, and hypothesis testing. The analysis findings state that problematic financing and operational efficiency have a significant influence on the profitability of PT Bank Muamalat Indonesia. The research results have implications for banks which must manage their assets wisely, especially in financing to minimize risks, streamline operational funds, and carry out controls in their applications, so that banks can get maximum profits

**Keywords:** Bank Muamalat; Operational Efficiency; Problematic Financing; Profitability.

### INTRODUCTION

Collecting and circulating funds to the community is the primary role of the financial institution that needs to be strengthened. Channelling of financing by Syrian banks, there is a risk of nonperforming financing (NPF), which is often known as problematic financing or financing problem. (Nasution, 2018). Credit or financing of poor, questionable, or problematic quality is regulated in the provisions of the Act on the assessment of the quality of the assets of the general bank as well as the rules of the OJK on the evaluation of the properties of the common bank assets and the sharia'ah. (OJK, 2023). Poor-quality financing can affect the health of banks, because banks must increase the removal of productive assets (PPAPs), which are a reserve of value provided by banks to tackle the problems of inefficient financing. (Djamil, 2014). BOPO, as the ratio of operating costs to operational revenue, is key in measuring the efficiency of a company's resource use,

which ultimately affects the performance of bank management. (Muhammad Syakhrun, 2019). The ability of a bank to fulfil its obligations and conduct its operations efficiently demonstrates a good reputation (Haeruddin, 2018). In the study, BOPO is used as an indicator of performance, where a significant decrease in BOPOs directly affects profitability (ROA). This depicts a high BOPOS indicating a lack of efficiency of bank management in managing operational burdens, which in turn reduces bank profitability. (Amalia, 2022). Some factors affecting the ROA include the capital adequacy ratio (CAR), operational efficiency tested with the ratio of operational cost to operational income (BOPO), funding ratio to savings (FDR), and problematic financing. (NPF). In this study, NPF is used as X1 variable and BOPO as X2 variable. The following is a chart of trends in the financial ratio of PT. Bank Muamalat Indonesia in 2014-2023.

**Table 1. Development of the NPF, BOPO, and ROA ratio in PT Bank Muamalat Indonesia periode 2014-2023**

NO	Description	NPF	BOPO	ROA
1.	Triwulan 1 March 2014	1.56	85.55	1.44
2.	Triwulan 2 June 2014	3.18	89.11	1.03
3.	Triwulan 3 September 2014	1.51	98.32	0.10
4.	Triwulan 4 December 2014	4.76	97.33	0.17
5.	Triwulan 1 March 2015	4.73	93.73	0.62
6.	Triwulan 2 June 2015	3.81	94.84	0.51
7.	Triwulan 3 September 2015	3.49	36.26	0.36
8.	Triwulan 4 December 2015	4.20	97.41	0.20
9.	Triwulan 1 March 2016	4.33	97.32	0.25
10.	Triwulan 2 June 2016	4.61	99.90	0.15
11.	Triwulan 3 September 2016	1.92	98.89	0.13
12.	Triwulan 3 December 2016	1.40	97.76	0.22
13.	Triwulan 1 March 2017	2.92	98.19	0.12
14.	Triwulan 2 June 2017	3.74	97.40	0.15
15.	Triwulan 3 September 2017	3.07	98.10	0.11
16.	Triwulan 4 December 2017	2.75	97.68	0.11
17.	Triwulan 1 March 2018	3.45	98.03	0.15
18.	Triwulan 2 June 2018	0.88	92.78	0.49
19.	Triwulan 3 September 2018	2.50	94.38	0.35
20.	Triwulan 4 December 2018	2.58	98.24	0.08
21.	Triwulan 1 March 2019	3.35	99.13	0.02
22.	Triwulan 2 June 2019	4.53	99.04	0.02
23.	Triwulan 3 September 2019	4.64	98.83	0.02
24.	Triwulan 4 December 2019	4.30	99.50	0.05
25.	Triwulan 1 March 2020	4.98	97.94	0.03
26.	Triwulan 2 June 2020	4.97	98.19	0.03
27.	Triwulan 3 September 2020	4.95	98.38	0.03
28.	Triwulan 4 December 2020	3.95	99.45	0.03
29.	Triwulan 1 March 2021	4.18	98.51	0.02
30.	Triwulan 2 June 2021	3.97	98.42	0.02
31.	Triwulan 3 September 2021	3.97	98.46	0.02
32.	Triwulan 4 December 2021	0.08	99.29	0.02
33.	Triwulan 1 March 2022	0.12	96.31	0.10
34.	Triwulan 2 June 2022	0.66	97.26	0.09
35.	Triwulan 3 September 2022	0.65	96.93	0.09
36.	Triwulan 4 December 2022	0.86	96.62	0.09
37.	Triwulan 1 March 2023	0.75	96.41	0.11
38.	Triwulan 2 June 2023	0.65	97.04	0.13
39.	Triwulan 3 September 2023	0.43	96.11	0.16
40.	Triwulan 4 December 2023	0.66	99.41	0.02

(Source: Triwulanan Financial Report on website OJK years 2014-2023)

From the above data, it can be observed that the troublesome credit (NPF) rate peaked on March 1, 2020, at 4.98%, while its lowest point occurred on December 4, 2021, at only 0.08%. This increase can be attributed to the impact of the coronavirus pandemic (Covid-19),

which caused the risk of unpredictable financing for Muamarat Bank Indonesia during the pandemics, as well as a slowing credit growth compared to the period prior to the epidemic. This risk is slightly higher than a similar period in the previous year. The gross trouble credit ratio in March

2020 reached 2.77%, up from 2.51% in March 2019, while the net trouble loan ratio decreased to 1.02% from 1.15% in the previous year. (OJK, 2023). BOPO reached its peak in the fourth trimester of December 2019, reaching 99.50%, while its lowest level occurred in the first trimester in March 2013, with a figure of 82.07%. The fluctuation of BOPOs is due to operating costs (opex), which leads to instability of ROA values due to the inconsistent relationship between NPFs and BOPOS. The increase and decrease of NPF and BPOs has an impact on profitability (ROA). From the explanation above, there is a discrepancy between theory and practice, where an increase in NPF can lead to a reduction in profitability as seen in Table 1. For example, in March 2014, the NPF increased by 0.78% from the previous December. Meanwhile, the April 2013 Return on Assets (ROA) rose by 0.07% from 1.37% in December 2013 to 1.44% in March 2014. In the three months ended in March 2022, the NPF increased by 1.56%, up 0.04% from the previous three months. Meanwhile, the ROA rose by 0.08% from the preceding three months, from 0.02% in the prior three months to 0.10% in the early three months of March 2022. In the third quarter of September 2016, there was a significant decrease in the NPF of about 2.69%, and 4.61% in the second quarter in June 2016 to 1.92% in triwulan III September 2016. However, the Return on Assets (ROA) attraction was reduced by about 0.2%, from 0.15 % in the first quarter on June 2nd 2016 to 0.13% in third quarters on September 3rd 2016. Although generally the NPF decline is followed by an increase in ROA, in this case, it does not occur directly. In the third quarter of September 2022, although NPF decreased slightly by about 0.01%, from 0.66% in the second quarter in June 2022 to 0.65% on the third trimester in September 2021, profitability remains stable with stagnant ROA remaining at 0.09%. The same principle applies to BOPO values. As the

optional cost ratio to optional income rises, profitability (ROA) tends to decrease. On March 1, 2018, the BOPO increased by 0.35%, from 97.68% on December 4, 2017 to 98.03% on March 1, 2018. However, in an interesting event, the ROA also experienced an increase of 0.04%, from 0.11% on 4 December 2017 to 0.15% on 1 March 2018. Nevertheless, in the tri-month ended March 1, 2021, the BOPO decreased by about 0.94%, in the 99.45% tri- Month ending December 4, 2020 to 98,51% in the three-months ending March 1st, 2021. Meanwhile, ROA rose by about 0.01%, from 0.03% in the fourth trimester ended December 1, 2020 to 0.02% in the first trimester of March 2021. In the third trimester of September 2022, there was a decrease in BOPO of about 0.33%, from 97.26% in the second Trimester of June 2022 to 96.93 % in the third Trimester, September 2022. Interestingly, however, the profitability value remained unchanged, remaining at 0.09% by the third quarter of September 2022, creating a discrepancy between theory and practice. Thus, the purpose of this article is to discuss the impact of problematic financing as well as optional effectiveness on the profitability of Bank Muamalat Indonesia Period 2013-2022.

## LITERATUR REVIEW

### Problematic financing

The Bank of Indonesia (BI) issued Decision No. 13/23/PBI/2011 02 of November 2011 concerning server risk, which is the risk that the bank must bear as a result of customer failure to pay. The debtor can't repay the money that has been handed over, neither can he give the profit that the bank should have received. (Nasution, 2018). Problematic financing or often referred to as nonperforming financing is the risk that will be borne by the bank if under such conditions the debtor has initially failed to fulfil the promise, i.e. (Panjaitan et al, 2022). Dangnga & Haerudin (2018) explains that there are

several indicators that refer to the quality of financing, namely: Grade 1 (lancar), Grade 2 (in special arrangements), Grades 3 (less smooth), grades 4 (doubtful), and Grade 5 (macet). Several previous studies such as Lestari & Setianegara (2020), Setia, Arif., & Hasibuan (2023), and Rohmatin (2023) stated that financing has a significant impact on the profitability of Sharia banking.

H1: Problematic financing has a significant impact on the profitability of PT. Bank Muamalat Indonesia

### Optional Efficiency

In the context of banking Akbar (2019) explains operational efficiency is funds paid by a bank or company in order to meet the activity budget required by the bank. The high level of operational efficiency used by banks, explains the good performance of the management that controls the company. In other words, management's ability to control the bank's operational funds is a measure of banking operational efficiency. The BOPO ratio is used to test the effectiveness of management which serves to measure the performance of management companies in order to control institutional operational funds (Muhammad, 2014). (Kasmir, 2014). Widjiantoro (2023) research results show that operational efficiency has a significant influence on the profitability of Indonesian banks. Other studies by Lestari & Setianegara (2020) and Munarty & Tricahyanti (2022) explain that operational efficiency has a significant influence on the profitability of Sharia banking.

H2: Operational efficiency has a significant impact on profitability of PT Bank Muamalat Indonesia.

### Profitability

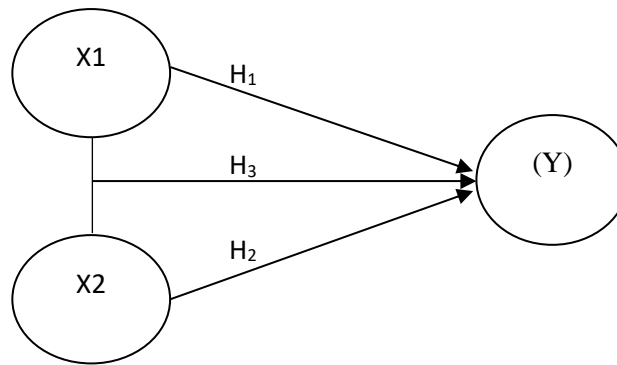
Rahmani & Lubis (2019) explains that profitability is the ability of a company to test the rate of profit received according to the number of profits in the period. It shows the level of management efficiency for measuring operational activity. Profitability is a parameter to measure in a company in order to get a profit from the entire capital it holds. If the company doesn't make a profit, then the company will struggle to survive and thrive. In this article, the profitability ratio used is ROA as an indicator that indicates the company's activities in order to make a profit through the use of all capital as well as equity assets. The higher the profits the company earns, the more efficient and efficient the management of the company in using its assets. That could raise the bank's position. (Nasution, 2018). ROA is the ability of a company to obtain the return on investment of all its assets (Muhammad, 2014). The formula that can be used to calculate the ROA of a bank is:

$$ROA = \frac{\text{laba setelah pajak}}{\text{total aset}}$$

The ROA uses the entire bank's assets in measuring the capacity of profit after corporate tax.

Amalia et al., (2022), Fitriya, Syarif, & Firdaus (2022) and Setia, Arif., & Hasibuan (2023) confirm that problematic financing and operational efficiency have a significant impact on the profitability of Sharia banking.

H3: Problematic financing and operational efficiency have a significant impact on the profitability of PT Bank Muamalat Indonesia



**Figure 1. Framework of Thought**

**METHOD**

This article includes a type of descriptive quantitative research. The population used in this article is the financial report of Bank Muamalat Indonesia. While the sample on this article are the financial reports of Bank muamalat Indonesian from 2014 to 2023. The determination and sampling of the last 10 years is aimed at obtaining more valid and accurate data, the more periods are used the more data can be obtained regarding the financial situation of the bank. The research data used is secondary data collected through the official website using data collection techniques such as documentation or library study. While the supporting data is obtained through library studies that include books, scientific articles, theses, scripts, and so on. The subsequent research data through descriptive tests where the main focus of statistical descriptions is to provide a comprehensive overview of the topics being analyzed, thus making it easier for the reader to understand. (Muchson, 2017). Then the classical assumption test is a double linear regression analysis using the OLS (Ordinary Least Squares) method. The classic assumptions must be tested to ensure that the regression model used is optimal, free of bias, and provides a consistent and accurate estimate (Juliandi A, 2014). (Ghozali, 2018). Which

can be calculated using:  $Y = a + b_1X_1 + b_2X_2 + e$   
 Next, the hypothesis test is a procedure used to determine whether a hypothetical is rejected or accepted. Assumptions used to test hypotheses have a degree of uncertainty. The process is aimed at evaluating the validity of the hypothesis put forward, whether it is the hypothetic made by the researcher or the previously put forward. Hypothesis testing involves several methods, namely determination coefficient testing (R<sup>2</sup>), t test (partial hypothesis examination), and F test (total examination). (Sinambela, 2022).

**RESULT AND DISSCUSSION**

Descriptive statistics provides a comprehensive overview of data, including averages, maximum values, minimum values and standard deviations of each variable, such as problematic financing (X1), operational efficiency (X2), etc. Through this analysis, we can better understand the data characteristics, including the distribution and variation of the variables involved, as well as their relationship to profitability. (Y). In the context of the descriptive statistical test of this study,

**table 2 displays the following information**

	ROA	BOPO	NPF
Mean	0.196000	95.56125	2.851000
Median	0.110000	97.85000	3.265000
Maximum	1.440000	99.90000	4.980000
Minimum	0.020000	36.26000	0.080000
Std. Dev.	0.284288	10.01061	1.628153
Skewness	2.905604	-5.412564	-0.337914
Kurtosis	11.84364	32.42252	1.643517
Jarque-Bera	186.6336	1638.113	3.827984
Probability	0.000000	0.000000	0.147490
Sum	7.840000	3822.450	114.0400
Sum Sq. Dev.	3.151960	3908.281	103.3844
Observations	40	40	40

Source: data processed 2024

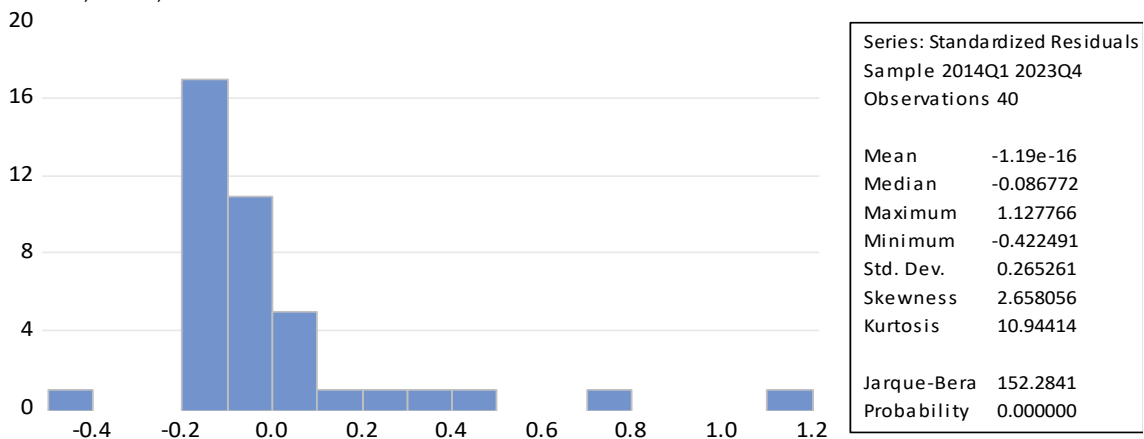
From table 5, you can see the total participant in this study is 40 people. The average

value of the profitability-dependent variable (ROA) is 0.196000, with the standard deviation around



0.284288, and the maximum value reaches 1.440000. However, the minimum value is only around 0.020000. Although the standard deviation greater than the mean explains wide variations in ROA data, such variations are not so significant. Meanwhile, the nonperforming financing variable (NPF) has a value range between 0,080000 and 4,980000, with an average of 2,851000 and a standard deviation of 1,628153. A lower standard of deviation than the mean on the NPF variable describes a not too large range of values, and the difference between the highest and lowest values is insignificant during the observation period. Although there is a considerable discrepancy between the minimum and maximum NPF values, the results can be considered satisfactory.

The minimum value of the operational efficiency variable is 36,26000, while the maximum value is 20



Source: Eviews results 13, secondary data processing, 2024

**Figure 2. Normlitas test**

Looking at the results of the normality test, the probability can be calculated. With the Jarque-Bera test's significance of about 152,2841 greater than 0.05, it can be concluded that the distribution

of the data is regular. For that reason, the classic assumption of normality is fulfilled.

**Multicollinearity test**

**Table 3. Multicollinearity test**

Variable	Centered VIP	Keterangan
NPF	1,167457	Tak ada multikolinieritas
BOPO	1,167457	Tak ada multikolinieritas

Source: data processed 2024

The Variance Inflating Factor, which focuses on the variables NPF and BOPO, has

equal values of 1,167457 less than 10, so it can be concluded that there is no multicollinearity.

**Autocorrelation Test**

**Table 4. Autocoleration Test**

Dependent Variable: Y  
 Method: Panel Least Squares  
 Date: 04/18/24 Time: 21:14  
 Sample (adjusted): 1/01/2013 8/16/2014  
 Periods included: 40  
 Total panel (balanced) observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.590097	0.63414	4.084426	0.0002



X1	-0.087983	0.046992	-1.87232	0.0691
X2	-0.02108	0.006719	-3.13735	0.0033
R-squared	0.2895	Mean dependent var		0.34625
Adjusted R-squared	0.251094	S.D. dependent var		0.512694
S.E. of regression	0.443682	Akaike info criterion		1.28462
Sum squared resid	7.283576	Schwarz criterion		1.411286
Log likelihood	-22.69239	Hannan-Quinn criter.		1.330418
F-statistic	7.537998	Durbin-Watson stat		1,981,587
Prob(F-statistic)	0.001794			

Source: Eviews results, secondary data processing, 2024

Durbin Watson's Autocorrelation Test Results

N = 40

K = 2 ( independent variable)

α = 5% ( based on Durbin Watson reference table)

value DL = 1,3908

value 4 – DL = 2,6092

value DU = 1,6000

value 4 – DU = 2,4

value DW = 1,981587

The results of the Durbin-Watson autocorrelation test showed that the DW value was between 1,6000 and 1,981587, which means that there was no indication of autocorrelation in the data or that the data passed the autocorrection test.

#### Heterosketasthesis test

**Table 5. Heterosketasthesis test**

Probabilitas F <sub>hitung</sub>	Probabilitas Chi-Square	Keterangan
0,2414	0,2229	Tak ada heterosketastisitas

Source: data processed 2024

The table explains the probability of a counting F value is 0.2414, which is higher than a value of 0.05. Similarly, the probation of a chi-square value of 0.2229 is also higher than the alpha. (0,05).

This explains no indication of heterostatisticity, so H0 is accepted.

#### Double Linear Regression Analysis

**Table 6. Double Linear Regression Test**

Variabel	Koefisien	T <sub>hitung</sub>	Profitabilitas
C (Constant)	10,11082	40,50709	0,0000
NPF	0,022143	2,379788	0,0226
BOPO	-0,120643	-38,08933	0,0000
F <sub>hitung</sub>	= 808,5030		
Profitabilitas	= 0,000000		
Adjusted R <sup>2</sup>	= 0,974621		
R-squared	= 0,977630		

Source: data processed 2024

Table 6 shows hsil double linear regression equation testing:

$$[Y = a + b_1x_1 + b_2x_2 + e]$$

$$[ROA = 10,11082 + 0,022143 * NPF - 0,120643 * BOPO]$$

Where:

$$[Y = \text{Profitabilitas}]$$

$$[a = \text{Konstan}]$$

$$[b_1 = \text{NPF}]$$

$$[b_2 = \text{BOPO}]$$

$$[X_1 = \text{(NPF)}]$$

$$[X_2 = \text{(BOPO)}]$$

$$[e = \text{Errors tolerated by research}]$$

The result of the analysis of double regression, based on the multiple regression equation, is:

- The constant value of ROA is 10,11082. This explains when the value of the two independent variables, namely NPF and BOPO, is equal to 0, the ROA-free variable will experience an increase of about 10,1108.
- The regression coefficient value for the NPF variable (X1) is 0.022143. This explains that an increase in NPF by about 1% will increase the ROA by about 0.022133%, while a decrease in NPF by about 1 % will reduce the RPA by about 0,022143%.
- Next, based on the coefficient, when the BOPO increases by about 1%, then the ROA will decrease by about 0.120643%, and when the bOPO decreases by



approximately 1%, it will increase by about 0.0120643.

- d. The regression for BOPO (X2) is - 0,102643.

#### **Determination coefficient (R2)**

We tested the determination coefficient of R2 and found a value of about 0.974621, which is equivalent to 97.46%. The results indicate that about 97,46% of Bank Muamalat Indonesia's actions can be explained by both NPF and BOPO variables, while the remaining 2.63% are influenced by other variables not studied in this study. The results confirmed the impact of operational efficiency as well as problematic financing on significant profitability of 97.46%, highlighting the importance of using operational effectiveness variables and problematic funding in explaining profitability.

#### **Simultaneous Testing (F test)**

This test uses an alpha significance level of 5%. However, if the F count is less than 0.5 then the hypothesis is acceptable. The F count probability value is alpha 0.05, that's less than 0.0000. Thus, the conclusion that can be drawn is that the regression estimate model can be used to explain jointly the influence of NPF and BOPO on the ROA of PT. Bank Muamalat Indonesia, referring to the results of the test of the hypothesis together.

#### **Partial Test (T test)**

The t test allows to determine whether a free variable has a partially significant influence on a bound variable, as follows:

#### **NPF (Problematic financing)**

The NPF variable as shown in the partial hypothesis test using statistic e-views software, proved significant with a significance value of around  $0.0226 < \alpha (0,05)$ . Thus, H0 was rejected and Ha accepted. It affirms that the first hypothesis (H1), which explains that the NPF variable has a significant impact on profitability (ROA), as well as that variable significantly affects the profitability of Bank Muamalat Indonesia, can be considered valid.

#### **BOPO (Efisiensi Operasional)**

The significance for BOPO is 0.0000, well below the alpha level defined by about 0.05. From a partial hypothesis test using static e-views software, Ha was accepted while H0 was rejected. This shows that BOPO has a significant influence on Bank Muamalat Indonesia's ROA. Thus, the result of the hypothesis (H2) confirms that the BOPOs have a significant impact on profitability (ROA), and that the variable of BOPA has a major impact on the ROA, and this conclusion is confirmed by the results of the tests carried out.

### **Influence of NPF on ROA of Bank Muamalat Indonesia**

Results of partial hypothesis analysis using software statistic e-views showed the significance value for the variable NPF is 0.0226, < of the set alpha value (0.05). This indicates that NPF has a significant influence on the ROA of Bank Muamalat Indonesia. The test value for the NPF variable is 2,379788 with a probability of 0,0226, rather than a table value = 2,026. This indicates that the thitung value > of the table. Thus, the zero hypothesis (H0) is rejected and alternative hypotheses (Ha) are accepted. Overall, these findings confirm that non-performing loans have a significant impact on the profitability of Bank Muamalat Indonesia.

Partial analysis using the statistical software Eviews 13 yielded interesting findings: the significance value of BOPO is 0.0000 lower than 0.05, indicating that BOPOs have a significant influence on ROA. Consequently, the zero hypothesis (H0) is rejected and the alternative hypotheses (Ha) are accepted. Furthermore, a BOPO coefficient of -0,102643 indicates that BOPOs have a significant negative impact on the ROA of Bank Muamalat Indonesia. This means that if it is not repaired immediately, BOPO can have a negative impact on business profitability. The test results explained the Thitung value is lower than the ttable, and the alpha value is less than 0.05, with calculations: thitung = -38,08933, ttable = 2,026. In conclusion, BOPO has a significant negative influence on the ROA of Bank Muamalat Indonesia.

### **Influence of NPF and BOPO on ROA of Bank Muamalat Indonesia**

From the results of the F test, the significance value of this variable is about  $0,000 < 0.05$ . This indicates that NPF and BOPO simultaneously influence the ROA. The probability is 0,000, being below the alpha level of 0.05. Simultaneous hypothesis test results show that the calculus is 808,5030, while the ftable is 3,252. With ftable >, the test results explain that NPF and BOPO have a significant simultaneous influence on ROA.

### **CONCLUSION**

Referring to the results as well as the analyses that have been presented, then can be taken the conclusion of problematic financing has a significant impact on the financial position of PT Bank Muamalat Indonesia. It is seen from the average NPF PT Bank Muamalat Indonesia in the sample is 2.94%, still below 5% so it is considered healthy. Analysis revealed that operational efficiency has a significant influence on the financial condition



of Bank Muamalat Indonesia. The results of the F test revealed that the issue of financing and operational efficiency has a simultaneous impact on the profitability of Bank Muamalat Indonesia. The R2 regression coefficient is 0.974621 or 97.46%, while 2.36% is influenced by other variables that have not been studied. The results of the research have implications for financial institutions, banks, who must manage their assets wisely, mainly financing that minimizes the risk on all financing and efficiently operational funds and enables control in their application, so that banks can get maximum profits.

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