

The Role of Good Corporate Governance in Moderating the Financial Performance of Sharia Banks: A Case Study at Bank Muamalat Indonesia

Original Article

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Abstract

Fluctuating financial performance of PT Bank Muamalat Indonesia, Tbk., particularly its profitability, amid varying levels of operating expenses, non-performing financing, and financing distribution constitutes the core issue of this research. This research aims to examine how operating expenses, non-performing financing, and financing distribution affect profitability, as well as to assess the extent to which good corporate governance (GCG) ratings moderate each of these relationships in influencing the financial performance of PT Bank Muamalat Indonesia, Tbk. over the 2007-2023 period. A quantitative approach with an associative design was employed. Data were gathered through document collection techniques from the company's website, making them secondary in nature. The population consisted of Bank Muamalat's annual reports, and a purposive sampling method was used to include all available data from 2007 to 2023. Analytical procedures involved interpolation, descriptive statistics, stationarity testing, and classical assumption tests. Subsequently, multiple linear regression was conducted using a Goodness of Fit model, followed by Moderated Regression Analysis (MRA). The findings indicate that BOPO has a significant negative effect on ROA, while gross NPF and FDR each show insignificant negative effects on ROA. Furthermore, the MRA results reveal that GCG does not moderate the partial relationships between BOPO, gross NPF, or FDR and ROA.

Keywords: Financial Performance, Financing to Deposit Ratio, Good Corporate Governance, Non Performing Financing.

1. Introduction

The improvement of the quality of the economy in Indonesia is one of them influenced by the banking industry. Not without reason, banking is an industry that can develop faster and is also able to help the economy and national development (Fauziana & Fidyah, 2023). As mentioned in Article 4 of Law of the Republic of Indonesia with Number 7 of 1992 related to banks, banks in Indonesia have a role as agents of development and affect the growth and life of the country (Musadat, 2023). The role of banks, whose function is as an intermediary institution, requires them to be able to distribute and collect public funds which are then given in credit or financing to people who lack capital as a form of implementing the above law.

Even with the minimal growth of the Islamic banking industry, Sharia Commercial Banks (BUS) are able to grow little by little to become superior competitors to Conventional Commercial Banks (BUK). In fact, in the history of economic crises that also hit Indonesia in 1998 and 2008, Islamic banks have shown their ability with efficiency and effectiveness to



survive the economic crisis that occurred compared to conventional banks (R. S. Putri & Hana, 2024). The increasing number of conventional banks that have established Sharia Business Units (UUS) can also prove that the potential for Islamic banking has high potential to be marketed (Nurwahida et al., 2021). However, with ability and potential Islamic banking must also be able to maintain and pay attention to factors that can affect their financial performance, therefore, the bank's function as an intermediary institution can be optimized.

To continue running its business, banks are supposed to maintain profits or profitability on assets that have been used. The increase and decrease in bank profitability can be influenced by several factors. Some of them include operational expenses distributed with BOPO or Operating Expenses to Operating Income, high and low non-performing financing values proxied with Non-Performing Financing (NPF), to Financing Deposit Ratio (FDR).

According to Amalia & Yanti (2023) quoted by Putri and Hana (2024), Bank Muamalat became a reporter of Islamic banks in Indonesia that were able to survive the economic crisis in 1998 which according to them survived without participating in public funds. However, over the past five years, according to data sources obtained in annual report Bank Muamalat, which can be seen in table 1, the existence of resilience to the crisis has decreased. This is because the growth in performance is considered to be slow. Since 2019, BOPO growth has reached 99.50%, as a result of ROA growth of only 0.05%. This shows that there is high operational growth, resulting in a decrease in ROA growth. Of course, in banking activities, especially Islamic banks, banks must be able to streamline their operational costs (Ahadini et al., 2021).

Table 1. Ratio of Bank Muamalat (%)

Year	BOPO	NPF Gross	NPF Net	FDR	LENGTH
2018	98.24	3.87	2.58	73.18	0.08
2019	99.50	5.22	4.30	73.51	0.05
2020	99.45	4.81	3.95	69.84	0.03
2021	99.29	0.67	0.08	38.33	0.02
2022	96.62	2.78	0.86	40.63	0.09
2023	99.41	2.06	0.66	47.14	0.02

Source: Data processed

Bank Muamalat's NPF from 2019 to 2023 is net less than a maximum value of 5% according to BI Regulation No, 15/2/PBI/2013 (PBI No. 15/2/PBI/2013, 2013). This shows that Bank Muamalat has a good net NPF because it does not exceed the maximum value determined. Also, the acquisition of Bank Muamalat at the NPF value Gross in the range of 2019-2023 it is less than the value categorized as "unhealthy", which is 16%. It is said that if referring to the Attachment to the SK DIR BI No. 30/12/KEP/DIR, NPF which is classified as unhealthy is in the environment of 10%-13% and if it exceeds 16%, then the status is unhealthy (S. R. Putri & Rahmazaniati, 2022).

FDR's acquisition from year to year (the last five years) has fluctuated. FDR's acquisition in 2019 alone touched 73.51%. In the following year, it decreased with an acquisition of 69.84% and in 2020 it plummeted to 38.33%. After 2020 passed, FDR's acquisition increased even though growth slowed. The acquisition in 2022 was 40.63% and the acquisition in 2023 was 47.14%. This indicates that Bank Muamalat is trying to improve and evaluate FDR growth which fluctuates from year to year. However, from this FDR growth with a number that continues to be below 80%, it is certainly very different from the accumulated value of BUS in 2019-2023 which has been exposed by the OJK with an average FDR value of 82,008. According to Fachri and Mahfudz (2021), with the value owned by Bank Muamalat is indicated by the storage of funds that are underutilized and streamlined such as to finance debtors. In

other words, the function of banking as an intermediary institution is less fully maximized by related companies (Wartoyo, 2026).

Amalia and Diana (2022); Ikrom and Syaichu (2024); along with Wulandari and Tan, (2023) showed a significant negative and negative result between BOPO and its effect on ROA. This negative result shows that with a high BOPO, the company is considered inefficient to manage operational costs in generating revenue from these operations, therefore, the growth of ROA will be smaller. However, the results of these studies are sometimes not in line with other studies. As in the research conducted by Munawaroh et al. (2022) and Pratama and Yushita (2021), they found that there was a positive influence between BOPO on ROA.

Meanwhile, the relationship between NPF and ROA in the previous research conducted by Damayanti et al. (2021); Khayidah et al. (2024); and La Difa et al. (2022), showed a significant negative effect after testing the effect of NPF/NPL on ROA. After re-examination, NPF can have other influences than negative on ROA. In contrast to the research of Maknuun et al. (2024), that its findings show the NPF ratio has a significant or favorable positive influence on profitability. In contrast, the research conducted by Kamila (2022) revealed that there is a positive influence of NPF on ROA but not significantly (Wartoyo & Haerisma, 2022).

Also in the ratio of FDR to ROA, there are different research results. A significant positive influence on ROA was found by Y. Putri (2024). Different from Fachri and Mahfudz (2021) also Kurnia and Wahyudi (2022) which shows a positive but insignificant influence between FDR on ROA. However, the research described above is not in line with the research conducted by Yastutik and Yudiana (2021) which explains that FDR's influence on ROA has a significant negative influence. This indicates that banks with low FDRs (according to BI standards) show less efficiency in distributing financing. Almost the same, the research of Mirawati et al. (2021), in Heirunissa (2024), and Fasa et al. (2022), showing a negative but insignificant influence.

From some of the results of the above research, further research is needed regarding the relationship between BOPO, NPF, and FDR to ROA as profitability. The researcher tried to include GCG as another factor that could strengthen or weaken the relationship as joint effect. By using the yield ranking self assessment On the measure of the quality of corporate governance over a period, it is assumed that it will provide a strengthening or even weakening between independent variables and dependent variables. GCG as a form of good corporate governance principles can manage agency conflicts by aligning the interests between stakeholder as explained in agency theory. The use of GCG can also always increase monitoring of decisions taken by companies as a form of minimizing the possibility of bad decisions being made (Parwata & Anggara, 2022).

Research related to GCG as a moderation variable can be proven by previous research, Argantara et al. (2021), GCG can moderate in a negative direction (weakening the relationship) between the negative relationship between BOPO and ROA. In contrast to the findings of Permatasari (2024) found that the relationship between BOPO and ROA was not able to be moderated by GCG variables by self assessment. It is different from the research of Simatupang & Prabowo (2021), that BOPO's GCG (board of directors) can be moderated by strengthening but not significantly. Also in the same researcher, where GCG was proxied with the board of commissioners, the results were different, that BOPO can be moderated by weakening relationships.

Astuti (2022), Permatasari (2024), and Yusna et al. (2023), who stated that NPLs to ROA, are not able to be moderated by GCG with a value of Self Assessment. Crossover with the research of Khayidah et al. (2024), revealed that NPLs can be moderated by GCG (proportion of independent commissioners) in relation to ROA with a relationship of strengthening

influence but not a significant effect. Almost in line with Simatupang and Prabowo (2021) research, GCG with an assessment of the number of board of directors and GCG with an assessment of the number of commissioners is able to moderate NPL by strengthening but not significantly.

Research conducted by Simatupang and Prabowo (2021) found that GCG with an assessment of the number of board of directors and GCG with an assessment of the number of board of commissioners can moderate LDR by weakening but not significantly. Khayidah et al. (2024) have almost the same findings, that GCG (proportion of independent commissioners) can moderate by weakening the relationship between LDR and ROA. In contrast to the results of Astuti (2022), Permatasari (2024), and Yusna et al. (2023), where GCG is unable to moderate the ratio of LDR to ROA. In line with Chandra and Hanifah (2023) which reveals that NPLs to profitability (ROA and ROE) cannot be moderated by value self assessment. Different results are also pointed out by Argantara et al. (2021), who found that GCG (composite rating) can weaken the relationship between FDR and ROA ratios. In other studies such as the research of Perdana et al. (2024) which combines CGPI, the number of commissioners, the number of the board of directors, and the number of risk management committees as GCG, where GCG here can strengthen the relationship between risk management (combined BOPO and NPL) and profitability (combined ROA and ROE).

However, prior studies show inconsistent results regarding the effects of BOPO, NPF, and FDR on profitability. Some studies find that GCG weakens the relationship, others find it strengthens the relationship, and still others find no moderating effect at all. In addition, limited research examines the moderating role of Good Corporate Governance (GCG), particularly using self-assessment measures in Islamic banks such as Bank Muamalat. Furthermore, most existing studies focus on conventional banks or general Islamic banking samples, with very limited attention specifically devoted to PT Bank Muamalat Indonesia, Tbk. over an extended time period. Therefore, this study aims to fill this gap by investigating whether GCG ratings moderate the relationships between operating expenses (BOPO), non-performing financing (NPF), and financing distribution (FDR) on profitability (ROA) at Bank Muamalat from 2007 to 2023.

The researcher assumes that GCG with a value of self assessment will provide a moderation effect. This is due to the self-assessment It is the company's value for the fulfillment of the achievement of 11 management factors, such as the fulfillment of the duties of stakeholders, good managerial management in general, and so on. In addition, good corporate governance according to Parwata and Anggara (2022) can align the interests between related parties and establish the objectives of the corporate governance companies in terms of transparency, accountability, and trustworthiness (Surifah & Rofiqoh, 2020). The results of the study showed the complexity of the research. Therefore, the researcher is interested in re-examining how the relationship between the variables included and how moderation is obtained after the inclusion of the moderation variable.

2. Literature Review

2.1. Agency Theory

The agency theory according to its inventor, namely Jensen & Meckling (1976), quoted by Sulistiani et al. (2023), is a theory that explains the relationship between principal or a shareholder and agent who are the delegates appointed to be the manager of the company. In it, it is also explained related to problems and solutions to be able to overcome with the goal that the company can run optimally. This relationship between the agent and the principal is

what creates a problem because the owner gives the agent a delegation to participate in deciding something (as the agent's power) in the company (Masdupi, 2024). The theory of agency that he spoke about also in Surifah and Rofiqoh (2020), stating that agency problems can occur between stakeholder or in other words, conflicts between owners and managers caused by the desire to maximize their respective utilities.

2.2. General System Theory

Rusdiana & Irfan (2014) stating that the system is a relationship between units that cannot be separated or divided with the aim of achieving goals that have been proclaimed or planned beforehand. The system is a more organized totality, has a high complexity, and is wholesome in it. In a system, it consists of elements that are continuous with each other and operate together for the achievement of a goal that has been planned and set. General systems theory or General System Theory (GST) was pioneered by a biologist, namely Ludwig von Bertalanffy. This theory focuses on an interaction within a system that according to Ludwig can be analogous to the system found in the structure of organisms (Rusdiana & Irfan, 2014; Surahman, 2021).

Figure 1 presents the conceptual framework of this study, which illustrates the hypothesized relationships among the variables.

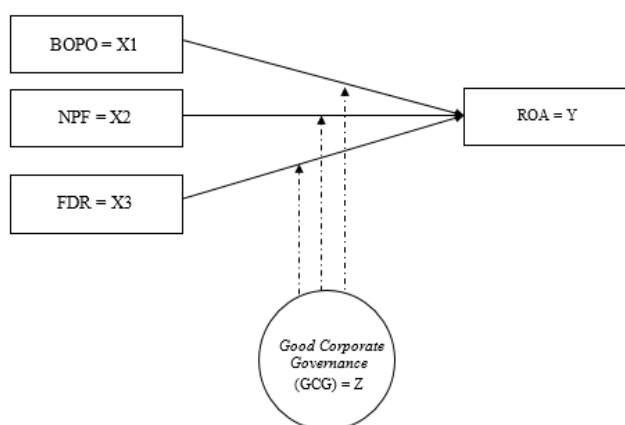


Figure 1. Conceptual Framework

2.3. Research Hypothesis

The maximum value of BOPO according to the regulator, namely Bank Indonesia, is a maximum of 90%, but the value is tolerated at 93.53%. If it is more than the maximum value, there will be inefficiency in expenditure for operational financing. Theoretically, the larger BOPO will reduce profitability. In system theory, changes in the expense of expenses used as a unit of the system (financial performance) will certainly be able to influence the company's goals, namely in increasing profitability. So logically, there are several BOPO ratios that are always above 90% that can have a significant influence on changes in profitability. This is strengthened by research from Amalia and Diana (2022); Ikrom and Syaichu (2024); also Wulandari and Tan (2023) that BOPO can have a negative and significant influence on ROA. In contrast to, Munawaroh et al. (2022) and Pratama and Yushita (2021), they found that there was a positive influence between BOPO on ROA. Accordingly, the researcher formulates the research hypotheses as follows.

H₀₁: BOPO has no significant effect on ROA

H_{a1}: BOPO has a significant effect on ROA

When related to theory, a high NPF value will have a negative influence on profitability. In other words, the greater the NPF value, the lower the company's profitability. The NPF ratio

can assess how the bank's performance can manage problematic customer financing to be fulfilled with the bank's assets. Asiyah et al. (2024), that their findings show that the NPF ratio has a positive and significant influence. Almost in line with the research of Asiyah, et al. (2024), research from Kamila (2022), found that the NPF found to have a positive but insignificant effect on profitability. However, in contrast to research from Khayidah et al. (2024); Navita et al. (2023); also Yastutik and Yudiana (2021), which explains that NPF/NPL can have a negative and significant influence on profitability or ROA. In addition, research from Subekti & Wardana (2022) and Pertiwi et al. (2024) stated that there was a negative influence that was not significant on ROA. Thus, the researcher obtained the following hypothesis.

H₀₂: NPF has no significant effect on ROA

H_{a2}: NPF has a significant effect on ROA

Theoretically, when the FDR value is not optimal, it will lower the profitability value. In accordance with previous research, research from Fasa et al. (2022); Heirunissa (2024); and Mirawati et al. (2021) showed a negative influence of FDR but was not significant on ROA. Almost in line with previous research, Yastutik & Yudiana (2021) research found that the occurrence of a decrease in FDR below the average of 85% in the banks studied can have a significant negative effect on ROA. However, the direction is not in line with the findings of research conducted by Fachri and Mahfudz (2021) also Kurnia and Wahyudi (2022) which shows that there is a positive but insignificant influence between FDR on ROA. Thus, the researcher assumes FDR's research on ROA as follows.

H₀₃: FDR has no significant effect on ROA

H_{a3}: FDR has a significant effect on ROA

GCG ratio to rating self-assessment can affect the value of BOPO to ROA. This is due to the existence of good and bad corporate governance values that have been prepared, so it is assumed that it will have a moderation effect on BOPO, either strengthening or weakening a relationship. Value self-assessment This can reduce financial risks and strengthen the company's performance. Because the value contained in it reflects the alignment between agents and principals, thus leading to an increase in the company's profitability. Research by Argantara et al. (2021), found that GCG (composite rating) can moderate in a negative direction (weaken the relationship) between negative BOPO relationships and ROA. According to him, this can happen because good corporate governance in the management of costs incurred will reduce costs incurred by Islamic banks. Simatupang and Prabowo (2021), that GCG is proxied with the board of commissioners, the result is that BOPO can be moderated by weakening relationships. Then in the same study, GCG (board of directors) can be moderated by strengthening but not significantly. Furthermore, in a research study by Permatasari et al. (2024) which states that GCG is not able to moderate the relationship between BOPO and ROA. Here are the hypotheses that can be formulated.

H₀₄: GCG cannot moderate the relationship between BOPO variables and ROA

H_{a4}: GCG can moderate the relationship between BOPO variables and ROA

Value self-assessment can reduce financial risks, such as credit risk, and strengthen company performance. The values embedded within it reflect the alignment between agents and principals, thereby leading to an increase in the company's profitability. Khayidah et al. (2024), revealed that NPLs can be moderated by GCG (proportion of independent commissioners) in relation to ROA with a relationship of strengthening influence and not having a significant effect. Almost in line with the research of Simatupang and Prabowo (2021), GCG with an assessment of the number of board of directors and GCG with an assessment of the number of board of commissioners is able to moderate NPL by

strengthening but not significantly. Research from Hikmawati (2023) explains that the value self-assessment weakening the NPL-to-ROA relationship. In contrast to the research of Astuti et al. (2022), which stated that NPLs to ROA, are not able to be moderated by GCG (assumed using composite rating values). Then there is research from Permatasari et al. (2024) and Yusna et al. (2023), which revealed that the relationship between NPL and ROA cannot be influenced by GCG. Here are the hypotheses that can be formulated.

H₀₅: GCG cannot moderate the relationship between NPF variables and ROA

H_{a5}: GCG can moderate the relationship between NPF variables and ROA

The value of this self-assessment can reduce financial risks, such as encouraging the optimization of distributed financing and strengthening the company's performance. Because the value contained in it reflects the alignment between agents and principals, thus leading to an increase in the company's profitability. In previous studies, related to GCG as a moderation variable for FDR's relationship to ROA, there were several variations in the research results. For example, in a study conducted by Simatupang and Prabowo (2021), GCG with an assessment of the number of board of directors and GCG with an assessment of the number of board of commissioners can moderate LDR by weakening but not significantly. Khayidah, et al. (2024) have almost the same findings, that GCG (proportion of independent commissioners) can moderate by weakening the relationship between LDR and ROA. In contrast to the results of Astuti et al. (2022), Permatasari et al. (2024) and Yusna et al. (2023), GCG is unable to moderate the ratio of LDR to ROA. Different results are also pointed out by Argantara et al. (2021), who found that GCG (composite rating values) can weaken the relationship between FDR ratios and ROA. Here are the hypotheses that can be formulated.

H₀₆: GCG cannot moderate the relationship between FDR variables and ROA

H_{a6}: GCG can moderate the relationship between NPF variables and ROA

3. Methods

This study uses a quantitative method with an associative type of research. Data collection is taken by document data collection techniques and is secondary taken from the company's website. Population is an annual report of Bank Muamalat with a sampling technique, namely purposive sampling, with the condition of taking annual GCG data from 2007 to 2023 and an annual report for each financial ratio variable that adjusts the time range of GCG reporting. Therefore, this study takes all the data from the 2007-2023 period. The analysis technique was carried out by interpolation, descriptive statistics, stationariness tests, and classical assumption tests. After that, multiple linear regression tests were carried out with the Goodness of Fit model and Moderated Regression Analysis (MRA) tests were carried out.

4. Results and Discussion

4.1. Research Results

4.1.1. Stationarity Test

The main purpose of the stationarity test in time series data analysis is to ensure that the mean, variance, and covariance of the data are constant over time. This is important to avoid spurious regression, get accurate model estimates, and validate basic assumptions before modeling. The following are the results of the research data stationary test as shown in table 2.

Table 2. Stationary Test Results

Variable Name	Testing Rate	Probability Value	Remarks
LENGTH	2nd difference	0.0000	Stationary
BOPO	2nd difference	0.0002	Stationary
NPF Gross	Level	0.0352	Stationary
FDR	2nd difference	0.0000	Stationary
GCG	2nd difference	0.0000	Stationary
M1 (BOPO*GCG)	2nd difference	0.0019	Stationary
M2 (NPF*GCG)	Level	0.0215	Stationary
M3 (FDR*GCG)	2nd difference	0.0000	Stationary

Source: Processed data from Eviews 10 output

Based on the results of the calculation of the stationary test shown by table 2, it shows that the test on each ratio is stationary where the probability value is less than 0.05. Thus, the data model that is categorized as time series data can have a more stable status.

4.1.2. Model Accuracy Testing

Table 3 presents the results of Equation Regression I, which shows the direct effects of BOPO, gross NPF, and FDR on ROA without the moderating variable.

Table 3. Results of Equation Regression 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.030780	0.040466	0.760642	0.4532
D(BOPO,2)	-0.119483	0.005118	-23.34334	0.0000
NPFG	-0.005442	0.009312	-0.584417	0.5636
D(FDR,2)	-0.002912	0.002793	-1.042744	0.3060

Source: Processed data from Eviews 10 output

The results showed that the BOPO variable had a significant effect with a negative direction on the ROA variable, which means that Ha1 was accepted and rejected by the Ho1 statement. This can be seen in table 3 which shows that the t-statistic value after the adjustment from 34 to 32 the number of observations, the BOPO variable is at -23.34334. The absolute value in the t-statistic shows that it is larger than the t-table with the number of observers 32 which is 2.03693. So in that way it indicates the existence of significance. In addition, if we look at the value of the BOPO coefficient, which is $-0.119483 \neq 0$, it shows an influence in a negative direction.

According to the coefficient's interpretation, increasing X1 by one unit reduces Y by 0.119483. Since the p-value (0.0000) is less than 0.05, both significance and the accompanying t-statistic are evident. Consequently, the overall regression indicators lead to the conclusion that X1 has a meaningful negative effect on Y, thereby supporting Ha1 and dismissing Ho1. According to the findings, the NPFG variable exerts no meaningful negative influence on ROA. As a result, Ho2 is upheld while Ha2 is rejected. Evidence from Table 3 supports this conclusion: after adjusting the observation count from 34 to 32, the t-statistic for NPFG stands at -0.584417. Its absolute value falls below the critical t-table value of 2.03693 (for 32 observations), confirming a lack of statistical significance. Furthermore, the NPFG coefficient of -0.005442 (which is not zero) does point to a negative directional effect, though not a significant one.

From the value of the coefficient, it can also be interpreted that if the variable X1 increases by one unit, then the variable Y will decrease by 0.005442. Finally, with a probability

value of 0.5636 which is more than the alpha value (0.05), it indicates the absence of significance as well as the resulting t-statistic value. Thus, from all the regression indicators produced, it can be concluded that the X2 variable cannot have a significant negative effect on the Y variable as a form of H02 acceptance and Ha2 rejection.

The results of the analysis on the FDR variable did not have a significant effect on the negative direction of the ROA variable, which means that H03 was accepted and rejected by the Ha3 statement. This can be seen in table 8 which shows that the t-statistic value after the adjustment from 34 to 32 the number of observations, the FDR variable is at -1.042744. The absolute value in the t-statistic shows that it is smaller than the t-table with the number of observers 32 which is 2.03693. In conclusion, it indicates the absence of significance. In addition, if the value of the NPPG coefficient, which is $-0.002912 \neq 0$, is observed, an influence in a negative direction is indicated.

From the value of the coefficient, it can also be interpreted that if the variable X1 increases by one unit, then the variable Y will decrease by 0.002912. Finally, with a probability value of 0.3060 which is more than the alpha value (0.05), it indicates the absence of significance as well as the t-statistic value produced. Thus, from all the regression indicators produced, it can be concluded that the X3 variable cannot have a significant negative effect on the Y variable as a form of H03 acceptance and Ha3 rejection.

Following the initial regression, further testing was conducted. The detailed regression results of Equation 1 are presented in Table 4.

Table 4. Regression Results of Equation 1

R-squared	0.974157	Mean dependent var	-0.028828
Adjusted R-squared	0.971388	S.D. dependent var	0.503424
S.E. of regression	0.085155	Akaike info criterion	-1.972223
Sum squared resid	0.203038	Schwarz criterion	-1.789006
Log likelihood	35.55557	Hannan-Quinn criter.	-1.911492
F-statistic	351.8189	Durbin-Watson stat	1.642654
Prob(F-statistic)	0.000000		

Source: Processed data from Eviews 10 output

Based on the regression model presented in Table 4, the free variables contribute 97.1388% to the variation in the bound variable when considered together. This figure comes directly from the Adjusted R Square value of 0.971388. The remaining 2.8612% (or 0.028612) is not accounted for by the model. Additionally, Table 4 reports an F-Statistic of 351.8189 and a Probability value (F-Statistic) of 0.000000, which is less than the 0.05 alpha threshold. These results confirm that, as a group, the independent variables have a significant simultaneous impact on the dependent variables tested in the regression.

Following the first regression, a second equation was tested. The results of Equation Regression Test 2 are shown in Table 5.

Table 5. Results of Equation Regression 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.033479	0.041108	0.814416	0.4225
D(BOPO,2)	-0.118304	0.005486	-21.56562	0.0000
NPPG	-0.006211	0.009486	-0.654731	0.5182
D(FDR,2)	-0.002934	0.002823	-1.039497	0.3078
D(GCG,2)	-0.023704	0.036745	-0.645100	0.5243

Source: Processed data from Eviews 10 output

In table 5, it can be concluded that GCG that directly influences or as a direct predictor of ROA cannot be an independent variable. This is because the probability value is $0.5243 > 0.05$ or in other words the value is insignificant, therefore, the variable cannot directly be an independent variable. A third equation was subsequently tested, and the results of Equation Regression 3 are reported in Table 6.

Table 6. Results of Equation Regression 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.017130	0.047212	0.362829	0.7199
D(BOPO,2)	-0.112578	0.012069	-9.328153	0.0000
NPFG	0.004765	0.020059	0.237547	0.8142
D(FDR,2)	-0.005667	0.005722	-0.990403	0.3319
D(GCG,2)	-0.033109	0.797588	-0.041512	0.9672
D(M1,2)	-0.002138	0.006150	-0.347642	0.7311
M2	-0.003031	0.005354	-0.566118	0.5766
D(M3,2)	0.002337	0.003223	0.725266	0.4753

Source: Processed data from Eviews 10 output

As shown in Table 6, the p-value for the M1 interaction term is 0.7311, considerably higher than the 0.05 significance level. Consequently, this variable does not act as a moderator in the BOPO-ROA relationship, meaning it neither enhances nor diminishes the effect between them. Thus, H_{04} was accepted and H_{a4} was rejected and concluded that the moderator variable tested was not a moderator variable. This variable is referred to as a homologizer variable or potential.

As reported in Table 6, the p-value for the M2 interaction variable stands at 0.5766, far exceeding the 0.05 significance threshold. Accordingly, this variable does not serve as a moderator in the NPFG-ROA relationship, meaning it neither amplifies nor diminishes the effect between them. Thus, H_{05} was accepted and H_{a5} was rejected and concluded that the moderator variable tested was not a moderator variable. This variable is referred to as a homologizer variable or potential.

The analysis shows that the tests presented in table 6 show a probability value of the M3 interaction variable of $0.4753 > 0.05$ or whichever is much greater than the alpha value of 0.05. This value indicates that the interaction variable tested could not moderate the relationship between FDR and ROA, either reinforcing or weakening. Thus, H_{06} was accepted and H_{a6} was rejected and concluded that the moderator variable tested was not a moderator variable. This variable is referred to as a homologizer variable or potential.

4.2. Discussion

For further discussion, the BOPO ratio owned by Bank Muamalat during the research period is considered quite high. This certainly shows that with the value of operating expenses incurred too high, it will have a significant negative influence on the total return reflected by the ROA value. This is in accordance with the general system theory, that each unit in the system (in this case financial performance) will affect each other, either negative or positive influences. Then, a significant value can also be assumed because the BOPO ratio experienced by Bank Muamalat is on average above the regulatory provisions, namely in 2009, 2014 to 2023. BI stipulates that the maximum value for the BOPO ratio is above 90% in accordance with regulation No. 6/23/DPNP dated May 31, 2004.

According to sources from online newspapers, the increase in the BOPO ratio in 2023 is due to the management of the Hajj Financial Management Agency (BPKH) as an investor as well as the Controlling Shareholder (PSP) of a corporation with a total share value of 82.65%

is considered inefficient. Inefficient management began to appear throughout 2019-2023 (Kontan, 2024). In addition to these notifications, Bank Muamalat is more focused on reducing the high NPF experienced in 2019, which is 4.30% (Kontan, 2024; Sabardin, 2023).

Then, according to the researcher's analysis, considering that in the digital era now every bank is starting to compete with other banks to launch a smart apps i.e. mobile banking and most effective according to customer needs. This launch certainly costs considerable operational costs. Quoted from GeekGarden (2024), manufacturing starts from a price of 100 million. According to him, costs can increase according to features and complexity, such as security, design, and maintenance. Not to mention the costs incurred for marketing from smart apps that in itself is quite large. There were hacks that occurred at Bank Syariah Indonesia in 2023 and Bank Jatim and BRI subsidiary banks, namely BRI Life in 2021, as reported by BBC News Indonesia (2023), allowing other Islamic banks to spend operational funds on security maintenance with state-of-the-art systems. Therefore, hacks with the same pattern do not happen again to other banks.

Financial inclusion and literacy for Islamic banks have not really reached the community. Therefore, the cost of marketing, both in terms of product and knowledge, needs to be intensified in the community during the research period. Further support comes from the Financial Services Authority's report, as cited in OJK press release number SP 166/GKPB/OJK/XI/2023, dated April 2024. According to that report, the market share of Islamic banking in Indonesia stood at only 7.26% as of August 2023.

Then, adjustments with the addition of sanitation materials in each bank and physical restrictions during the covid pandemic, caused an increase in operational costs. Post-pandemic, when new normal Echoed by the government, adjustments have been tried again, such as increasing the interest of customers who may be afraid to take financing, which causes expenses on operational costs to increase again (Pertwi et al., 2024). In addition, according to Chandra and Hanifah (2023), external factors such as government policies, namely restructuring policies and relaxation of loans or financing to customers affected by the pandemic in 2020, will increase the risk of operational expenses.

In summary, the hypothesis results show that BOPO has a significant negative effect on ROA. Therefore, H_{a1} was accepted and rejected H_{o1} 's statement. The research produced by this author is in line with the results shown by Amalia et al. (2022) and Ikrom and Syaichu, (2024) that BOPO can have a negative and significant influence on ROA. That way, this study also directly rejects the results of Munawaroh et al. (2022) also Pratama and Yushita (2021), which found that there was a positive influence between BOPO on ROA.

In this study, it was found that the average NPF value was very small, namely 3.944118 after the interpolation technique was carried out. Of course, the average value is still at the safe threshold. The results of the study show that the larger the NPF ratio will have a negative influence on profitability. This means that when the NPF ratio increases, the ROA will be more likely to decrease. If referring to the general system theory or GST, each financial performance report in the annual report has continuity with each other even though the continuity is small. This small continuity can be assumed by the author because there are other variables that are more dominant to be able to affect ROA, such as the BOPO ratio which has been explained in the previous point. From the value of this small NPF ratio, it tends to harm the company in terms of cash receipts.

During the pandemic, when people are trapped at home, and it is difficult to carry out activities, such as offline transactions, of course, the surge in problematic financing is likely to be even greater. However, with the stimulus from the government for MSMEs affected by the covid 19 pandemic, namely with the issuance of OJK Regulation No. 11/POJK.03/2020,

related to financing/credit restructuring, it can certainly reduce the number of financing that will really be stuck or before the financing is classified or categorized as NPL/NPF/collectability five. Restructuring is a policy of improvement from the bank that is given to debtors who are experiencing difficulties, as well as those affected by the pandemic in fulfilling their obligations (Afriwaldi et al., 2024; Arsy et al., 2023).

The gross NPF used in this study has not been reduced by the Productive Asset Elimination Allowance, which is a reserve as an effort to avoid the possibility of risks that will occur that banks will bear the risk later (Ronaldo & Budhijana, 2024). As a result, the influence has a negative direction. According to Sartika (2012), quoted by Ronaldo and Budhijana (2024), the amount of PPAP can describe the performance of declining productive assets which will reduce the company's profits.

In summary, the hypothesis results show that NPF has a negative effect on ROA insignificantly. Therefore, Ha2 was rejected and accepted Ho2's statement. Thus, the research produced by this author is in line with the results shown by Subekti and Wardana (2022) also Pertiwi et al. (2024). Meanwhile, this study contradicts Khayidah et al. (2024), Yastutik and Yudiana (2021), also Navita et al. (2023), who explain that NPF/NPL can have a negative and significant influence on profitability or ROA. And this study contradicts the argument that NPL/NPF has a negative positive effect produced by Kamila (2022) also Grilseda and Riyadi (2021).

Theoretically, if the FDR ratio is optimal, it will have a positive effect on profitability. The results of this study show that the lower the FDR ratio, which has an average that is less than the regulator's provisions, which is 79.81412 after interpolation, tends to reduce the company's ROA. The results of this study are enough to prove the theory carried out, as well as the theory of general systems. According to this theory, the structure of one unit of several units whose value rises or falls, will still have a continuous influence on other units concerned that do have the same purpose. The relationship between these two variables, namely the ratio of FDR to ROA, gives a negative and insignificant vibration to profitability. As a result, ROA will continue to be affected by being disadvantaged, because funds that aim to be fuel for financing for the community have little unemployment or so-called idle funds which in the end only provide unsatisfactory income.

The funds that were not disbursed were due to the pandemic which reduced the expansion of financing. In the post-pandemic period, banks and the world community need to adapt. Likewise, adapting to taking financing at banks. Due to post-pandemic trauma, customers are reluctant to take financing because they know that the pandemic has made economic life difficult, so the value of the bank's FDR tends to fall. In addition, in the study period, there was a decrease in the currency exchange rate in 2013-2015 which was close to Rp 15,000/US\$ due to taper tantrum, which was 99.99% in 2013 to fall in 2014 by 84.14 and increased again in 2015 by 90.30%. This is what causes FDR's value to have no significant effect in a negative direction on profitability.

In summary, the hypothesis results show that FDR has a negative effect on ROA insignificantly. So Ha3 was rejected and accepted Ho3's statement. That way, the research produced by this author is in line with the results shown by Fasa et al. (2022); Heirunissa (2024); and Mirawati et al. (2021).

4.2.1. The Moderating Ability of GCG on the Influence of BOPO Toward ROA

As an explanation of the researcher's assumption, that although the implementation of GCG in general is considered "good" according to the average interpolation result of 2.052941, but in particular, the implementation of the responsibilities of the board of directors who have

authority over the management of the bank is considered not good in managing the operational costs that come out. Because, one of the factors for the analysis of the 11 factors of the questionnaire self-assessment There is a content of accountability of the Board of Directors for the implementation of its duties. According to Ria and Hestria (2024), the board of directors of Bank Muamalat changes too often. This has led to a decline in its financial performance and caused operational costs to not be properly supervised.

Less strict supervision from the board of commissioners as the principal can cause differences in utility and agencies (management) that are not aligned to cause agency conflicts in theory. Because, according to Yuliyanti and Cahyonowati (2023), is supervising the implementation of company rules and monitoring the quality of information made by the board of directors. To make matters worse, this can happen due to asymmetric information from the profit management manager to the principal. Because as a whole, agents have more and more accurate information related to company data, which allows for financing expenditures that tend to be inefficient and tend to be less directed to the decisions of one party. Thus, the joint decisions between the company's organs, namely the board of commissioners, shareholders, and the board of directors are not in harmony.

Another assumption from the researcher is that the company's internal factors from GCG are not too significant to affect the company's financial performance in each of the variables tested. Considering that the rate of economic growth in Indonesia is very volatile in the research period due to several conditions such as politics and global conditions that can sometimes decrease or improve the economic situation. The internal factor here only involves reducing risk with the policies issued in order to adjust to the company's external conditions. However, if the prevention of risks is not well protected, as a result, the company's condition will worsen. Especially if you refer back to agency theory, the condition of the company can be aggravated by the conditions of the company's internal affairs, which sometimes each of the positions has its own utility that does not have a unified vision and mission.

Thus, Ha4 was rejected and H04 accepted. This result is in accordance with research from Permatasari et al. (2024), which states that GCG with a composite rating value from the self-assessment results cannot be used as a moderation variable for the relationship between BOPO and ROA. The results of the study also directly rejected the results of the research from Argantara et al. (2021), finding that GCG (composite rating) can moderate with a negative direction (weaken the relationship) between the negative relationship between BOPO and ROA.

4.2.2. The Moderating Ability of GCG on the Influence of NPF Toward ROA

If the analysis is more in-depth, the mechanism for implementing corporate governance is assumed to have a poor tendency in terms of managing the risk of non-performing financing. However, this is an exception to the efforts to reduce the value of the NPF ratio carried out by Bank Muamalat, which sees the 2019 NPF ratio as high. Then, if drawn to the theory of agency, this can be due to the lack of principal monitors, namely the board of commissioners on the performance of agents (risk management) who manage financing risks. According to ASEAN Corporate Governance Scorecard v.2.0 Quoted by Lesmana and Gunawan (2022), risk supervision is an indicator of the assessment of responsibility from the board of directors to shareholders. It is known that the board of commissioners is a representative of the interests of shareholders (Sumanto et al., 2014). In this condition, the risk supervision and management of the board of directors of NPF is considered not responsible enough. Also, the monitor will be directed by the commissioner is also not well monitored. Asymmetric information from agents to principals is ultimately inconsistent and leads to mismanagement

of decisions in managing the risk of bad financing. In the end, after the implementation of GCG, although it is categorized as good, but overall, each GCG effect per year on each variable tested has a different effect, as a result GCG cannot balance all the variables tested.

Another assumption from the researcher is that the company's internal factors from GCG are not too significant to affect the company's financial performance in each of the variables tested. Considering that the rate of economic growth in Indonesia is very volatile in the research period due to several conditions such as politics and global conditions that can sometimes decrease or improve the economic situation. The internal factor here only involves reducing risk with the policies issued in order to adjust to the company's external conditions. However, if the prevention of risks is not well protected, as a result, the company's condition will worsen. Especially if you refer back to agency theory, the condition of the company can be aggravated by the conditions of the company's internal affairs, which sometimes each of the positions has its own utility that does not have a unified vision and mission.

The results of MRA testing in this study are that GCG with a value of self-assessment cannot have a moderation effect, either it strengthens or weakens the relationship of the negative influence of the Gross NPF on ROA. Thus, HA5 rejected and accepted H05. These results are in accordance with the research from Yusna et al. (2023), which stated that GCG with a composite ranking of the results self-assessment cannot be used as a moderation variable for the relationship between NPL and ROA. This result also rejected the results of Hikmawati research (2021) which explains that the value self-assessment weakening the NPL-to-ROA relationship.

4.2.3. The Moderating Ability of GCG on the Influence of FDR Toward ROA

The mechanism for implementing GCG as a result of the quality of Bank Muamalat's corporate management related to the liquidity of fund distribution can be said to be less good. In point 10 of the 11-factor self-assessment questionnaire, arrangements related to financing are very clearly listed. This point reads "Maximum limit for disbursement of funds". This means that the company shows poor corporate governance in terms of managing liquidity and is able to achieve good fund distribution limits. Management is summed up as not being careful related to the distribution of financing.

If drawn to the agency theory, the company has agents with poor quality in managing financing to be distributed and the principal has less observant supervision related to the financing issued. In the end, agents and principals have a vision and mission that is not aligned in improving the quality and quantity of financing. Because the utilities of the two are not aligned, the management of liquidity risk will be less controllable and cause the company to be less efficient in generating greater profits.

Another assumption from the researcher is that the company's internal factors from GCG are not too significant to affect the company's financial performance in each of the variables tested. Considering that the rate of economic growth in Indonesia is very volatile in the research period due to several conditions such as politics and global conditions that can sometimes decrease or improve the economic situation. The internal factor here only involves reducing risk with the policies issued in order to adjust to the company's external conditions. However, if the prevention of risks is not well protected, as a result, the company's condition will worsen. Especially if you refer back to agency theory, the condition of the company can be aggravated by the conditions of the company's internal affairs, which sometimes each of the positions has its own utility that does not have a unified vision and mission.

The results of MRA testing in this study are that GCG with a value of self-assessment could not have a moderation effect, whether it strengthened or weakened the relationship between FDR's insignificant negative influence on ROA. Thus, HA6 rejected and accepted

H06. These results are in accordance with research from Yusna et al. (2023), Permatasari et al. (2024), Hikmawati (2021), and Astuti et al. (2022) who stated that GCG with a composite ranking of the results self-assessment cannot be used as a moderation variable for the relationship between LDR and ROA. This result also rejects the results of a study from Argantara et al. (2021), which explains that the ranking self-assessment can weaken FDR's relationship to ROA.

5. Conclusion

Overall, the effectiveness ratio, liquidity ratio, and non-bad loan risk ratio have a huge influence on profitability growth reflected by ROA. The cause partially depends on the size and size of the ratio, the company's external risks, and the company's internal risks. Then, the insignificance of the moderation variable is due to the influence of the lack of principal supervision of the agent and the poor factor of poor management of the financing risk and the monitoring of the commissioner on risk management that is not well emphasized. Thus, it gives rise to malpractice in risk management decisions. In the end, the decline in profitability is getting bigger. Finally, the inability to moderate GCG on FDR's relationship with ROA can be due to the poor management of financing distribution, so that the income of profits in the company tends to be small. In addition, another assumption from the researcher is that the company's internal factors from GCG are not too significant to affect the company's financial performance in each of the variables tested. Considering that the rate of economic growth in Indonesia is very volatile in the research period due to several conditions such as politics and global conditions that can sometimes decrease or improve the economic situation.

The researcher suggests emphasizing management in spending more wisely, and can better improve the quality of the company's NPF. Also, management related to financing is also no less important to increase the amount of revenue of the company. Do not let the funds that have been collected not be used more wisely as part of the function of company intermediation. In addition, in general, companies must always be vigilant in acting and planning for the occurrence of activities that threaten the existence of the company both inside and outside the company. Then, companies must always be able to implement GCG appropriately in accordance with the five principles in it, namely Transparency, Accountability, Responsibility, Independency, and Fairness and relieve the utility of each in accordance with the company's external and internal conditions.

The researcher was then asked to re-evaluate other variables that were not mentioned by the researcher. Although the overall variable that has been studied is 97.1388% affecting the company's profitability value, the rest of the 97.1388% is included as much as possible to be sought as research material to achieve a 100% value or close to a more perfect value. In addition, the next researcher should consider other moderation variables, both those that have existed in previous studies to facilitate research, and variables that have not been tried before.

6. References

- Afriwaldi, A., Rembrandt, R., & Mannas, Y. A. (2024). Restrukturisasi Kredit Macet pada UMKM Akibat Pandemi Covid-19. *Media of Law and Sharia*, 5(1), 20–33. <https://doi.org/10.18196/mls.v5i1.40>
- Ahadini, F. M., Turmudzi, A., & Fataron, Z. A. (2021). Analisis Pengaruh Pembiayaan Jual Beli, Pembiayaan Bagi Hasil, Financing To Deposit Ratio, Non Performing Financing, Dan Biaya Operasional Pendapatan Operasional Terhadap Profitabilitas. *Ulumuddin : Jurnal Ilmu-Ilmu Keislaman*, 12(1), 19–40.

- <https://doi.org/10.47200/ulumuddin.v12i1.949>
- Amalia, D., & Diana, N. (2022). Pengaruh BOPO, CAR, dan FDR Terhadap Profitabilitas Bank Bukopin Syariah Periode 2013-2020. *Jurnal Ilmiah Ekonomi Islam*, 8(1), 1095–1102. <https://doi.org/10.29040/jiei.v8i1.4166>
- Argantara, Z. R., Mujibno, M., & Priyojadmiko, E. (2021). Pengaruh Karakteristik Bank Terhadap Profitabilitas Perbankan Syariah Melalui Good Corporate Governance (GCG) sebagai Variabel Moderasi. *Jurnal Lentera: Kajian Keagamaan, Keilmuan Dan Teknologi*, 20(2), 276–288. <https://ejournal.staimnglawak.ac.id/index.php/lentera/article/view/385>
- Arsy, S. W., Cahyaningtyas, S. R., & Waskito, I. (2023). Dampak Kebijakan Restrukturisasi Kredit terhadap Non Performing Loan (NPL) pada Perbankan di Indonesia di Masa Pandemi COVID-19. *Jurnal Riset Mahasiswa Akuntansi*, 3(2), 46–55. <https://doi.org/10.29303/risma.v3i2.616>
- Astuti, R. P. (2022). Pengaruh CAR, FDR, NPF, Dan BOPO Terhadap Profitabilitas Perbankan Syariah. *Jurnal Ilmiah Ekonomi Islam*, 8(3), 3213–3223. <https://doi.org/10.29040/jiei.v8i3.6100>
- BBC News Indonesia. (2023). *BSI Diduga Kena Serangan Siber, Pengamat Sebut Sistem Pertahanan Bank “Tidak Kuat.”* BBC Indonesia.
- Chandra, F., & Hanifah. (2023). Impact of Credit Risk, Liquidity Risk, Operational Risk on Profitability with Good Corporate Governance as a Moderating Variable in Public Commercial Bank on the Indonesian Stock Exchange (Period 2017–2021). *International Journal of Business, Economics and Law*, 30(2), 66–79. https://www.ijbel.com/wp-content/uploads/2024/01/IJBEL-VOL.30.ISU-2_o82.pdf
- Damayanti, C., Nurdin, A. A., & Widayanti, R. (2021). Analisis Pengaruh NPF, CAR, dan FDR terhadap Profitabilitas Bank Umum Syariah di Indonesia Periode 2015-2019. *Journal of Applied Islamic Economics and Finance*, 2(1), 9–20. <https://doi.org/10.35313/jaief.v2i1.2818>
- Fachri, M. F., & Mahfudz, M. (2021). Analisis Pengaruh CAR, BOPO, NPF, dan FDR terhadap ROA (Studi pada Bank Umum Syariah di Indonesia Periode Tahun 2016–2019). *Diponegoro Journal of Management*, 10(1), 1–10. <https://ejournal3.undip.ac.id/index.php/djom/article/view/30914>
- Fasa, R. A. A., Nurdin, A. A., & Triuspitorini, F. A. (2022). Pengaruh Likuiditas Terhadap Profitabilitas Pada Bank Umum Syariah di Indonesia Periode 2015-2020. *Journal of Applied Islamic Economics and Finance*, 2(2). <https://doi.org/10.35313/jaief.v2i2.3043>
- Fauziana, B., & Fidyah, F. (2023). Pengaruh Tingkat Kesehatan Bank terhadap Pertumbuhan Laba pada Subsektor Perbankan yang Terdaftar di Bursa Efek Indonesia. *UG Journal*, 17(4).
- GeekGarden. (2024). *Berapa Biaya Untuk Pembuatan Aplikasi Android dan iOS?* GeekGarden.
- Grilseda, N., & Riyadi, S. (2021). Pengaruh CAR, LDR, KAP dan NPL terhadap ROA Bank Go Public yang terdaftar di BEI. *Jurnal Ilmu Manajemen*, 11(1), 53–68. <https://doi.org/10.32502/jimn.v11i1.3252>
- Heirunissa, H. (2024). Pengaruh FDR, BOPO, CAR, dan NPF terhadap Return on Asset (ROA) pada Bank Umum Syariah di Indonesia. *YUME: Journal of Management*, 7(3), 208–224. <https://doi.org/10.37531/yum.v7i3.7133>
- Hikmawati, S. (2023). *Analisis Pengaruh Manajemen Risiko terhadap Kinerja Keuangan Perbankan dengan Self Assessment Good Corporate Governance sebagai Variabel Moderasi.* Universitas Islam Indonesia Repository.
- Ikrom, A., & Syaichu, M. (2024). Analisis Pengaruh CAR, FDR, BOPO, Bank Age, dan Suku Bunga terhadap Kinerja Keuangan Perbankan Syariah Indonesia Periode 2015–2019. *Diponegoro Journal of Management*, 13(2), 1–13. <https://ejournal3.undip.ac.id/index.php/djom/article/view/44105>

- Kamila, N. M. (2022). *Analisis pengaruh CAR, NPF, dan BOPO terhadap ROA pada Bank Muamalat periode 2014-2021*. Perpustakaan UIN Mataram.
- Khayidah, E., Wiraswati, M. O., Wulansari, Y. Y., & Ningrum, D. A. (2024). Pengaruh Risiko Kredit Dan Risiko Likuiditas Terhadap ROA Dengan Good Corporate Governance Sebagai Variabel Moderasi. *Majalah Ekonomi*, 29(1), 89–97. <https://doi.org/10.36456/majeko.vol29.no1.a9036>
- Kontan. (2024). *Menilik Kinerja Bank Muamalat di Tengah Rencana Akuisisi oleh BTN*. Kontan.id.
- Kurnia, T., & Wahyudi, S. (2022). Pengaruh CAR, FDR, dan BOPO dengan NPF sebagai Variabel Moderating terhadap Kinerja Keuangan Perbankan Syariah di Indonesia (Studi Empiris pada Bank Umum Syariah di Indonesia Periode 2014 Q1–2018 Q4). *Jurnal Studi Manajemen Organisasi*, 18(2), 49–59. <https://doi.org/10.14710/jsmo.v18i2.39204>
- La Difa, C. G., Setyowati, D. H., & Ruhadi, R. (2022). Pengaruh FDR, NPF, CAR, dan BOPO Terhadap Profitabilitas Bank Umum Syariah di Indonesia. *Journal of Applied Islamic Economics and Finance*, 2(2), 333–341. <https://doi.org/10.35313/jaief.v2i2.2972>
- Lesmana, P. P., & Gunawan, J. (2022). Pengaruh Biaya Lingkungan, Kepemilikan Saham Manajemen, dan Pengawasan Risiko terhadap Rasio Pengembalian Ekuitas serta Pengaruhnya terhadap Harga Saham. *Jurnal Ekonomi Trisakti*, 2(2), 1203–1216. <https://doi.org/10.25105/jet.v2i2.14519>
- Maknuun, L., Asiyah, U., Yusri Aftian, R., & Febrianti, A. (2024). Pengaruh Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), Non Performing Financing (NPF) terhadap Profitabilitas dengan Good Corporate Governance (GCG) sebagai Variabel Intervening (Studi Kasus pada Bank Umum Syariah 2015–2019). *Jurnal Dinamika Ekonomi Syariah*, 11(1), 1–15. <https://doi.org/10.53429/jdes.v11i1.805>
- Masdupi, E. (2024). *Performance and Agency Conflict in Managerial Decision: Ownership Structure, Diversification, and Size*. RajaGrafindo Persada.
- Mirawati, M., Putra, R. A., & Fitri, M. D. (2021). Pengaruh CAR, FDR, BOPO terhadap ROA dengan NPF sebagai Variabel Intervening pada BTPN Syariah 2015–2019. *MABIS: Jurnal Manajemen Bisnis Syariah*, 1(1), 63–71. <https://doi.org/10.31958/mabis.v1i1.3085>
- Munawaroh, R., Dwi Suseno, B., & Jajuli, S. (2022). Pengaruh Variabel BOPO, NOM Dan CAR Terhadap Profitabilitas Bank Umum Syari'ah di Indonesia pada Masa Pandemi Covid-19. *TSARWAH*, 7(1), 35–48. <https://doi.org/10.32678/tsarwah.v7i1.6589>
- Musadat, M. A. (2023). Analisis Tingkat Kesehatan Bank Umum Syariah Menggunakan Metode Rgec (Studi Kasus Pada Bank Swasta Nasional Periode Tahun 2019-2021). *OIKOS: Jurnal Kajian Pendidikan Ekonomi Dan Ilmu Ekonomi*, 8(1), 113–119. <https://doi.org/10.23969/oikos.v8i1.11248>
- Navita, I. D., Fauzi, A., & Muliarsari, I. (2023). The Effect of Murabahah Financing, Financing Deposit Ratio (FDR), and Third Party Funds on Profitability with Non-Performing Financing (NPF) as a Moderating Variable in BPRS. *CASHFLOW: Current Advanced Research on Sharia Finance and Economic Worldwide*, 2(4), 541–560. <https://doi.org/10.55047/cashflow.v2i4.768>
- Nurwahida, N., Faizul, F., Wulandari, S., & Damayanti, D. (2021). Persepsi Pengetahuan dan Sikap Masyarakat terhadap Perbankan Syariah. *Jurnal Asy-Syarikah: Jurnal Lembaga Keuangan, Ekonomi Dan Bisnis Islam*, 3(2), 140–146. <https://doi.org/10.47435/asy-syarikah.v3i2.688>
- Parwata, N. T., & Anggara, I. W. G. W. P. (2022). Pengaruh Pengungkapan Corporate Social Responsibility dan Good Corporate Governance Terhadap Nilai Perusahaan. *Kompak: Jurnal Ilmiah Komputerisasi Akuntansi*, 15(2), 540–557. <https://doi.org/10.51903/kompak.v15i2.1134>
- Perdana, A. W., Setyaningrum, R. P., Dasman, S., & Aminah, S. (2024). Analisis Pengaruh Manajemen Risiko terhadap Profitabilitas Perusahaan dengan Good Corporate

- Governance sebagai Variabel Moderasi. *Jurnal Manajemen Perbankan Keuangan Nitro*, 7(2), 120–129. <https://doi.org/10.56858/jmpkn.v7i2.355>
- Permatasari, Y. A. (2024). *Pengaruh Risk Management dan Efisiensi Biaya terhadap Financial Performance dengan Self Assessment sebagai Variabel Moderating pada Bank Digital di Indonesia*. Universitas PGRI Madiun Respository.
- Pertiwi, T. D., Kholison, R. F., & Rusgianto, S. (2024). Faktor-Faktor Penentu Profitabilitas dengan Peran Kecukupan Modal Sebagai Intervening Pada Bank Syariah. *Jurnal Ekonomika Dan Bisnis Islam*, 7(2), 43–63. <https://doi.org/10.26740/jekobi.v7n2.p43-63>
- Pratama, M. I. Y., & Yushita, A. N. (2021). Pengaruh CAR, LDR, BOPO, NPL, dan NIM terhadap Kinerja Keuangan Bank yang Terdaftar di Bursa Efek Indonesia Periode 2015–2018. *Profita: Kajian Ilmu Komunikasi*, 9(8), 70–84. <https://journal.student.uny.ac.id/index.php/profita/article/view/17737>
- Putri, R. S., & Hana, K. F. (2024). Bank Muamalat's Resilience: The Role of Funding Policy in Overcoming Economic Challenges. *JIES : Journal of Islamic Economics Studies*, 5(2), 113–120. <https://doi.org/10.33752/jies.v5i2.6492>
- Putri, S. R., & Rahmazaniati, L. (2022). Metode RGEC: Penilaian Tingkat Kesehatan Bank Sebelum dan Sesudah Merger Menjadi Bank Syariah Indonesia. *Akbis: Media Riset Akuntansi Dan Bisnis*, 6(2), 47–51. <https://doi.org/10.35308/akbis.v6i2.6118>
- Putri, Y. (2024). *Pengaruh Financing to Deposit Ratio (FDR) dan Biaya Operasional Pendapatan Operasional (BOPO) terhadap Profitabilitas dengan Non Performing Financing (NPF) sebagai Variabel Intervening pada Bank Muamalat Indonesia Periode 2014–2022*. Universitas Islam Raden Fatah Palembang.
- Ria, S., & Hestria, N. (2024). Analisis Tingkat Kesehatan Bank dengan Menggunakan Metode RGEC pada Bank Muamalat Indonesia Periode 2016–2021. *Jurnal Ilmiah Manajemen Dan Kewirausahaan*, 3(1), 1–13. <https://doi.org/10.55606/jimak.v3i1.2352>
- Ronaldo, R., & Budhijana, R. B. (2024). Analisis Pengaruh Rasio Keuangan terhadap Profitabilitas Bank Umum Syariah di Indonesia Periode 2015–2018. *Journal of Accounting, Management and Islamic Economics*, 2(2), 679–692. <https://doi.org/10.35384/jamie.v2i2.640>
- Rusdiana, A., & Irfan, M. (2014). *Sistem Informasi Manajemen*. Pustaka Setia.
- Sabardin. (2023). Beberapa Permasalahan Bank Muamalat Pada Tahun 2017-2022. *Kompasiana.Com*, 1–2.
- Simatupang, A. L., & Prabowo, T. J. W. (2021). Analisis Rasio Keuangan (CAMEL) terhadap Kinerja Keuangan BPD dengan GCG sebagai Pemoderasi Periode 2017–2019 (Studi Empiris pada Bank Pembangunan Daerah di Indonesia Tahun 2017–2019). *Diponegoro Journal of Accounting*, 10(4), 1–14. <https://ejournal3.undip.ac.id/index.php/accounting/article/view/32964/0>
- Subekti, W. A. P., & Wardana, G. K. (2022). Pengaruh CAR, Asset Growth, BOPO, DPK, Pembiayaan, NPF dan FDR Terhadap ROA Bank Umum Syariah. *INOBISS: Jurnal Inovasi Bisnis Dan Manajemen Indonesia*, 5(2), 270–285. <https://doi.org/10.31842/jurnalinobis.v5i2.229>
- Sulistiani, D., Puspitasari, F. F., & Hasanah, S. M. (2023). *Auditor Internal dan Good University Governance dalam Bingkai Teori Agensi Islam*. UIN Maliki Press.
- Sumanto, B., Asrori, A., & Kiswanto, K. (2014). Pengaruh Kepemilikan Institusional dan Ukuran Dewan Komisaris terhadap Manajemen Laba. *Accounting Analysis Journal*, 3(1), 44–52. <https://doi.org/10.15294/aaj.v3i1.3901>
- Surahman, S. (2021). *Modul Perkuliahan Teori Sistem*. IAIN Surakarta.
- Surifah, S., & Rofiqoh, I. (2020). *Corporate Governance Badan Usaha Milik Negara*. Graha Aksara Makassar.
- Wartoyo, W. (2026). Financial efficiency of Islamic rural banks in Indonesia: A two-stage DEA

- approach. *Humanities and Social Sciences Letters*, 14(1), 357–373. <https://doi.org/10.18488/73.v14i1.4724>
- Wartoyo, W., & Haerisma, A. S. (2022). Cryptocurrency in The Perspective of Maqasid Al-Shariah. *Afkaruna: Indonesian Interdisciplinary Journal of Islamic Studies*, 18(1), 110–139. <https://doi.org/10.18196/afkaruna.v18i1.14164>
- Wulandari, E., & Tan, E. (2023). Pengaruh Good Corporate Governance, Company Size, BOPO, Leverage Terhadap Kinerja Keuangan Perusahaan Kimia di BEI (2017 – 2021). *Jurnal Ilmiah Manajemen Dan Bisnis (JIMBI)*, 4(1), 10–20. <https://doi.org/10.31289/jimbi.v4i1.1771>
- Yastutik, I., & Yudiana, F. E. (2021). Pengaruh tingkat likuiditas, Islamic corporate governance dan efisiensi operasional terhadap kinerja keuangan dengan risiko pembiayaan sebagai variabel moderating. *Journal of Accounting and Digital Finance*, 1(3), 181–194. <https://doi.org/10.53088/jadfi.v1i3.178>
- Yuliyanti, A., & Cahyonowati, N. (2023). Pengaruh dewan direksi, dewan komisaris, komisaris independen, komite audit, kepemilikan manajerial, dan kepemilikan institusional terhadap kinerja keuangan. *Diponegoro Journal of Accounting*, 12(3), 1–14. <https://ejournal3.undip.ac.id/index.php/accounting/article/view/40175>
- Yusna, F. E., Wijaya, A. L., & Taufiq, A. R. (2023). Pengaruh Risiko Kredit, Penyaluran Kredit, dan Corporate Social Responsibility (CSR) terhadap Kinerja Keuangan dengan Self Assessment sebagai Variabel Moderasi. *SIMBA: Seminar Inovasi Manajemen, Bisnis, Dan Akuntansi*. <https://prosiding.unipma.ac.id/index.php/SIMBA/article/view/4873>