**ANALYSIS OF CAPITAL ADEQUACY RATIO, LIQUIDITY RATIO, PROBLEM FINANCING RATIO AND EFFICIENCY RATIO ON PROFITABILITY OF ISLAMIC BANKING IN INDONESIA**

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**ABSTRACT**

This research examines the impact of financial ratios on profitability, specifically focusing on Islamic banking in Indonesia during the period 2019-2021. The study analyzes four independent variables, Capital Adequacy Ratio (CAR), Liquidity Ratio (FDR), Non-Performing Financing Ratio (NPF), and Efficiency Ratio (BOPO), measuring profitability through Return on Assets (ROA). The findings indicate that, collectively, these ratios significantly influence profitability. Partially, CAR exhibits a positive and significant effect on ROA, while FDR and NPF show negative and significant impacts. Additionally, BOPO has a negative but insignificant effect on profitability. Among the independent variables, CAR emerges as the most dominant factor affecting profitability, as evidenced by its highest T-value. These results provide valuable insights into the financial management practices of Islamic banks in Indonesia, highlighting the critical role of capital adequacy in enhancing profitability. The study underscores the importance of maintaining adequate capital levels while managing liquidity and non-performing loans to ensure sustained profitability in the competitive banking sector.

**Keywords:** Islamic Banking, Profitability, Capital Adequacy Ratio (CAR), Liquidity Ratio (FDR), Non-Performing Financing (NPF), Efficiency Ratio (BOPO)

1. **INTRODUCTION (Font-Times New Roman, Bold, Font Size -12)**

The banking industry is one of the institutions that holds a crucial role in a country's economy, particularly in the financial sector. Banks are used as places for various financial transactions. Based on Indonesia’s Law No. 10 of 1998 regarding banking, it is explained that a bank is a business entity that collects funds from the public in the form of savings and distributes them to the public in the form of credit or other forms to improve the community's standard of living.

Banking itself emerged because not everyone who saves uses their savings for daily needs, and many other business activities require capital beyond the owner's capacity. There are two types of financial systems in Indonesia: the conventional system and the sharia system. A conventional bank is a general bank that operates conventionally, while a sharia bank is one that operates according to sharia principles. The establishment of sharia banking in Indonesia was based on Law No. 10 of 2008. Previously, in 1998, Law No. 10 of 1998 was amended, allowing conventional banks in Indonesia to establish banks based on sharia principles.

Sharia banking has a role in improving public welfare through the intermediation process of fund collection and distribution, as well as providing other financial services based on sharia principles. One of these principles is implementing a profit-sharing system free from usury, or interest. The fundamental aim of sharia banking is to promote and accelerate economic progress through banking, financial, commercial, and investment activities, thus increasing employment opportunities and economic welfare according to sharia. Sharia banks also play a role in improving public welfare through the intermediation process of fund collection and distribution. While sharia banks are starting to make a societal impact, they also need to maintain their existence by monitoring their financial performance.

A bank’s performance can be assessed through financial reports published as a form of transparency in achieving good corporate governance. Analyzing financial performance is essential to understand a bank's ability to manage funds effectively and efficiently. Financial performance assessments can be carried out by analyzing financial statements. According to Mirayanti et al. (2020), these financial reports should depict all relevant financial data in a standardized format so that they are comparable and allow for reliable analytical accuracy. Financial performance assessments can be conducted by analyzing a bank’s financial statements through calculating financial ratios that provide a snapshot of the bank's performance over a specific period.

One of the ratios used to measure bank performance is the profitability ratio. According to (Damayanti, 2019), the profitability ratio assesses a company’s ability to generate profit. The higher the profitability ratio, the better the bank’s financial performance. Profitability has several measurements, each associated with sales, total assets, and equity. Together, these three measurements enable analysts to assess income levels in terms of sales, total assets, and specific investments made by the company’s owners (Sipayung & Hulu, 2022). From the expert views, it is concluded that bank profitability is an essential element in financial development. Its relevance includes the performance of banking companies up to macroeconomic stability; profitability is considered the most appropriate way to measure a bank's performance.

One indicator to measure a bank’s profitability is by assessing the Return on Assets (ROA), as ROA reflects the potential profitability and efficiency of a bank’s operations. A positive ROA indicates that the total assets used for the company's operations can generate profits, while a negative ROA shows that the total assets used do not yield profit (loss).

Profitability is influenced by several factors, including capital adequacy ratio, liquidity, non-performing financing, and efficiency. Capital adequacy is an essential factor affecting a company's performance. If a bank's capital increases, the company’s profitability also rises, indicating improved bank performance. Capital adequacy plays a crucial role for banks in expanding business, accommodating losses, and reflecting bank health. Strong capitalization builds public trust, allowing banks to collect funds from the community and distribute them back to those in need through financing (Muarif et al., 2021).

Capital is vital for banks to conduct operations and support all their needs. Good management quality in banking activities is expected to generate expected profit levels. Proper management will increase a bank’s capital, taking into account capital health indicators measured using the CAR ratio. This ratio helps absorb potential losses that banks may face. The higher the CAR, the better the bank’s capacity to bear the risk of productive assets. A high CAR indicates the bank’s ability to finance operational activities and significantly contribute to profitability.

In an increasingly competitive banking world, public trust in banks is crucial for their survival, as banks are responsible for the community's funds. Therefore, maintaining liquidity is vital. Bank liquidity can be calculated using the Financing to Deposit Ratio (FDR). The general safe FDR limit for a bank is around 90%-100%, while the central bank’s limit is 110%.

The 1998 monetary crisis was an event that significantly impacted the economy, including banking. The crisis caused many banks to experience non-performing loans, affecting the investment climate in banking both directly and indirectly. This situation also led to a crisis of public confidence in national banking, resulting in bankruptcies and the banks’ inability to pay off debts (liquidity).

Another factor affecting profitability is non-performing financing. Non-performing financing is a distribution of funds carried out by Islamic banks where customers who take out loans fail to meet obligations on time. The indicator used by Islamic banks to measure non-performing financing is the Non-Performing Financing (NPF) ratio, which is the comparison between total non-performing financing and total financing provided to customers. The NPF ratio serves as an indicator of the smoothness of financing. Problematic financing can affect profitability and should be considered when evaluating the bank’s profitability level (Mardiyah, 2015). One issue facing Islamic banks today is non-performing financing, where loans issued to customers face repayment difficulties due to intentional or external factors beyond the customer's control.

In addition to measuring profitability with ROA, the Operating Expense to Operating Income (BOPO) ratio can also be used, as it measures the bank's ability to control operational expenses against operational income. BOPO shows bank efficiency in its primary business activities, especially lending, where credit interest is a significant income source for banks. Operating expenses are the costs incurred by banks in business activities, such as marketing, labor, and other operating costs. Operational income, on the other hand, is the income derived from bank business activities, which is then used for operational expenses. A low BOPO ratio ideally implies that operational income will be higher than operating expenses, which is favorable as it leads to bank profits.

Based on the background described, this study aims to analyze the impact of capital adequacy ratio (CAR), liquidity ratio (FDR), non-performing financing ratio (NPF), and efficiency ratio (BOPO) on the profitability of Islamic banking in Indonesia during the 2019-2021 period. This research is expected to provide a deeper understanding of how these factors contribute to the profitability levels of Islamic banks and demonstrate the interconnection between capital conditions, liquidity, financing quality, and operational efficiency with the financial performance of Islamic banks. This analysis will serve as a valuable foundation for formulating strategies to enhance profitability in alignment with sharia principles while supporting national economic stability.

1. **LITERATURE REVIEW**

*The Effect of CAR on ROA of Sharia Banks in Indonesia*

Capital Adequacy is a crucial factor for banks, supporting business expansion, absorbing losses, and reflecting bank health. It aims to maintain public trust in banking, protect public funds held in banks, and meet the standards set by Bank Indonesia. Strong capitalization builds public confidence in a bank, leading people to deposit funds, which are then redistributed as financing to the community (Ningsih & Dewi, 2020). This financing can drive revenue generation and profitability, enabling banks to strengthen their capital structure and achieve healthy financial conditions. Good capital management within banking operations enhances expected profits. Proper management allows a bank to consistently increase its capital by monitoring capital adequacy indicators, thereby boosting profitability. Previous studies have shown that capital adequacy affects profitability (Awwad, 2023). Based on this explanation, the following hypothesis can be formulated:

*H1: Capital Adequacy has a partial effect on the profitability of Sharia Banks in Indonesia for the 2019-2020 period.*

*The Effect of FDR on ROA of Sharia Banks in Indonesia*

The Financing to Deposit Ratio (FDR) is a metric used to assess a bank’s liquidity by evaluating how efficiently it disburses funds through financing. The more funds the bank lends from third-party sources, the lower its liquidity level. However, higher financing levels are expected to yield higher returns for the bank (Almer & Hidayah, 2023). Studies by Almer and Hidayah (2023) and Widia Nurdiani et al., (2023) show a positive effect of the Financing to Deposit Ratio (FDR) on Return on Assets (ROA). This aligns with the theory that the more funds are extended through financing, the more returns are generated, enhancing profitability—assuming the FDR ratio remains within Bank Indonesia’s standard range. However, a study by Ningsih and Dewi (2020) found that the FDR had no effect on the ROA of Sharia Commercial Banks, suggesting that banks had not fully optimized the disbursement of deposits as financing. Based on this explanation, the following hypothesis can be formulated:

*H2: Financing to Deposit Ratio affects Return on Assets in Sharia Banks in Indonesia for the 2019-2020 period.*

*The Effect of NPF on ROA of Sharia Banks in Indonesia*

 Prasetyoningtias and Rahma, (2023) stated that the existence of non-performing financing (NPF) indicates lost opportunities for generating income from provided financing, thereby negatively impacting profitability. Hence, a higher NPF results in lower profitability. NPF reflects financing risk: the higher this ratio, the poorer the financing quality of a Sharia bank. Proper financing management is essential for banks since financing is a major income source for Sharia banks, and the NPF level affects bank profit achievement. Rising NPF indicates lost revenue from financed activities, reducing profit and negatively impacting ROA. This finding is supported by Dina Sentika et al., (2024), who notes that NPF significantly and negatively affects ROA. Based on this explanation, the following hypothesis can be formulated:

*H3: Non-performing Financing affects the Return on Assets of Sharia Banks in Indonesia for the 2019-2020 period.*

*The Effect of BOPO on ROA of Sharia Banks in Indonesia*

BOPO is the ratio of total operational expenses to total operational income. Operational expense ratio measures a bank’s efficiency and operational capability (Dina Sentika et al., 2024; Hasan, 2021; Sari et al., 2022). A lower ratio implies greater efficiency in operational expenses, reducing the likelihood of problematic conditions for the bank. High operational costs reduce pre-tax profit, which, if unaddressed, will lower bank profitability. In other words, the BOPO ratio negatively correlates with bank profitability. Studies by Wibowo and Syaichu (2013) and Sari et al., (2022) found a negative, significant effect of operational costs (BOPO) on Return on Assets (ROA), showing that higher operational costs are usually charged to revenue from financing allocation, reducing profits. However, Hasan (2021) found that BOPO did not affect the ROA of Sharia Banks. Based on this explanation, the following hypothesis can be formulated:

*H4: Operational Expenses to Operational Income (BOPO) affects the Return on Assets of Sharia Banks in Indonesia for the 2019-2020 period.*

1. **METHODOLOGY**

The research method used in this financial management study is quantitative. Quantitative research methods are scientific methods that adhere to established principles such as concreteness, objectivity, regularity, systematization, and replicability. This study utilizes secondary data, specifically numerical data from historical observations of financial ratios derived from financial statements of each Sharia bank in Indonesia, as well as Annual Reports published by each bank for the 2019-2021 period. This timeframe is considered sufficient for analyzing trends in Sharia banking financial performance, as it employs time series data and includes the most recent period of published financial reports from Bank Indonesia.

**Data Analysis Technique**

The data and information collected from the Indonesia Stock Exchange, relevant to this study, are then analyzed to address the research hypotheses. The data analysis techniques used in this study include the following steps:

1. **Sample Selection**: Selecting a sample size that meets the sample criteria for the study's data source.
2. **Data Extraction**: Retrieving financial report data for selected samples from the official Annual Reports of each bank.
3. **Data Processing**: Utilizing financial ratios, such as Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Operational Efficiency Ratio (BOPO), and Return on Assets (ROA).
4. **Data Analysis Using SPSS**: Conducting data tests through the following analyses:
5. **Descriptive Analysis**: Provides an overview of the variables involved in the study, specifically CAR, LDR, BOPO, and overall bank profitability, as measured by ROA.
6. **Classical Assumption Tests**: Verifying the suitability of the regression model used in this study. This includes normality, multicollinearity, heteroscedasticity, and autocorrelation tests.
7. **Linear Regression Test**: This study employs multiple linear regression to determine the relationship between the dependent variable (ROA) and multiple independent variables (CAR, LDR, BOPO, and NPF). The formula for multiple linear regression is:

$$Y=α+β1X1+β2X2+β3X3+β4X4e$$

Where:

Y = Financial Performance (ROA)

α = Constant

β = Regression Coefficient

X1​ = Capital Adequacy Ratio (CAR)

X2​ = Loan to Deposit Ratio (LDR)

X3​ = Non-performing Financing (NPF)

X4​ = Operational Efficiency Ratio (BOPO)

e = Standard Error

**Hypothesis Testing**

The following hypothesis tests will be conducted:

1. **t-Test**: Evaluating the significance of individual independent variables.
2. **F-Test**: Assessing the joint influence of CAR, LDR, and BOPO on the dependent variable (ROA). If H0:β=0, the independent variables collectively have no effect on the dependent variable. If Hα:β≠0, the independent variables collectively affect the dependent variable.
3. **Coefficient of Determination (R²)**: Calculating the percentage of variation in the dependent variable (ROA) explained by the independent variables (CAR, LDR, and BOPO).

This structured approach is expected to yield a comprehensive analysis of the impact of the selected financial ratios on the profitability of Sharia banks in Indonesia.

1. **RESULTS ANALYSIS**

*Normality Test*

The purpose of the normality test is to determine whether, within the regression model, the disturbance variable or residuals follow a normal distribution. If the data are not normally distributed, they cannot be used as a sample. In this study, the normality test was conducted using graphical analysis by examining the histogram results, the normal probability plot, and the Kolmogorov-Smirnov (K-S) test. This combination allows a comprehensive view of the residuals' distribution:

1. Histogram: Shows the overall shape of the data distribution, providing a visual check for normality.
2. Normal Probability Plot: Displays data points that should fall along a straight line if the data are normally distributed.
3. Kolmogorov-Smirnov (K-S) Test: A statistical test to quantify the degree of deviation from normality, indicating whether the residuals significantly differ from a normal distribution.

Through these methods, researchers can assess whether the sample data fulfill the assumptions of normality, ensuring the reliability of further analyses in the regression model. Based on the graph shown in figure 1. it can be seen that the histogram graph is symmetrical and approaches a curved line, so the residual value is stated to be normal or normally distributed and it can be said that the regression model meets the normality assumption.



Figure 1. Histogram Graphic

Based on the normal P-Plot graph displayed in figure 2, it can be seen that the points are spread around the diagonal line and follow the direction of the diagonal line, so it can be concluded that the regression model meets the normality assumption. To support that the data in this study are normally distributed, a statistical normality test can be carried out, namely the Kolmogorov-Smirnov test, by looking at the Asymp. Sig. (2-tailed) research data and the α value, which is 0.05. The Sig. value must be greater than the α value so that the normality test is truly normally distributed and can continue other classical assumption tests.



Figure 2. P-Plot Graphic

*Kolmogorov-Smirnov Test Results*

Based on Table 2 above, the Kolmogorov-Smirnov test results show an Asymp. Sig. (2-tailed) value of 0.200, which is greater than 0.05 (Sig. > α). This indicates that the residual data is normally distributed. Therefore, it can be concluded from both the graphical analysis and statistical test that the regression model is free from normality issues. In other words, the data has a normal distribution and meets the classical assumption test for normality.

Table 2.

Kolmogorov-Smirnov Test

|  |
| --- |
| **One-Sample Kolmogorov-Smirnov Test** |
|  | Unstandardized Residual |
| N | 48 |
| Normal Parametersa,b | Mean | 0.0000000 |
| Std. Deviation | 1.03725973 |
| Most Extreme Differences | Absolute | 0.082 |
| Positive | 0.082 |
| Negative | -0.057 |
| Test Statistic | 0.082 |
| Asymp. Sig. (2-tailed) | 0.200c,d |
|  |  |

*Multicollinearity Test*

The multicollinearity test aims to examine whether there is a correlation between the independent variables in the regression model. In this study, the multicollinearity test was conducted by observing the tolerance and Variance Inflation Factor (VIF) values. The criteria are as follows:

1. If the tolerance value is < 0.10 and the VIF value exceeds 10 (VIF > 10), there is a multicollinearity problem.
2. Conversely, if the tolerance value is ≥ 0.10 and the VIF value is ≤ 10, the regression model is free from multicollinearity issues.

This ensures that the independent variables are not highly correlated, maintaining the reliability of the regression model's outcomes.

Table 3.

Multicollinearity Test

|  |
| --- |
| **Coefficientsa** |
| Model | Collinearity Statistics |
| Tolerance | VIF |
| 1 | CAR (X1) | 0.794 | 1.259 |
| FDR (X2) | 0.902 | 1.109 |
| NPF (X3) | 0.885 | 1.130 |
| BOPO (X4) | 0.965 | 1.037 |
| a. Dependent Variable: ROA (Y) |

Based on table 3 above, the tolerance value of the CAR variable is 0.794, FDR is 0.902, NPF is 0.885, BOPO is 0.965, indicating that there are no independent variables that have a tolerance value of less than 0.10. While the calculation results of the VIF value of the CAR variable are 1.259, FDR is 1.109, NPF is = 1.130, BOPO is = 1.037, indicating that this is the same as the tolerance table, namely that there are no independent variables that have a VIF value of more than 10. So, it can be concluded that the regression model is stated to have no multicollinearity.

*Heteroscedasticity Test*

The Heteroscedasticity Test is used to test whether in a regression model there is inequality of variance from residuals from one observation to another observation remains, then it is called Homoscedasticity. And if the variance is difference it is called heteroscedasticity. This test is carried out using the Scatterplot graph. The following are the results of heteroscedasticity testing with a Scatterplot graph.



Figure 3. Scatterplot Graphic

From the scatterplot graph results above, can be seen that the points are spread randomly, and do not form a clear pattern. The points are spread well above but below the number 0 on the Y axis. This means that there is no heteroscedasticity symptom in this multiple regression model.

*Autocorrelation Test*

The Autocorrelation Test aims to test whether in the linear regression model there is a correlation between the disturbance error in period t and the disturbance error in period t-1 (previously). To find out whether the regression model detects the presence or absence of autocorrelation, one way is to Run Test (Ghozali, 2016). Below are the results of the autocorrelation test presented in the table below:

Table 4. Auto-correlacy Analysis Test

|  |
| --- |
| **Model Summaryb** |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | 0.938a | 0.880 | 0.868 | 0.03662 | 1.820 |
| a. Predictors: (Constant), CAR (X1), FDR (X2), NPF (3), BOPO (X4) |
| b. Dependent Variable: ROA (Y) |

From the table, the Durbin-Watson (DW) value is 1.820 and the DU value is 1.7206 and the 4-DU value is 2.2794 where it is said that there is no autocorrelation if the autocorrelation requirements are met, namely: DW value> DU and DW <4-DU with the results 1.820> 1.7206 and 1.820 <2.2794. So, it can be concluded from these values ​​that they have met the autocorrelation test requirements and with these values ​​there is no autocorrelation.

**Hypothesis Test Analysis**

After testing the analysis requirements with descriptive statistics and classical assumptions, the next step is to test the significance of the model and interpretation of the regression model, to see the effect of the independent variables on the dependent variables partially and simultaneously. Statistically, it can be measured by testing the coefficient of determination (R2), t-test and F-test (ANOVA).

*Simultaneous Statistical Test (F-Test)*

The F-statistical test is basically used to determine whether the independent (free) variables included in the regression equation model have a simultaneous (together) effect on the dependent (bound) variable. Or to determine whether the regression model can be used to predict the dependent variable or not. This test is carried out by comparing the calculated F value with the F table or looking at the probability value (prob.) From the table. If the probability value is <0.05, it can be concluded that the independent variables simultaneously affect the dependent variable. If the probability value is >0.05, it can be concluded that there are no independent variables that affect the dependent variable. The following are the results of the simultaneous hypothesis test using the F test:

Table 5.

F-Stat Analysis Test

|  |
| --- |
| **ANOVAa** |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 27.976 | 4 | 6.994 | 5.947 | 0.001b |
| Residual | 50.568 | 43 | 1.176 |  |  |
| Total | 78.543 | 47 |  |  |  |
| a. Dependent Variable: ROA (Y) |
| b. Predictors: (Constant), BOPO (X4), NPF (X3), FDR (X2), CAR (X1) |

Based on the output table above, it is known that the significance value for the influence of X1, X2, X3 and X4 simultaneously on Y is 0.001 <0.05 and the calculated F value is 5.947> F table 2.58. So, it can be concluded that the independent variables, namely Capital Adequacy (CAR), Liquidity (FDR), Non-Performing Financing (NPF), Operational Efficiency (BOPO) simultaneously (together) have a significant positive effect on the dependent variable, namely the profitability of Islamic Commercial Banks for the period 2019-2021 which is proxied by Return on Assets (ROA).

*Partial Statistical Test (T-Test)*

The t-statistical test aims to test the significance of two or more independent variables on the dependent variable partially. This t-test is carried out to separately measure the influence caused by each independent variable on the dependent variable tested at a significance level of α 0.05. If the probability is less than 0.05 then the result is that there is an influence of the independent variable partially on the dependent variable. Conversely, if the probability or is greater than 0.05 then the result is that there is no influence of the independent variable partially on the dependent variable.

Table 6.

T-Stat Analysis Test

|  |
| --- |
| **Coefficientsa** |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 26.768 | 16.263 |  | 1.646 | 0.107 |
| CAR (X1) | 0.076 | 0.029 | 0.366 | 2.665 | 0.011 |
| FDR (X2) | -0.061 | 0.027 | -0.295 | -2.289 | 0.027 |
| NPF (X3) | -0.167 | 0.137 | -0.159 | -1.220 | 0.229 |
| BOPO (X4) | -0.165 | 0.169 | -0.122 | -0.979 | 0.333 |
| a. Dependent Variable: ROA (Y) |

Based on table 6 above, with CAR, FDR, NPF, and BOPO variables, it can be concluded that:

1. The Capital Adequacy variable is proxied by the Capital Adequacy Ratio (CAR) with a significance value of 0.011 <0.05 with a calculated t value of 2.2665> t table 2.2794 so it can be concluded that CAR has a significant positive effect partially on the Profitability variable which is proxied by ROA.
2. The Liquidity variable is proxied by the Financing to Deposit Ratio (FDR) with a significance value of 0.027 <0.05 with a calculated t value of -2.289> t table 2.2794 so it can be concluded that FDR has a significant negative effect partially on the Profitability variable which is proxied by ROA.
3. The variable of Non-Performing Financing proxied by (NPF) is known to have a significance value of 0.229> 0.05 with a calculated t value of -1.220 <t table 2.2794 so it can be concluded that negative NPF does not have a partial significant effect on the variable of Profitability proxied by ROA.
4. The variable of Operational Efficiency proxied by Operating Expenses to Operating Income (BOPO) is known to have a significance value of 0.333> 0.05 with a calculated t value of -0.979 <t table 2.2794 so it can be concluded that negative BOPO does not have a partial significant effect on the variable of Profitability proxied by ROA.

**Test of Determination Coefficient (R2)**

The Determination Coefficient (R2) is used to measure the extent to which the regression model is able to explain the independent variable against the dependent variable. The higher the R2 value, the higher the ability of the independent variable to explain the variation of changes in its dependent variable. Conversely, a small R2 value means that the ability of the independent variables to explain the variation of the dependent variable is very limited.

To see the Determination Coefficient (R2), you can see the Model Summary table in the SPSS calculation for the research model. The number in the adjusted R square in the Model Summary table is to see how much the independent variable is able to explain the dependent variable being viewed.

Table 7.

Determinant Coefficient (R2) Analysis Test

|  |
| --- |
| **Model Summaryb** |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | 0.938a | 0.880 | 0.868 | 0.03662 | 1.820 |
| a. Predictors: (Constant), CAR (X1), FDR (X2), NPF (3), BOPO (X4) |
| b. Dependent Variable: ROA (Y) |

Based on the Output in table 4.7 above, the adjusted R Square value is 0.868, which means 86.8%. It can be concluded that the influence of the independent variables, namely Capital Adequacy (CAR), Liquidity (FDR), Non-Performing Financing (NPF), Operational Efficiency (BOPO) in explaining the dependent variable, namely the profitability of Islamic Commercial Banks for the period 2019-2021 which is proxied by Return on Assets (ROA) is 86.8%. While the remaining 13.6% (100% - 86.8%) is influenced by other variables outside the regression model in this study.

**Multiple Linear Regression Test Analysis**

Multiple linear regression is a regression model that involves more than one independent variable. Multiple linear regression analysis is conducted to determine the direction and extent of influence of the independent variable on the dependent variable.

Table 8.

Multiple Linear Regression Test Analysis

|  |
| --- |
| **Coefficientsa** |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 26.768 | 16.263 |  | 1.646 | 0.107 |
| CAR (X1) | 0.076 | 0.029 | 0.366 | 2.665 | 0.011 |
| FDR (X2) | -0.061 | 0.027 | -0.295 | -2.289 | 0.027 |
| NPF (X3) | -0.167 | 0.137 | -0.159 | -1.220 | 0.229 |
| BOPO (X4) | -0.165 | 0.169 | -0.122 | -0.979 | 0.333 |
| a. Dependent Variable: ROA (Y) |

Based on the output in table 4.8 above, the multiple linear regression equation can be described as follows:

Y= α + β1X1 + β2X2 + β3X3 + β4X4 + e

Y= 26.768 + 0.076X1 – 0.061X2 – 0.167X3 – 0.165X4 + e

From the multiple linear regression equation above, it can be explained as follows:

1. The constant value (a) has a positive value of 26.768. A positive sign means that it shows a unidirectional influence between the independent variable and the dependent variable. This shows that if all independent variables including CAR (X1), FDR (X2), NPF (X3), BOPO (X4) are 0 percent or do not change, then the tax aggressiveness value is 26.768.
2. The regression coefficient value for the CAR variable (X1) has a positive value of 0.076. This shows that if the Capital Adequacy Ratio (CAR) increases by 1%, tax aggressiveness will increase by 0.076 assuming that other independent variables are considered constant. A positive sign means that it shows a unidirectional influence between the independent variable and the dependent variable.
3. The regression coefficient value for the FDR variable (X2) has a value of -0.061. This value shows a negative influence (opposite direction) between the CAR variable and tax aggressiveness. This means that if the CAR variable increases by 1%, then conversely the tax aggressiveness variable will decrease by 0.061 assuming that other variables are considered constant.
4. The regression coefficient value for the NPF variable (X3) has a value of -0.167. This value shows a negative influence (opposite direction) between the NPF variable and tax aggressiveness. This means that if the NPF variable increases by 1%, then conversely the tax aggressiveness variable will decrease by 0.617 assuming that other variables are considered constant.

The regression coefficient value for the BOPO variable (X3) has a value of -0.165. The value shows a negative influence (opposite direction) between the BOPO variable and tax aggressiveness. This means that if the BOPO variable increases by 1%, then conversely the tax aggressiveness variable will decrease by 0.615 assuming that other variables are considered constant.

1. **DISCUSSION**

***Analysis of Simultaneous Hypothesis Testing Results (F Test) The Effect of Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), Non-Performing Loans (NPF) and Efficiency (BOPO) on Return on Assets (ROA)***

The results of the F count study are greater than the F table with a calculated F value of 5.947> F table 2.58 and the F test calculation with a significance value of 0.001 <0.05. This shows that simultaneously or together the independent variables in this study, namely the Capital Adequacy Ratio, Liquidity, Non-Performing Loans and efficiency have a positive effect on the dependent variable, namely profitability (ROA). This is supported by previous research conducted by (Muarif et al., 2021). Where the independent variables in their study, namely liquidity (FDR), capital adequacy (CAR) and non-performing loans (NPF) have a simultaneous effect on the profitability of Islamic banks in Indonesia.

The company's ability to fulfill routine processes and structures that support asset management and utilization can support the financial performance of Islamic banks. However, if the company structure, system, procedures, regulations, and database are not good, it will result in asset management, resulting in an increase in operational costs which actually results in a decrease in Return on Assets (ROA) which affects financial performance. Then this is supported by previous research conducted by Noviani (2019). Where the independent variables in the previous study were the Influence of Liquidity, Efficiency and Quality of productive assets while the dependent variable was the profitability of Islamic Banks.

Based on the results of the F statistical test simultaneously or together, Financing to Deposit Ratio (FDR), Operating Costs to Operating Income (BOPO), and Productive Asset Quality (KAP) have a positive and significant effect on profitability as measured by Return on Assets (ROA). It can be concluded that simultaneously the Influence of the Capital Adequacy Ratio, Liquidity, Problem Financing, and Efficiency has a positive and significant effect on the Profitability Ratio (ROA) which has also been carried out by previous researchers.

***Analysis of Partial Hypothesis Testing Results (T-Test)***

1. Effect of Capital Adequacy Ratio on Profitability

The capital adequacy variable has a significance value of 0.01 <0.05. This indicates that the second hypothesis (H1) is accepted so that it can be concluded that the capital adequacy variable has a positive and significant effect on profitability (ROA). These findings support the research results of Muarif et al., (2021), where the test results stated that capital adequacy has a positive and significant effect on ROA. And supports the results of research conducted by Damayanti (2019), which states that Capital Adequacy has a positive effect on ROA. As a financial institution, funds are the main problem for every bank. Without sufficient funds, the bank cannot do anything or in other words the bank does not function properly.

Capital is the main source that a company must have in carrying out its performance, if capital funds increase, the performance of the bank will also improve. The existing funds will be allocated by the bank in various forms including to increase the company's profitability, because the adequacy of the capital can be used for activities that can increase the profit of Islamic banks, so that the bank's assets are sufficient and the company's financial performance increases. The results of this study are in accordance with the theory that states that capital adequacy will cause the Profitability value to increase. This is because the increasing capital used, the bank will be encouraged to increase the bank's profitability because the capital is used to meet the bank's needs, so that the money can be used to increase the company's profitability. This means that if the Capital is used for the benefit of the company and is managed to generate profit, it will cause an increase in the company's profitability and will cover the risks that may arise from the assets owned.

1. The Effect of Financing to Deposit Ratio on Return on Assets

The results of the study found that FDR on ROA obtained a significance value of 0.027 <0.05, which means that liquidity has a significant negative effect on profitability as shown in Table 8 this indicates that every increase in the level of liquidity will decrease the level of profitability (ROA), in Islamic Commercial Banks although not significantly. Thus, the results of the first hypothesis test H1 using the t-test successfully proved that liquidity (FDR) has a negative effect on Profitability (ROA) in Islamic Commercial Banks.

The results of this study are in line with Toh (2019), where the test results stated that liquidity has no effect and is not significant on ROA. If liquidity in Islamic Commercial Banks increases, the profitability (ROA) collected will decrease. High liquidity will cause the company's assets to decrease because they are used to meet short-term obligations to third parties, so that increasing liquidity can also result in a decrease in the bank's financial performance and can increase the bank's risk of bankruptcy. So, it is important for BUS to maintain a low level of liquidity in accordance with Bank Indonesia regulations so that Islamic Commercial Banks can maintain relatively high DPK growth. Of course, in order to develop

1. The Effect of Non-Performing Financing on Return on Assets

The non-performing financing (NPF) variable has a significance value of 0.001 <0.05. This indicates that the third hypothesis (H3) is accepted so that it can be concluded that non-performing financing has a significant negative effect on profitability. The results of the study are in accordance with the research of Muarif et al., (2021), where the test results stated that NPF has a significant negative effect on Profitability (ROA).

In line with the results of Wibowo and Syaichu (2013) which stated that NPF has a significant negative effect on profitability (ROA). If non-performing financing (NPF) in Islamic Banks increases, the Profitability value will decrease. The high non-performing financing (NPF) will cause depositors who previously deposited their funds in Islamic banks to withdraw their funds because they are worried that their funds cannot be returned by the Islamic bank due to the occurrence of non-performing financing. Problematic financing occurs because banks are too easy to provide financing or make investments because they are too required to utilize excess liquidity, so that the assessment or financing process is less careful in anticipating various possible business risks that are financed. So, it is important for Islamic Banks in Indonesia to maintain their level of problematic financing at a low level in accordance with Bank Indonesia regulations so that Islamic Commercial Banks can maintain relatively high Profitability growth. Of course, in order to develop Islamic Banks in Indonesia itself so that they are able to achieve a larger market share in the future.

1. The Effect of Operating Expenses and Operating Income on Return on Assets

The ratio of Operating Expenses to Operating Income (BOPO) to Return on Assets (ROA) which has a negative and insignificant effect with a value of 0.333> 0.05. This means that the lower the BOPO ratio, the higher the bank's profitability value. In bank operational activities, in principle, income must be greater than the costs incurred. Bank operating income comes from income from fund distribution, and income from other operating activities.

Moreover, bank management is required to maintain, suppress, and always control the difference between any costs incurred and the income collected in order to create good efficiency. In addition, it is also important to increase the Current Account Saving Account (CASA) so that the cost of funds of Islamic banks can be lower, thereby reducing the BOPO ratio. Because Islamic banks in Indonesia still have a BOPO value that is at a relatively high value ranging from 90-100%. If the operational activities carried out by the bank are efficient, the profit obtained by the bank will be higher. For investors, the BOPO ratio is also an investment strategy, because the more efficient its operational activities are, the greater the bank's income will benefit investors. For company management, the BOPO ratio level must always be considered so that the bank is always at a safe or efficient level so that it can generate maximum profit, so that the bank's performance always increases.

**Dominant Variables**

This study was conducted to determine which independent variables are more dominant to the dependent variables, namely the Capital Adequacy Ratio (CAR), Liquidity (FDR), Non-Performing Loans (NPF) and Efficiency (BOPO) on the profitability (ROA) of Islamic Banking in Indonesia. Based on the results of the study, the independent variable that has the most dominant influence on the dependent variable is the CAR variable, this is evidenced by the calculated t value of 2.665 which is greater than the calculated t value of FDR of -2.289, greater than the calculated T value of NPF of -1.220 and also greater than the calculated t value of BOPO of -0.979. This means that if the capital owned is large, it will be able to increase the amount of sales so that the resulting profit can increase and profitability also increases. The higher the CAR, the better the bank's ability to bear the risk of each credit or risky productive asset. If the CAR value is more dominant, the bank is able to finance operational activities and make a significant contribution to profitability. Banks that have high capital will achieve high profits because the bank is more careful in choosing financing sources so that the bank's profitability will increase.

1. **CONCLUSION**

Based on the results of the analysis and discussion that have been carried out in the previous chapter, the results of the research that has been carried out and obtained the following conclusions:

1. Simultaneously, the Capital Adequacy Ratio (CAR), Liquidity Ratio (FDR), Non-Performing Financing Ratio (BOPO) and Efficiency Ratio have a positive and significant effect on profitability as measured by Return on Asset (ROA) in Islamic Banking in Indonesia with the period 2019-2021.
2. Partially, the Capital Adequacy Ratio (CAR) has a positive and significant effect on profitability as measured by Return on Asset (ROA) in Islamic Banking in Indonesia with the period 2019-2021.
3. Partially, the Liquidity Ratio (FDR) has a negative and significant effect on profitability as measured by Return on Asset (ROA) in Islamic Banking in Indonesia with the period 2019-2021.
4. Partially, the Non-Performing Financing Ratio (NPF) has a negative and significant effect on profitability as measured by Return on Asset (ROA) in Islamic Banking in Indonesia for the period 2019-2021.
5. Partially, the Efficiency Ratio (BOPO) has a negative and insignificant effect on profitability as measured by Return on Asset (ROA) in Islamic Banking in Indonesia for the period 2019-2021.
6. Of the four independent variables of Capital Adequacy, Liquidity, Non-Performing Financing and Efficiency, the most dominant one on profitability as measured by Return on Asset is the Capital Adequacy Ratio with the highest T-value.

Some suggestions that would like to be conveyed based on the research that has been conducted is for the banking industry, it is expected to continue to maintain and evaluate financial performance by paying attention to ratios so that the health of bank performance remains in good condition. For further research, it is expected to be able to develop this research again by adding other variables that can affect the performance of Islamic commercial banks. In addition, it is expected to be able to choose other research objects such as BPRS. And extend the research period to strengthen the research results.

1. **REFERENCES**
2. Almer, A. A., & Hidayah, N. (2023). *The Effect of FDR, ROE, ROA, and NPF on Profitability in Indonesian Sharia Commercial Banks*. *1*(1).
3. Awwad, B. A. (2023). Capital Adequacy and Profitability Indicators: An Empirical Study on Palestinian Banks. *Ustainable Finance, Digitalization and the Role of Technology*, *487*. https://doi.org/10.1007/978-3-031-08084-5\_12
4. Damayanti, R. P. (2019). *Pengaruh Kecukupan Modal, Likuiditas, Dan Efisiensi Operasional Terhadap Profitabilitas (Studi Pada Bank Umum Syariah Yang Terdaftar Di Otoritas Jasa Keuangan Periode 2013-2017)*. Universitas Brawijaya.
5. Dina Sentika, Eko Sujadi, & Elex Sramigi. (2024). Analysis of the Impact of BOPO, FDR, NOM and NPF on ROA of Indonesian Sharia Commercial Banks Registered with the OJK. *El-Mal: Jurnal Kajian Ekonomi & Bisnis Islam*, *5*(4), 3230–3249. https://doi.org/10.47467/elmal.v5i4.1915
6. Hasan, Z. (2021). The Effect Of Car, Roa, Npf And Bopo On Net Operating Margin (Nom) In Indonesian Shariah Banking. *IHTIFAZ: Islamic Economics, Finance, and Banking*.
7. Mardiyah, A. (2015). *Analisis faktor-faktor yang mempengaruhi likuiditas bank umum syariah di Indonesia periode 2012-2014.* [Thesis]. Universitas Islam Negeri Sunan Kalijaga.
8. Muarif, H., Ibrahim, A., & Amri, A. (2021). Likuiditas, Kecukupan Modal, Pembiayaan Bermasalah dan Pengaruhnya Terhadap Profitabilitas Bank Umum Syariah di Indonesia Periode 2016-2018. *Jihbiz: Global Journal of Islamic Banking and Finance*, *3*(1), 36–55.
9. Ningsih, S., & Dewi, M. W. (2020). Analisis Pengaruh Rasio NPL, BOPO Dan CAR Terhadap Kinerja Keuangan Pada Bank Umum Konvensional Yang Terdaftar Di BEI. *Jurnal Akuntansi Dan Pajak*, *21*(1), 71–78.
10. Noviani, N. (2019). *Analisis Pengaruh Rasio Likuiditas, Rasio Efisiensi, dan Rasio Kualitas Asset terhadap Profitabilitas (Studi pada Bank Umum Syariah di Indonesia Periode 2013-2017)* [Doctoral Thesis]. STIE Indonesia Banking School.
11. Nurdiani, T. W., Ruki Ambar Arum, Rahmat Putra Ahmad Hasibuan, Eddy Silamat, & Samuel Pd Anantadjaya. (2023). The Effect of Return, Cost, Financing Factors and Risk on Profitability of Sharia Banks in Indonesia. *JEMSI (Jurnal Ekonomi, Manajemen, Dan Akuntansi)*, *9*(2), 266–275. https://doi.org/10.35870/jemsi.v9i2.941
12. Prasetyoningtias, M., & Rahma, A. M. (2023). *The Effect Of Non-Performing Finance (NPF) and Operating Expenses Operating Income On Return On Assets (ROA) At Sharia Commercial Banks Listed On The IDX For The Period 2011-2020*.
13. Sari, E. O., Hadiani, F., & Hazma, H. (2022). The Influence of ROA, BOPO, CAR, and FDR on Non-Performing Financing in Full-Fledged Islamic Banks. *Indonesian Journal of Economics and Management*, *3*(1), 114–121. https://doi.org/10.35313/ijem.v3i1.4678
14. Sipayung, P. R. J. B., & Hulu, N. A. (2022). Analisis Faktor-Faktor Yang Mempengaruhi Return On Investment (ROI) Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia Periode 2018-2020. *Owner: Riset Dan Jurnal Akuntansi*, *6*(2), 2800–2813.
15. Toh, M. Y. (2019). Effects of bank capital on liquidity creation and business diversification: Evidence from Malaysia. *Journal of Asian Economics*, *61*, 1–19. https://doi.org/10.1016/j.asieco.2018.12.001
16. Wibowo, E. S., & Syaichu, M. (2013). *Analisis pengaruh suku bunga, inflasi, CAR, BOPO, NPF terhadap profitabilitas bank syariah (Studi kasus pada bank mega syariah, bank muamalat dan bank syariah mandiri periode tahun 2008-2011)* [Doctoral Thesis].