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PROFITABILITY OF ISLAMIC COMMERCIAL BANKS : A STUDY OF INTERNAL AND MACROECONOMIC FACTORS

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Abstract :

This study analyzed the impact of internal and external factors on the profitability of Islamic commercial banks in Indonesia, measured by ROA. Using quarterly financial data from 2019 to 2024, with 224 valid observations, the analysis focused on CAR, FDR, NPF, BOPO, bank size, GDP, and inflation. The findings show that internal factors significantly influence profitability, with NPF and BOPO negatively affecting ROA, while larger bank size correlates with lower profitability due to higher operational costs. External factors like GDP and inflation had no significant impact on ROA. F-test and R^2 results confirm the model's statistical significance and explanatory power. The study highlights the importance of internal management strategies, recommending improvements in asset quality and operational efficiency to boost financial performance.

Keywords : *Islamic bank; non-performing financing; operational efficiency; profitability, Macroeconomi.*

INTRODUCTION

Recent years have seen considerable growth within Indonesia Islamic financial institutions. According to Figure 1, Islamic commercial banks demonstrated a continuous rise in total assets, financing services, and third-party fund collection over the period spanning 2019 to 2023. In 2023, Sharia-compliant banks managed total assets valued at IDR 594.7 trillion, representing an increase of IDR 244.3 trillion from the 2019 amount. Likewise, the volume of financing distributed expanded by IDR 143.2 trillion, and third-party deposits saw an increase of IDR 176.9 trillion. This consistent upward trend in the Islamic finance sector signifies substantial development and necessitates deeper analysis to pinpoint the primary factors driving this ongoing advancement. Despite the growth of Islamic banking, its financial performance remains a key issue. Profitability is a primary metric for assessing a bank health and is typically gauged by the Return on Assets (ROA) ratio (Jadah et al., 2020). A higher ROA indicates effective operations, while a lower one might signal challenges in generating adequate profit. (Rustam, 2024), highlighted that

financial indicators such as ROA are vital for evaluating a bank management effectiveness and overall financial state.

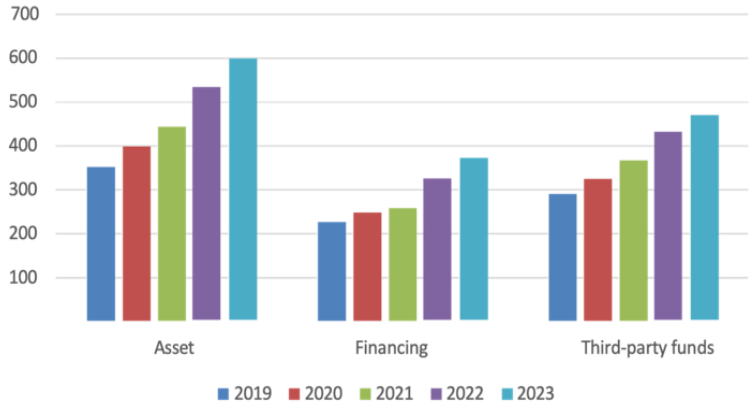

Figure 1 Value Growth of Assets, Financing, and Third-Party Funds of Islamic Commercial Banks in Indonesia
Source : (Financial Services Authority/OJK, 2025)

Factors affecting the financial performance of Islamic banking generally fall into two main categories: internal factors and external conditions. Internal factors include elements such as capital adequacy, liquidity risk exposure, credit quality, operational efficiency, and the size of the banking institution (Sidik, 2018). Capital adequacy ratio (CAR) is crucial for evaluating how well a bank can cover its risks and absorb losses, with studies like Sitompul & Nasution (2019) highlighting a positive relationship between CAR and profitability. Liquidity risk exposure reflects the bank's ability to meet its short-term obligations, with effective liquidity management improving profitability. Credit quality, particularly the level of non-performing financing (NPF), directly affects profitability, with higher NPF signaling greater risks and lower profits (Ishak & Pakaya, 2022). Operational efficiency measured by the Operating Expense to Operating Income Ratio (BOPO) ratio plays a significant role, as Sitompul & Nasution (2019) argue that a lower BOPO ratio indicates better cost management, contributing to higher profitability. Institutional size is another internal factor, with larger banks benefiting from economies of scale, as Damayanti & Mawardi (2022) suggest, allowing them to generate higher returns. External conditions include broader economic indicators such as Gross Domestic Product (GDP) and inflation rate (Asysidiq & Sudiyatno, 2022). GDP growth is positively correlated with bank profitability, as Dodi (2020) notes that increasing GDP leads to higher public income and savings, boosting bank financing and profitability. The inflation rate, while generally having a negative impact on profitability, affects banks differently depending on their operational model.

Numerous studies have analyzed these components, but their influence on the profitability of Sharia-compliant banks has yielded varied conclusions. For example, research by Sholika & Zaki (2024) and Sidik (2018) showed conflicting results regarding the effect of CAR on ROA. Similarly, earlier studies

exploring the link between Financing Deposit Ratios (FDR) and non-performing financing levels in relation to profitability have also yielded inconsistent findings (Rustam, 2024). This ongoing disagreement in academic research highlights a significant gap and strengthens the need for a thorough study that assesses the combined impact of internal and macroeconomic variables on the financial success of Islamic commercial banks in Indonesia (Cahyani, 2018).

To explore the relationships between the identified internal and external variables and ROA, which represents profitability, the study will employ regression analysis. The gathered data will undergo statistical analysis to rigorously test the formulated hypotheses and quantify each factor impact on profitability variations among Islamic banking institutions.

According to Indonesia Law Number 21 of 2008 concerning Sharia Banking, an Islamic bank is defined as a financial institution that carries out its operations following Sharia regulations. These regulations govern all banking procedures and are implemented based on official religious rulings (fatwas) issued by the National Sharia Board. The key differentiation between Islamic banks and traditional banking systems rests on their application of a profit-sharing financing model and their commitment to avoiding elements such as interest (riba), excessive ambiguity (gharar), and gambling (maysir).

Bank Profitability

Profitability stands as a fundamental metric, used to assess how effectively a banking institution generates income from the assets it manages. As (Andrianto & Firmansyah, 2019) state, profitability reflects a bank efficiency in using its available resources to achieve financial returns. Among the most common indicators for measuring profitability in the banking industry is ROA. This metric evaluates a bank ability to produce revenue through the effective use of its entire asset base. According to (Sudana, 2009) ROA serves as a measurement tool that shows how efficiently a bank applies its assets to yield profits, with higher ROA values indicating better asset management performance. This metric demonstrates how successfully a bank transforms its total assets into net income and is determined using the following formula:

$$ROA = \frac{\text{Pre} - \text{tax Profit}}{\text{Total Assets}} x\ 100\%$$

Capital Adequacy Ratio (CAR)

The Capital Adequacy Ratio (CAR) measures the capital strength of a bank in managing potential risks, particularly those related to lending operations. As (Rivai & Arifin, 2010), explained, CAR is determined by comparing a bank capital to its risk-weighted assets, which helps assess the institution ability to absorb potential financial losses. (Fang et al., 2022) emphasize that a high capital adequacy ratio gives banks greater flexibility to expand operations and boosts their capacity to withstand risks that may arise during financial activities. This ratio is calculated using a specific formula designed to evaluate capital adequacy in addressing the risks a bank faces:

$$CAR = \frac{Capital}{\text{Risk Weighted Asset}} x\ 100\%$$

Based on the literature, it is hypothesized that the Capital Adequacy Ratio (CAR) significantly and positively impacts the ROA of Islamic commercial banks in Indonesia. As Mainata & Ardiani (2017) assert, a higher CAR enhances a bank's ability to absorb risks from productive assets, such as loans and investments, leading to increased profitability. Similarly, Sitompul & Nasution (2019) found that a higher CAR is positively correlated with ROA, as it allows banks to optimize capital usage, improve business efficiency, and engage in more profitable ventures without compromising financial stability. However, Sholika & Zaki (2024) caution that an excessively high CAR may lead to overly cautious credit policies, potentially reducing revenues and ROA. Nurkholifah (2022) emphasize that while a high CAR promotes stability, effective management of credit distribution is essential to prevent limiting income-generating opportunities and to ensure optimal profitability while maintaining a strong capital foundation.

H1: CAR has a significant and positive impact on ROA of Islamic commercial banks in Indonesia.

Financing to Deposit Ratio (FDR)

Serving as a financial indicator, the Financing to Deposit Ratio (FDR) assesses the amount of financing a bank extends relative to the total third-party funds it has gathered. (Sudana, 2009) explains that FDR represents the institution liquidity, particularly its capacity to fulfill short-term commitments by directing accumulated funds into external financing. This ratio illustrates the extent to which the institution utilizes available funds for financing purposes. A greater FDR value indicates a higher level of fund allocation by the bank. FDR calculation relies on a specific formula aimed at evaluating the institution effectiveness in channeling its collected funds toward customer financing:

$$FDR = \frac{Financing}{\text{Third} - \text{Party Funds}} x\ 100\%$$

Sitompul & Nasution (2019) emphasize that FDR is a crucial liquidity ratio that measures a bank's capacity to channel financing to customers. As FDR increases, the bank allocates a higher proportion of third-party funds toward financing, which typically correlates with higher profitability. However, Ibrahim (2021) suggests that an excessively high FDR can be risky if the bank fails to manage the quality of financing effectively, as high levels of Non-Performing Financing (NPF) may reduce profitability. Therefore, while FDR plays a significant role in enhancing ROA, it is crucial for banks to balance efficient financing with proper risk management to ensure sustained profitability.

H2: FDR has a significant and positive impact on ROA of Islamic commercial banks in Indonesia.

Non-Performing Financing (NPF)

Used to gauge problematic financing within a banking institution, the Non-Performing Financing (NPF) ratio considers any financing unsettled for

over 90 days as non-performing. (Rustam, 2024) explains that NPF acts as an important measure for a bank financial health. An elevated NPF value indicates increased risk exposure, potentially impairing the institution capacity to produce income. A substantial amount of non-performing financing is generally associated with a decline in profitability, as the institution needs to set aside funds for anticipated losses, thereby diminishing overall financial results. This ratio is calculated via a specific formula that assesses the proportion of problematic financing relative to the institution total financing:

$$NPF = \frac{\text{Non-Performing Financing}}{\text{Total Financing}} \times 100\%$$

Ishak & Pakaya (2022) highlight that high NPF levels indicate greater credit risk, which negatively impacts profitability due to increased operational costs and the need to allocate higher credit loss provisions. This is supported by Suseno & Bamahriz (2017), who found that a higher NPF negatively affects Return on Assets (ROA) as it leads to a larger share of non-collectible financing, reducing bank revenue and increasing costs for managing non-performing loans. Further supporting this, Caesar & Isbanah (2020) confirms that high NPF forces banks to increase their credit loss provisions, leading to a reduction in capital and diminished capacity to generate profits.

H3: NPF has a significant negative impact on ROA of Islamic commercial banks in Indonesia.

Operating Expense to Operating Income Ratio (BOPO)

The Operating Expense to Operating Income Ratio (BOPO) is a key measure of operational efficiency, reflecting how well a bank manages operational costs relative to the revenue generated from core activities. A lower BOPO ratio indicates better efficiency, as it shows the ability to generate income while minimizing operational expenses. Sitompul & Nasution (2019) explain that a higher BOPO ratio negatively affects Return on Assets (ROA), implying that increased costs reduce profitability.. The BOPO ratio is calculated using the formula:

$$BOPO = \frac{\text{Operating Expense}}{\text{Operating Income}} x100\%$$

However, Natanael & Mayangsari (2022)argue that the impact of BOPO on ROA is not always significant when considered alone, as factors like financing quality and risk management practices also play a critical role. Subari & Sudarsi (2024)support this, suggesting that a comprehensive understanding of profitability requires considering additional variables such as asset quality and financial management strategies.

H4: BOPO has a significant and negative impact on ROA of Islamic commercial banks in Indonesia.

Bank Size

Bank size, typically measured by total assets, plays a significant role in determining profitability. Larger banks generally benefit from economies of scale, better cost efficiency, and broader access to capital markets, which contribute to higher profitability. (Beccalli et al., 2015) noted that bigger banks have lower funding costs and can capitalize on operational efficiencies, thus generating higher revenues. Anatasya & Susilowati (2021)found a positive correlation between bank size and Return on Assets (ROA), as larger banks can improve operational efficiency and secure cheaper funding. Damayanti & Mawardi (2022) also emphasized that larger banks have better access to capital markets, enabling them to generate higher profits.

However, Putri et al. (2022) found that larger size does not always lead to higher profitability, with factors like management quality and risk management playing a more significant role in determining ROA. For this study, total assets are used as a measure of size, and the natural logarithm (Ln) is applied to reflect the economies of scale associated with asset expansion:

$$\text{Size} = \text{Ln}(\text{Aset})$$

H5: The bank Size variable has a significant positive or negative effect on the ROA of Islamic commercial banks in Indonesia.

Gross Domestic Product (GDP)

Gross Domestic Product (GDP) is a fundamental measure used to assess the total production of goods and services within a country over a designated period. As (Riduan et al., 2023). Research by (Sinha & Sharma, 2016) suggests that a growing GDP is often linked to improved bank profitability because it contributes to a lower chance of financing becoming non-performing. The measurement of GDP growth generally uses a specific formula that captures the annual change in a country economic output :

$$\text{GDP}Growth = \frac{GDP_t - GDP_{t-1}}{GDP_{t-1}} x100\%$$

Research shows that GDP growth is positively correlated with bank profitability, as higher public income leads to increased savings, which banks can use for financing. Dodi (2020) found that GDP growth positively affects the ROA of Islamic commercial banks, enabling them to offer more profitable financing. However, Cahyani (2018) noted that GDP growth did not significantly impact the ROA of micro and rural banks (BPR Syariah), suggesting that other factors like inflation and monetary policy also play important roles in influencing profitability.

H6: GDP has a significant positive impact on ROA of Islamic commercial banks in Indonesia.

Inflation

Inflation represents an economic condition that affects money actual purchasing power and people ability to purchase goods and services. (Yuniarti, 2016) explained that an increase in inflation tends to lessen consumer spending capacity and impede overall economic performance. For Islamic financial

institutions, inflation effect on income is generally less severe than for conventional banks, mainly because Sharia-based operations do not rely on interest-based transactions. Despite this, high inflation can still create risks to economic stability and potentially negatively influence bank financial outcomes. Inflation is commonly measured as the percentage change in the general price level over a certain period and is calculated using a standard formula to capture this rate of fluctuation :

$$\text{Inflation} = \frac{Price_t - Price_{t-1}}{Price_{t-1}} x100\%$$

Quan et al. (2019) found that inflation significantly impacts the profitability of Islamic banks, as rising inflation increases the cost of goods and services, reducing consumer purchasing power and potentially lowering savings channeled to banks. Alim (2014) observed that inflation positively affects the ROA of Islamic banks in Indonesia, although the effect is less pronounced due to the absence of interest-based income. However, Cahyani (2018) noted that the impact of inflation on ROA varies by bank type, as it did not significantly affect the ROA of micro and rural Islamic banks (BPR Syariah).
H7: The Inflation variable has a significant negative effect on the ROA of Islamic commercial banks in Indonesia.

RESEARCH METHOD

The analytical framework for this research is panel data regression. This research uses secondary data derived from the annual financial reports of Islamic commercial banks, officially recorded by the Financial Services Authority (OJK) covering the period from 2019 to 2024. These data sets include financial records from individual banks and macroeconomic variables like Gross Domestic Product (GDP) and inflation rates, collected from Bank Indonesia (Bank Indonesia, 2016). This research focuses on Islamic commercial banks operating in Indonesia that are officially registered with the OJK and provide complete annual financial reports. Profitability, the dependent variable, is evaluated using the Return on Assets (ROA) indicator. The independent variables are split into two categories: internal and external factors. Internal variables include the Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), Non-Performing Financing (NPF), Operational Efficiency Ratio (BOPO), and bank size. External variables cover Gross Domestic Product (GDP) and the inflation rate. The study concentrates on the period from 2019 to 2024, with the sample consisting of Islamic commercial banks that have a minimum total asset value of IDR 15 trillion and are under OJK supervision.

The data in this study will be analyzed using SPSS version 27. This software is utilized for various analyses, including descriptive statistics, classical assumption tests, ANOVA, as well as regression analysis and MRA. The t-test will be used to evaluate the individual (partial) effect of each independent variable, whereas the F-test will be employed to assess the combined (simultaneous) influence of all independent variables on the dependent variable. The regression model applied in this study is outlined as

follows:

$$ROA_{it} = \alpha_1 + \beta_1 CAR_{it} + \beta_2 FDR_{it} + \beta_3 NPF_{it} + \beta_4 BOPO_{it} + \beta_5 SIZE_{it} + \beta_6 GDP_{it} + \beta_7 INFLATION_{it} + e_{it}$$

Where:

ROA	= Return on Assets
α	= Constant
β1–β7	= Regression Coefficients
Inflation	= Inflation Rate
e	= Error Term

The t-test will be used to evaluate the individual (partial) effect of each independent variable, whereas the F-test will be employed to assess the combined (simultaneous) influence of all independent variables on the dependent variable.

FINDINGS AND DISCUSSION

Descriptive Analysis

This study examined the influence of internal and external factors on the profitability of Islamic commercial banks in Indonesia, as measured by Return on Assets (ROA). The research used quarterly financial report data from Islamic commercial banks over the period 2019 to 2024 in Indonesia, resulting in a total of 224 valid observations. The analysis focused on variables such as Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), Non-Performing Financing (NPF), Operating Expense to Operating Income Ratio (BOPO), Bank Size, Gross Domestic Product (GDP), and Inflation.

Table 1 shows the results of descriptive statistics for each variable, including the number of observations (N), along with the minimum, maximum, mean, and standard deviation values. The mean Return on Assets (ROA) across the observed banks is 1.92 percent, accompanied by a standard deviation of 2.71 percent. The lowest ROA recorded stands at 0.01 percent, while the highest reaches 13.58 percent, indicating a considerable range in profitability levels among these institutions. The Capital Adequacy Ratio (CAR) shows an average of 29.08 and a standard deviation of 16.44. CAR values fluctuate from a minimum of 12.01 to a maximum of 149.68, suggesting significant differences in capital strength across the banks. The Financing to Deposit Ratio (FDR) averages 83.43 percent, with a standard deviation of 19.28 percent. FDR values range from 39.27 percent to 196.73 percent, reflecting variation in how each institution channels financing relative to its received deposits.

Table 1 Descriptive Statistics Results

Var	Min	Max	Mean	Std. Dev

ROA	0.01	13.58	1.91	2.706
CAR	12.01	149.68	29.07	16.44
FDR	39.27	196.73	83.43	19.27
NPF	0.00	4.98	1.459	1.479
BOPO	54.85	99.96	84.92	11.36
Size	14.12	19.73	16.57	1.12
GDP	-5.93	8.64	1.803	3.06
Inflation	1.33	5.95	2.872	1.30

The Non-Performing Financing (NPF) ratio averages 1.46 percent, with a standard deviation of 1.48 percent. Values range from 0.00 percent to 4.98 percent, indicating differing levels of financing quality among the institutions. The Operational Efficiency Ratio (BOPO) has an average of 84.93 percent and a standard deviation of 11.36 percent, with recorded lowest and highest values at 54.85 percent and 99.96 percent, respectively. These figures highlight variations in operational cost efficiency. Bank Size, measured using the natural logarithm of total assets, shows an average of 16.57 and a standard deviation of 1.13, suggesting relatively narrow differences in institutional scale within the sample. The average growth rate of Gross Domestic Product (GDP) is 1.80 percent, with a standard deviation of 3.06 percent. Its values fluctuate between -5.93 percent and 8.64 percent, indicating economic variability over the observed years. In comparison, the inflation rate averages 2.87 percent, with a standard deviation of 1.31 percent. The inflation figures range from 1.33 percent to 5.95 percent, capturing changes in overall price levels during the study period.

Classical Assumption Test

To assess whether the residuals followed a normal distribution, statistical methods including the Kolmogorov-Smirnov (K-S) test and a Monte Carlo simulation with the Lilliefors correction were employed. The K-S test yielded an Asymptotic Significance (Asymp. Sig.) value of 0.200, exceeding the typical significance threshold of 0.05, indicating that the residuals are normally distributed. Additionally, the Monte Carlo simulation produced a significance value of 0.234, reinforcing the conclusion that the normality assumption was satisfied.

Following the normality assessment, multicollinearity was examined. All independent variables in the model have Tolerance values greater than 0.1. The lowest Tolerance value, associated with Non-Performing Financing (NPF), is 0.421, suggesting no strong linear relationships among the variables and a low risk of multicollinearity. The Variance Inflation Factor (VIF) values range from 1.016 to 2.474, with NPF showing the highest value. As all VIF scores fall well below the accepted threshold of 10, multicollinearity is not considered an issue in this regression analysis.

To evaluate autocorrelation, the Durbin-Watson statistic was applied, yielding a value of 2.071. This result lies between the lower bound of 1.8376 and the upper bound of 2.1624, confirming the absence of significant autocorrelation

in the residuals.

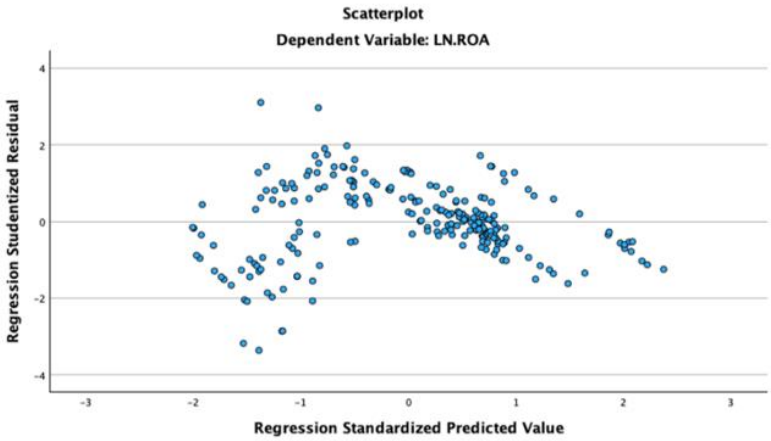

Figure 4 Scatterplot Heteroscedasticity Test

The scatterplot in Figure 4 shows standardized residuals plotted against the predicted values of the dependent variable (ROA). The random distribution without visible patterns suggests that no heteroscedasticity is present. Therefore, the homoscedasticity assumption holds, indicating consistent variance of residuals across all levels of predicted values.

Multiple Regression Analysis, F Test, and Determination Test

Table 2 shows the regression coefficients, indicating that Non-Performing Financing (NPF) and Operational Efficiency Ratio (BOPO) have statistically significant negative impacts on Return on Assets (ROA). Conversely, variables like Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), Gross Domestic Product (GDP), and inflation do not significantly influence profitability at the 0.05 significance level. Specifically, NPF is strongly linked to a negative coefficient of -0.418 ($p < 0.001$). Similarly, BOPO clearly shows a negative association with ROA, with a coefficient of -0.110 ($p < 0.001$). In contrast, the p-values for CAR, FDR, and GDP are above the 0.05 threshold, meaning these factors do not have a statistically meaningful effect on ROA in this model. The regression equation from the model is as follows :

$$ROA = 15.467 - 0.008 \times CAR - 0.002 \times FDR - 0.334 \times NPF - 0.107 \times BOPO$$

$$- 0.249 \times Size + 0.003 \times GDP - 0.052 \times Inflation$$

Table 2 Multiple Regression Analysis Results

Var	Coeff (B)	Std Error	t-Val	Sig.
CAR	-0.015	-0.143	-4.472	<0.001
FDR	0.002	0.022	0.757	0.450
NPF	-0.418	-0.369	-9.388	<0.001
BOPO	-0.110	-0.745	-19.997	<0.001

Size	-0.329	-0.221	-7.073	<0.001
GDP	0.011	0.020	0.751	0.453
Inflation	-0.038	-0.030	-1.128	0.260
F-stats	188.355	**R2**	0.857	
Sig. F	< 0.001	**Adj. R2**	0.852	

The F-statistic value of 188.355 with a significance level below 0.001 confirms that the model is statistically significant, meaning that the independent variables, when considered jointly, have a meaningful impact on ROA. The R-squared (0.857) indicates that 85.7% of the variability in ROA is explained by the model, while the Adjusted R-squared (0.852) adjusts for the number of predictors and confirms the model's robustness. The residual variation, as reflected in the Residual Sum of Squares (91.435), represents the portion not captured by the model.

This strong explanatory power suggests that the regression model effectively captures the profitability patterns of Islamic banking institutions in Indonesia. The remaining 14.3% of the variation in ROA may be attributed to other external or unobserved factors not included in this analysis.

Discussion

The discussion groups variables into internal and external classifications, connecting the results to past studies. This approach strengthens conclusions and highlights where findings agree or differ. Internal factors are elements originating from within a banking institution, reflecting its organizational structure and operational practices that can influence overall performance and profitability.

This section focuses on how internal factors like the Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), Operational Efficiency Ratio (BOPO), and bank size impact Return on Assets (ROA). Our analysis revealed that CAR has a negative yet statistically insignificant effect on ROA, with a coefficient of -0.008 and a p-value of 0.070. While our initial hypothesis predicted a positive relationship, this outcome suggests that capital adequacy didn't significantly boost profitability in Indonesian Islamic commercial banks during the study period. A potential reason for this could be a stronger emphasis on managing risk and liquidity, rather than aggressively expanding capital. Similar findings were reported by (Sitompul & Nasution, 2019) who also found no significant link between CAR and ROA in Indonesian Islamic banks. In contrast, studies by (Chowdhury & Rasid, 2016) and (Adelopo et al., 2018) reported a significant positive effect of CAR on profitability. These differing results might be due to variations in the financial systems and market characteristics of their respective regions.

Our analysis showed that the Financing to Deposit Ratio (FDR) had a minor, statistically insignificant negative effect on Return on Assets (ROA) (coefficient -0.002, p-value 0.450). This implies that the amount of financing relative to deposits does not directly influence Islamic banking institutions

profitability; instead, financing quality likely plays a more important role. This finding is consistent with (Astuti & Kabib, 2021), but differs from (Sitompul & Nasution, 2019) research.

Conversely, Non-Performing Financing (NPF) exhibited a statistically significant negative impact on ROA (coefficient -0.334, p-value < 0.001). This indicates that an increase in problematic financing substantially reduces Islamic bank profitability, aligning with credit risk theory. (Suseno & Bamahriz, 2017), (Astuti & Kabib, 2021), and all reported similar detrimental effects of NPF on bank financial performance.

The Operational Efficiency Ratio (BOPO) recorded the most pronounced negative influence on ROA (coefficient -0.107, p-value < 0.001). This underscores the critical role of operational efficiency in enhancing profitability. A reduction in operating expenses relative to operating income strongly correlates with improved financial results. This finding is reinforced by prior studies from (Sitompul & Nasution, 2019), (Suseno & Bamahriz, 2017) and (Adelopo et al., 2018) all emphasizing the importance of effective cost control for increased profitability.

The analysis determined that the size of banking institutions had a significant negative impact on Return on Assets (ROA). A coefficient of -0.249 and a p-value below 0.001 indicate that banks possessing larger asset bases tend to exhibit lower profitability levels. This outcome could stem from increased operational complexity and higher fixed costs, which might reduce overall efficiency. This finding is consistent with earlier research from (Suseno & Bamahriz, 2017) and (Adelopo et al., 2018). However, (Chowdhury & Rasid, 2016) research presented a different perspective, identifying a positive relationship between institutional size and profitability. Such discrepancies may be attributed to variations in industry characteristics and regional financial conditions.

Moving to external factors, these are defined as macroeconomic conditions and broader environmental forces beyond the direct control of banks, yet capable of influencing financial performance. This study evaluated Gross Domestic Product (GDP) and inflation as external indicators to ascertain their effect on the profitability of Islamic commercial banks operating in Indonesia. The analysis revealed that GDP exerted a minor positive, but statistically insignificant, influence on ROA, with a coefficient of 0.003 and a p-value of 0.879. This suggests that national economic growth did not materially affect the profitability of Islamic banking institutions during the period under review (Quan et al., 2019) reported a similar finding, observing no significant relationship between GDP and Malaysian Islamic banks performance. Conversely, studies by (Suseno & Bamahriz, 2017) and (Nugrohowati et al., 2022) indicated a significant and positive impact of GDP on bank profitability, potentially due to contextual differences in research settings or time periods. While economic growth is generally regarded as a supportive factor for banking sector development, the evidence from this study suggests it did not have a decisive effect on ROA within Indonesia Islamic banking sector.

Concerning inflation, the analysis identified a slight negative effect on Return on Assets (ROA), characterized by a coefficient of -0.052 and a p-value of 0.190, implying no statistically significant relationship. This outcome suggests that inflation did not exert a substantial influence on Islamic banks profitability during the observed period. This result aligns with findings from (Astuti & Kabib, 2021), who also reported no significant impact of inflation on ROA in the Islamic banking sectors of both Indonesia and Malaysia. However, this finding deviates from the conclusion drawn by (Suseno & Bamahriz, 2017), who identified a positive association between inflation and profitability. Although inflation possesses the potential to affect operating costs and diminish consumer purchasing power, its role within the context of this specific model was not robust enough to produce discernible changes in the financial performance of Islamic commercial banks in Indonesia.

CONCLUSION

This study concludes that the profitability of Islamic commercial banks in Indonesia from 2019 to 2024 is primarily influenced by internal factors. Specifically, Non-Performing Financing (NPF) and Operational Efficiency Ratio (BOPO) have a significant negative impact on Return on Assets (ROA), emphasizing the importance of financing quality and cost efficiency. Bank size also negatively affects profitability, suggesting that larger institutions may face operational inefficiencies. In contrast, Capital Adequacy Ratio (CAR) and Financing to Deposit Ratio (FDR) show no significant effect.

On the other hand, external factors, such as Gross Domestic Product (GDP) and inflation, were found to have no statistically significant impact on ROA, indicating that macroeconomic fluctuations did not materially influence Islamic banks' profitability during the observed period.

The findings highlight the need for Islamic banks to strengthen internal governance, focusing on credit risk reduction and operational cost control to boost profitability. Since external macroeconomic variables have limited direct impact, internal strategies and financial discipline become central to performance improvement. Nevertheless, policy makers and regulators should remain attentive to macroeconomic shifts, as they may still exert indirect influence over time. Future research should consider incorporating broader external variables or qualitative dimensions to capture more comprehensive determinants of profitability.

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