

The Effect of Internal Bank Aspects on Sharia Bank Performance with Financing Risk as a Mediator

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ABSTRACT

This study aims to examine the factors affecting financing risk and its effect on the financial performance (profit) of Islamic banks in Indonesia. The study includes an overview of internal conditions including capital adequacy and bank operating costs. This study employed a quantitative method with a path analysis approach. The object of study was Islamic commercial banks in Indonesia registered with the Financial Services Authority (OJK) for the 2019-2023 period. Purposive sampling was used to select a sample of 9 Islamic commercial banks in Indonesia. The results of this study indicate that CAR has a significant effect on NPF, OER does not have a significant effect on NPF, CAR, and NPF do not have a significant direct effect on ROA, OER has a significant direct effect on ROA, through NPF, CAR, and OER do not have a significant indirect effect on ROA. The results of this study concluded that Islamic public banks in Indonesia must be able to efficiently manage capital reserves and company operating costs. This aims to maintain the stability of banking performance and ensure that Islamic banks can mitigate the level of risk that occurs in banking operational activities. The practical implications of this study focused on providing actionable insights for Islamic banking managers, stakeholders, and policymakers to improve the financial performance of Islamic banks.

Keywords: Financing Risk; Internal Bank Aspects, Sharia Bank Performance

JEL Classification: G21, G32

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INTRODUCTION

In recent years, Islamic financial institutions in Indonesia have demonstrated significant growth. This is evident from Indonesia's position as the first

rank in the Islamic Finance Country Index (IFCI) in the Global Islamic Finance Report amid economic uncertainty due to the COVID-19 pandemic in 2021

(Nur, 2021). In the banking sector, Islamic financial institutions have experienced significant growth, particularly following the implementation of the Dual Banking System in 1998, which was established through the amendment of Law Number 7 of 1992 to Law Number 10 of 1998 concerning Banking. As of June 2023, the Indonesian Islamic banking sector comprised 13 Sharia Commercial Banks (BUS) and 20 Sharia Business Units (UUS) (OJK, 2023). This data demonstrates the rapid growth of Islamic banking in Indonesia.

While the Islamic banking industry has demonstrated significant growth in terms of quantity, its development must also be accompanied by improved financial performance. This is crucial for enhancing stakeholder confidence

in Sharia banks and encouraging continued investment (Inayah & Prajawati, 2022). Financial performance is reflected in the ability to generate strong profits. Financial performance is one of the components that investors usually use to analyze the health of a company (Azhari & Prajawati, 2022). Performance is crucial as an evaluation tool for company managers in formulating steps and strategies for the upcoming year. One approach to measure the level of banking performance is through its financial performance. The profitability level of Islamic banks can be measured through financial performance such as the Return on Asset (ROA) ratio (Minarni et al., 2023). The minimum ROA set by Bank Indonesia is 1.5%. The graph below illustrates the performance of Islamic banks in Indonesia based on ROA level:



Based on data from Sharia Banking Statistics, the ROA rate of Islamic commercial banks in Indonesia was 2.04% in 2019, 1.4% in 2020, 1.5% in 2021, and 2% in 2022. However, it declined to 1.8% in December 2023 (OJK, 2023). The volatile ROA ratio suggests the suboptimal financial performance of Islamic banks. The financial performance of Islamic banks that have not been optimized can be influenced by various factors, including financing risk, capital adequacy, and operational efficiency (Purwoko & Sudityatno, 2013). As one of the main activities implemented by the banking industry, every financing activity carries an inherent risk that can affect the

performance of Islamic banking, namely financing risk. This constitutes an issue faced by Islamic banks when borrowers are unable to repay their financing obligations within the agreed-upon timeframe (Syamlan & Jannah, 2019). Determining the quantity of financing to be distributed is a form of risk mitigation because the pursuit of substantial profits is often accompanied by heightened risks (Alam & Tang, 2012).

Lending is the core activity of Islamic banks, and it is often accompanied by non-performing financing, which is the most significant issue (Das et al., 2020). The inability of banks to effectively manage financing risks is likely to reduce

profitability. The risk of financing can be represented by Non-Performing Financing (NPF). NPF is a ratio used to assess a bank's ability to manage the risk of loan defaults. Higher-quality financing typically corresponds to lower NPF levels (Indriastuti & Kartika, 2018). A high NPF ratio signifies the bank's failure to effectively manage its loan portfolio.

The elevated NPF level indicates an inability of banks to generate adequate revenue. A high level of NPF indicates poor performance and financing difficulties within Islamic banks. A high NPF level contributes to increased expenses, potentially leading to bank losses. An increase in a company's NPF ratio will likely lead to a decline in the quality of banking financing. This, in turn, may result in an increase in the quantity of financing available. This also requires banks to absorb losses incurred from banking operations, potentially affecting the level of banking profitability. Results of studies from Azhar & Nasim (2016); Setiawan & Indriani (2016); Muksal (2018); Azizah & Mukaromah (2020); Syachreza & Gusliana (2020); Alfianda & Widiyanto (2020); Damayanti et al. (2021); Devi (2021); Difa et al. (2022) indicate that NPF has a negative effect on financial performance in Sharia Commercial Banks. Meanwhile, the studies conducted by Subekti & Wardana (2022), and Astuti (2022) suggest the opposite, that NPF has no effect on ROA.

Solutions to mitigate financing risks can involve restructuring measures, such as expanding bank capital reserves or Capital Adequacy Ratio (CAR) (Rasbin, 2020). CAR functions to account for the risk of losses that Islamic banks may face. Kuswaharhani (2020) found that CAR has a negative and significant influence on NPF in Islamic commercial banks in Indonesia. CAR is a crucial factor in minimizing financing risks. A higher CAR generally correlates with a lower NPF. This is

because CAR serves as an alternative buffer against potential losses incurred by the bank.

In addition to financing risks, operational efficiency influences changes in bank profitability (Isnaeni et al., 2021). Operational efficiency is often measured by the Operational Efficiency Ratio (OER). OER is a method to determine the efficiency level of a bank when launching operations. OER is utilized to assess the managerial effectiveness of the bank in controlling operating costs relative to operating income. All expenses directly associated with the execution of the bank's business strategy are considered operational expenses. Results of previous studies conducted by Syachreza & Gusliana (2020); Alfianda & Widiyanto (2020), and Difa et al. (2022) indicated that the OER had a significant negative impact on ROA.

This study supports the Marginal Efficiency Theory of Profit, a managerial efficiency profit theory that emphasizes the significance of efficient and effective company management in generating above-average profits (Makadok, 2011). Efficiency is one of the performance parameters of a company (Miswanto & Oematan, 2020; Rithamaya & Anggraeni, 2021). The company seeks to achieve the highest possible production level with the lowest possible resource consumption. In this case, the input is OER, and the output is ROA profitability. Any increase in operational costs will diminish pre-tax earnings, lowering the bank's profit or profitability (ROA). When the OER ratio increases, the bank's performance will decrease, and vice versa. OER demonstrates banks' efficiency in conducting their primary business, particularly loans, given that profit sharing is the primary source of income in Islamic banking.

OER serves as an indicator of a bank's operational efficiency. Healthy banks have an OER ratio of less than 1, whereas those experiencing financial distress have an OER ratio of more than 1. The higher the cost of a bank's income, the less

efficient its operational activities become. In other words, OER is adversely correlated with ROA. This is because OER reflects the bank's capabilities in managing operational costs to generate optimal profits for banks. This aligns with studies conducted by Syachreza & Gusliana (2020); Alfianda & Widiyanto (2020), and Difa et al. (2022) which demonstrated that OER has a significant negative effect on ROA. Meanwhile, a study conducted by Devi (2021) found that OER has an insignificant effect on ROA.

The novelty of this study is addressing inconsistencies in previous findings and providing a comprehensive analysis of factors affecting the financial performance of Islamic banks in Indonesia. This study aligns with Marginal Efficiency Theory. By incorporating Marginal Efficiency Theory, the study uniquely links theoretical concepts with empirical analysis, emphasizing operational efficiency as a driver of superior profitability. Previous studies have yielded conflicting conclusions regarding the impact of key variables, such as Non-Performing Financing (NPF) and Operational Efficiency Ratio (OER) on financial performance metrics like Return on Assets (ROA). This study aims to bridge these gaps and provide clarity by analyzing these variables within the context of Indonesian Islamic banking. The Indonesian Islamic banking sector presents a unique case study due to its dual banking system and rapid growth. The dual banking system and the rapid expansion of Islamic financial institutions make Indonesia an ideal case for exploring financial performance determinants. The study provides actionable insights for Islamic banking managers on mitigating financing risks and improving operational efficiency to optimize profitability. Policymakers are offered a basis for creating targeted policies to enhance the resilience and profitability of Islamic banks, contributing to broader economic stability.

LITERATURE REVIEW

Internal Bank Aspects

CAR

Capital is a crucial component in the progress of business initiatives, including the potential risk of financial loss (Sofyan Marwansyah & Setyaningsih, 2018). The quantity of capital held by the financial institution maintains a critical factor in its capacity to function effectively, consequently impacting the degree of public trust, particularly among borrowers, in the institution's performance. This trust is measured based on the volume of existing funds, deposits, and savings exceeding the capital contribution made by shareholders. The CAR is a measure used to assess whether a bank possesses sufficient capital to fund assets that carry an inherent risk or generate income (Muriza, 2020). A higher CAR signifies an increase in the bank's capacity to bear the risks associated with each credit transaction (Muriza, 2020). A substantial CAR value (as determined by Bank Indonesia's provisions of 8%) indicates the bank's ability to maintain its operational function, thereby potentially increasing profitability, as measured by ROA. According to Sofyan Marwansyah & Setyaningsih (2018), The formulation of the CAR ratio can be expressed as follows:

OER

$$\text{CAR} = \frac{\text{Bank Capital}}{\text{Risk Weighted Asset (ATMR)}} \times 100\%$$

The OER ratio is utilized to determine the efficiency and effectiveness of financial institutions in performing their operational duties (Lite, 2019). Given that the primary function of financial institutions is basically to function as an intermediary, specifically to collect and allocate public funds, the operating costs and income of financial institutions are mainly affected by interest

costs and interest income. The OER ratio can be formulated as follows:

In accordance with Bank Indonesia Circular Letter No. 6/23/DPNP dated May 31, 2004, OER is calculated by comparing operating expenses to

$$\text{OER} = \frac{\text{Operating Expenses}}{\text{Operating Income}} \times 100\%$$

operating income. This ratio is applied to examine the capability of financial institution management to manage operational expenditures relative to operating income. A lower OER generally signifies more efficient use of operational costs incurred by banks, thereby decreasing the likelihood of financial instability. Operational costs are expenses incurred by a financial institution in conducting its business operations (e.g., interest costs, labor costs, marketing costs, etc.) (Isnaeni et al., 2021). Meanwhile, the primary source of revenue for financial institutions stems from operating income generated through the extension of credit and other operational activities.

Sharia Bank Performance

Performance is the accomplishment of a goal of a certain activity or job to meet the company's objectives as assessed by standards (Indriastuti & Kartika, 2018). According to Hameed et al in Sri Wahyuni (2019), performance serves as a quantifiable indicator of a company's success in achieving its objectives, based on the execution of its operational activities. Financial performance constitutes one of the metrics used to analyze a company's financial health as assessed by profitability. This study uses Return on Assets (ROA) to examine the profitability ratios. The ratio represents the firm's capacity to create profits based on the total assets held by the company. The higher the ROA, the better the efficiency in the use of the company's assets. A larger ROA means a greater amount of net profit received. Conversely, a lower ROA indicates a low net profit generated (P.

A. Siregar et al., 2021). ROA is a financial proxy for a company's success, particularly in analyzing the capacity of bank management to generate total profits. The ROA rate can be calculated using the following formula:

$$\text{ROA} = \frac{\text{Income before tax}}{\text{Total Assets}} \times 100\%$$

Financing Risk

Financing risks can negatively impact on a bank's financial performance if not adequately managed. Furthermore, the level of risk reflects the negative impact on the amount of revenue and the level of financial performance obtained by banks. Bitar, Pukthuanthong, and Walker (2018) determined the impact of financing risk on bank performance. The Non-Performing Financing (NPF) ratio is used to quantify financing risk. NPF is a comparison of non-performing financing and total financing disbursed according to Sharia principles. NPF ratio is a percentage representing the proportion of total non-performing loans to total loans issued. This ratio is used to improve bank management's capability to process credit requests. Credit risk is one of the primary risks facing a bank, arising from the failure of a borrower to repay the funds lent by the bank. The higher this percentage, the lower the bank's credit quality. This can lead to an increase in non-performing loans and subsequent losses for the bank, and vice versa.

NPF has a significant impact on the profitability of Sharia Commercial Banks. A strong correlation exists between the NPF level, and the financing extended by Sharia Commercial Banks to their customers. The NPF level signifies the percentage of non-performing financing risks in banks. These risks can adversely impact banking performance. This is because the high NPF level necessitates larger capital reserves, consequently diminishing the bank's capital. This reduction in

capital subsequently hinders the distribution of banking financing. Therefore, it can be concluded that high NPL values negatively influence bank health. As the NPL increases, the bank incurs greater losses, leading to a decline in profitability. Reduced profits ultimately result in a decrease in the bank's overall assets. The formula for calculating the NPF ratio in Islamic banking is as follows:

Effect of CAR on NPF

In Islamic banking, the capital adequacy ratio (CAR) can be a significant determinant of non-

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

performing financing (NPF) levels. This is due to the critical role of bank capital as a crucial tool for mitigating transaction risk. Banks with higher capital adequacy ratios generally exhibit lower levels of non-performing financing. This is because CAR serves as an essential buffer against potential losses within the Islamic banking sector. Studies by [Hernawati, Hadi, Aspiranti & Rehan \(2021\)](#), [Iswanto & Ibadurrahman \(2022\)](#), [Muhammad, Suluki, & Nugraheni \(2020\)](#), [Priyadi, Utami, Muhammad, & Nugraheni \(2021\)](#), [Purnamasari & Ramayanti \(2019\)](#) have demonstrated a significant influence between CAR and NPF. However, [Yulianti & Wirman \(2023\)](#), [Hafilah & Mahardikai \(2019\)](#), and [Suprayitno & Hardiani \(2021\)](#) demonstrated the findings that CAR has no effect on NPF.

H1: CAR has a significant effect on NPF

Effect of OER on NPF

The OER ratio reflects a bank's management's ability to efficiently manage costs and generate revenue from its operational activities. Lower OER ratios generally indicate more effective bank management. This ratio also exhibits a correlation with the Non-Performing Loan (NPL) rate. Efficient management of operational costs can

enhance profitability. This advantage stems from the allocation of funds for financing activities, which, in turn, signifies the high quality of offered financing and a decrease in the NPL level. Studies conducted by [Purnamasari & Ramayanti \(2019\)](#), [Hafilah & Mahardikai \(2019\)](#), [Suprayitno & Hardiani \(2021\)](#), have demonstrated a significant impact of the OER/BOPO on the NPF level of Islamic banking. Conversely, [Priyadi et al. \(2021\)](#), presented empirical evidence suggesting that OER/BOPO does not significantly impact the NPL of Islamic banks.

H2: OER has a significant effect on NPF

Effect of CAR on ROA

The capital adequacy ratio (CAR) plays a significant role in Islamic banks' profitability, as measured by the return on assets (ROA) ratio. This is because a higher CAR allows banks to channel more financing activities, generating profits through both margins and profit sharing. A greater CAR indicates a higher level of profitability, as measured by ROA. Studies conducted by [Subekti & Wardana \(2022\)](#), [Siregar & Fardinal \(2021\)](#), and [Yusuf & Surjaatmadja \(2018\)](#) found that CAR has a significant effect on Profitability. Furthermore, studies conducted by [Wahyudi \(2020\)](#), [Syachreza & Gusliana \(2020\)](#), [Devi \(2021\)](#), [Astuti \(2022\)](#), [Kustiningsih, et al. \(2020\)](#) revealed that CAR has no significant effect on profitability levels.

H3: CAR has a significant effect on ROA.

Effect of OER on ROA

The OER ratio serves as a key indicator of managerial efficiency, specifically measuring the operational expenses incurred relative to the operating income generated. This ratio has an impact on bank profitability. Bank management is considered less successful when operational expenses surpass operating income. Moreover, low levels of operating income have a detrimental impact on a bank's overall profitability. Studies by

Subekti & Wardana (2022); Wahyudi (2020); Syachreza & Gusliana (2020), Devi (2021), Astuti (2022), Siregar & Fardinal (2021), Kustiningsih, et al. (2020) found that BOPO has a significant effect on the profitability of Islamic banking. Meanwhile, Novalista (2024) found that OER/BOPO has an insignificant effect on the profitability of Islamic banking.

H4: OER has a significant effect on ROA

Effect of NPF on ROA

NPF reflects the financing risk borne by banks. This occurs when there is a failure to repay the disbursed financing. Banks must reserve a portion of their capital to cover losses from the financing risk. Furthermore, the inability to repay financing hinders banks from achieving projected profits. Studies by Subekti & Wardana (2022), Wahyudi (2020), Devi (2021), Astuti (2022), Siregar & Fardinal (2021), Kustiningsih, et al. (2020), Nasokha & Yudiana (2022), Mujairimi (2023) revealed that NPF has no effect on the profitability of Islamic banking. However, Syachreza & Gusliana (2020) found that NPF has a significant effect on the profitability of Islamic banking.

H5: NPF has a significant effect on ROA

Effect of CAR on ROA through NPF

CAR can serve as a reserve to cover NPF. NPF that can be effectively managed can impact the level of profitability (ROA) of banks. Studies by Izza & Utomo (2022), Yusuf & Surjaatmadja (2018), Syarif, Majid, Asse & Sapa (2023), Mujairimi (Mujairimi, 2023), Nasokha & Yudiana (2022) revealed that the NPF rate does not significantly moderate the effect of CAR on banking profitability. Conversely, Barizi (2021) found that NPF can moderate the effect of CAR on the company's Profitability.

H6: CAR has a significant effect on ROA, with NPF as an intervening variable

Effect of OER on ROA through NPF

Effective operational management can enhance the quality of financing, thereby minimizing the incidence of problematic loans. A decrease in non-performing financing (NPF) resulting from improved management effectiveness can also positively impact the level of debt that banks can acquire. Despite these findings, inconsistencies remain in the study results. Studies by Yusuf & Surjaatmadja (2018), Cahyani, Oktaviana & Azizuddin (2022), and Yunitasari & Setiawan (2023) demonstrated that NPF can moderate the significant effect of OER/BOPO on Profitability. However, the study conducted by Nurfadila et al. (2023) indicated that NPF does not mediate the effect of OER on ROA.

H7: CAR has a significant effect on ROA, with NPF as an intervening variable

METHODOLOGY

This study uses a quantitative approach. This study was conducted to determine the effect of internal banking aspects on the performance level of Islamic banks, with financing risk as an intervention. The object of this study is the Islamic banking industry in Indonesia. The sampling technique uses purposive sampling by providing several categories to the entire population, including (1) Islamic banking in Indonesia whose institution is in the form of a Sharia Commercial Bank (BUS) and registered with the OJK in the 2019-2023 period; (2) Islamic banks that publish annual reports in the period 2019 to 2023 and provide complete ratio data needed for data testing procedures. Based on the purposive sampling, 9 Sharia Commercial Banks were selected as samples, namely Bank Muamalat Indonesia, Bank Victoria Syariah, Bank Jabar Banten Syariah, Bank Mega Syariah, Bank Panin Dubai Syariah, Bank

Aceh Syariah, BTPN Syariah, BPD Riau Kepri Syariah and BPD West Nusa Tenggara Syariah.

The data source used is secondary data in the form of annual reports of Islamic banking. The data collection technique is carried out by the documentation method, namely accessing the annual report published on the websites of each Islamic bank included in the research sample.

This study employs path analysis, a statistical technique well-suited for examining, measuring, and testing both direct and indirect relationships between variables. Path analysis is particularly advantageous for research focused on hypothesis testing. EViews software was utilized for the analysis due to the panel data nature of the employed dataset. The quantpsy.org website served as a supplemental tool for Sobel tests, specifically to assess the magnitude of indirect effects between variables. The several stages in the analysis of research data include Descriptive

Statistical Analysis, Selection and Testing of the Panel Data Regression Model Estimation, and Classical Assumption and Model Feasibility Tests. The structural equation model for assessing the effect of independent variables on a dependent variable with an intervening variable can be represented by the following equations:

$$Z: \rho z x_1 X_1 + \rho z x_2 X_2 + \varepsilon_1 \dots \dots \dots (1)$$

$$Y: \rho y x_1 X_1 + \rho y x_2 X_2 + \rho y z Z + \varepsilon_2 \dots (2)$$

Where:

- Z : Financing Risk (NPF/net performing financing)
- Y : Sharia Banking Performance (ROA/Return on Asset)
- X1 : Capital Adequacy Ratio (CAR)
- X2 : Operational Efficiency Ratio (OER)
- ρ : Path Coefficient
- ε : Error

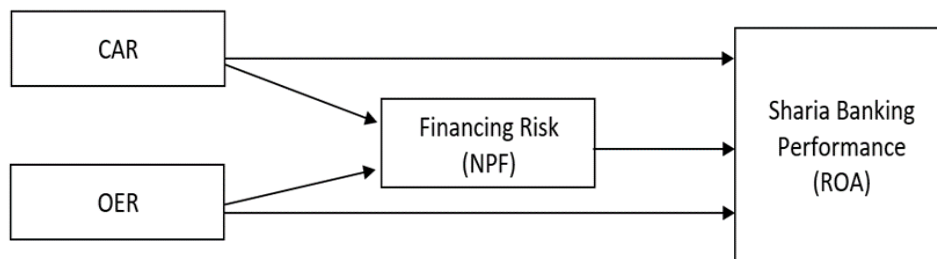


Figure.2 Conceptual Framework

RESULT AND DISCUSSION

Descriptive Statistics

Descriptive statistical analysis is used to offer an overview or description of the study variables, specifically CAR, OER, NPF, and ROA. Table 1 presents the results of descriptive statistics

Table 1. Descriptive Statistics

	Y_ROA	X1_CAR	X2_OER	Z_NPF
Mean	1.273667	3.288046	4.432694	0.748792
Maximum	3.912023	5.008500	5.311924	2.255493
Minimum	0.040822	2.519308	4.061649	-0.400478
Std. Dev.	1.063373	0.450397	0.199061	0.604692
Observations	45	45	45	45

Source: Author Estimation (2024)

Descriptive statistics presented in Table 1 reveal a sample size of 45 observations for each variable. The mean values of ROA, CAR, OER, and NPF all exceed their respective standard deviations. This indicates that the data distribution for the variables used in this study is homogeneous. A smaller standard deviation from the mean signifies that the data exhibits minimal or no significant deviations from the research variable.

Classical Assumption Test

The classical assumption test is conducted to assess whether the data used for the variables are free from issues such as normality, multicollinearity, heteroscedasticity, and autocorrelation. Table 2 presents the results of the classical assumption test for both research models employed in this study.

Table 2. Classical Assumption Test

Classical Assumption Test	Model Estimation	Result	Decision
Normality Test (Probability Jarque-Bera > 0.05)	Model 1	0.892784	Normally distributed
	Model 2	0.659190	Normally distributed
Multicollinearity Test (1<VIF<10.00)	Model 1	X1 = 1.007356	No Multicollinearity Occurs
		X2 = 1.007356	
	Model 2	X1 = 1.109525	No Multicollinearity Occurs
		X2 = 1.068762 Z = 1.078529	
Heteroscedasticity Test (Prob. Breusch-Pagan-Godfrey > 0.05)	Model 1	0.2946	No Heteroscedasticity Occurs
	Model 2	0.7006	No Heteroscedasticity Occurs
Autocorrelation Test (LM Test > 0.05)	Model 1	0.0615	No Autocorrelation Occurs
	Model 2	0.2666	No Autocorrelation Occurs

Source: Author Estimation (2024)

Based on Table 2, it can be stated that the data in both research models (i.e., the first model examining the relationship between CAR and OER variables and the NPF variable, and the second model examining the relationship between CAR, OER, and NPF variables and the ROA variable) are free from the problem of classical assumptions. This means that the data used in this study has met the criteria of BLUE (Best Linear Unbiased Estimator). Specifically, the model estimation is unbiased, consistent, normally distributed, and efficient. Consequently, the model estimation can be considered a valid instrument for testing.

Panel Data Analysis Model Selection Test

This study explores various approaches to testing panel data, including the Random Effect Model (REM), the Fixed Effect Model (FEM) and the Common Effect Model (CEM). To determine the most suitable model, a series of model selection tests are conducted. These tests involve the likelihood ratio test (Chow test), the Hausman test, and the Lagrange Multiplier test. Table 3 presents the results of the model selection tests for the three estimation models employed in this study.

Table 3. Model Selection Test

	Model Estimation	Prob	Model Selection
Research model 1			
Likelihood ratio	CEM/FEM	0.0000	FEM

Hausman test	REM/FEM	0.0014	FEM
Research model 2			
Likelihood ratio	CEM/FEM	0.0000	FEM
Hausman test	REM/FEM	0.1388	REM
Langrange multiplier	CEM/REM	0.0000	REM

Source: Author Estimation (2024)

The results of the model test presented in table 3 indicate that research model 1 uses FEM. This is because the Hausman test value is $0.0014 < 0.05$, meaning that the selected model is FEM. Then, the results of the model test in research model 2 indicate that the Lagrange Multiplier test value was $0.0000 < 0.05$, meaning that the model selected for research model 2 was a REM.

Path Analysis Test

Hypothesis Test

Based on the model selection test presented in Table 3, the hypothesis test for the structure model 1 uses the FEM approach. In the equation of

the structure model 1, tests were carried out to analyze the effect of CAR and OER variables on NPF. Subsequently, for hypothesis testing of the structure model 2, the REM approach was utilized. In the equation of the structure model 2, tests were carried out to analyze the effect of CAR, OER, and NPF variables on ROA. The decision criterion for hypothesis testing in the model is that if the variable of probability level is less than 0.05, then the hypothesis in this study is accepted. Table 4 presents the results of the hypothesis test for the structural model equations 1 and 2

Table 4. Hypothesis Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Decision
CAR → NPF	-0.034986	0.011260	-3.107021	0.0038	H1 Accepted
OER → NPF	-0.015222	0.011477	-1.326374	0.1936	H2 Rejected
CAR → ROA	-0.001730	0.008652	-0.199984	0.8425	H3 Rejected
OER → ROA	-0.079074	0.008033	-9.843089	0.0000	H4 Accepted
NPF → ROA	-0.086348	0.115828	-0.745491	0.4602	H5 Rejected

Source: Author Estimation (2024)

Based on the results of the hypothesis test presented in Table 4, in the equation of the structure model 1, the result reveals that the CAR variable has a significant effect on NPF, this can be seen from the probability value of the effect of the CAR variable on NPF of $0.0038 < 0.05$. thus, it can be concluded that H1 is accepted. Meanwhile, the OER variable has no significant effect on the NPF level, with a probability level of $0.1936 > 0.05$, thus it can be concluded that H2 was rejected.

For the equation of the structure model 2, the result indicates that the probability value of the effect of the CAR variable on ROA is $0.8425 > 0.05$,

meaning that the CAR variable has no significant effect on ROA, thus, H3 is rejected. Subsequently, the results of the study indicate that the OER variable has a significant effect on ROA. This can be seen in the probability value of the effect of the OER variable on ROA of $0.0000 < 0.05$, thus, it can be concluded that H4 is accepted. Meanwhile, the NPF variable has no significant effect on the ROA rate, with a probability level of $0.4602 > 0.05$, thus, it can be concluded that H5 was rejected.

Sobel Test/hypothesis Testing 6 and 7

The Sobel test method is used to reveal the indirect impact on the dependent through the intervening variables (Dastgeer et al., 2020). The decision to test the hypothesis in the Sobel test is

that if the t-statistical value is higher than the t-table value of 1.98 and the variable probability level is less than 0.05, then the hypothesis in this study is accepted. The following are the results of the online Sobel test using the quantspy.org website

Table 5. Uji Sobel Test

Path Analysis Model	T statistic	Std. Error	p-value	Decision
CAR → NPF → ROA	0.72491151	0.00416737	0.46850632	H6 Rejected
OER → NPF → ROA	0.64986379	0.00202256	0.51578021	H7 Rejected

Source: Author Estimation (2024)

Based on the results of the Sobel test presented in Table 7, the results indicate the t-statistical value for the indirect effect of the CAR variable on ROA with NPF as an intervening of 0.72491151 < 1.98 and the p-value of 0.46850632 > 0.05. Therefore, there is no indirect effect between the CAR variable on ROA with NPF as an intervening variable, thus H6 is rejected. Subsequently, the results of the Sobel test on the indirect effect of the OER variable on ROA with NPF as an intervening variable indicate a t-statistical value of 0.64986379 < 1.98 and a p-value of

0.51578021 > 0.05. This means that the OER variable has no effect on ROA with NPF as an intervening variable. Therefore, it can be concluded that H7 was rejected.

Coefficient of Determination Test

The purpose of the determination test is to ascertain the proportion of variance in the dependent variable that can be explained by the independent variables in the examined equation model. The results of the determination coefficient test for the two model equations above are as follows

Table 6. Coefficient of Determination Test

Type	R Square	Adjusted R Square
X1, X2 → Y	0.552455	0.420824
X1, X2, Z → Y	0.693720	0.671309

Source: Author Estimation (2024)

The results of the determination coefficient test in Table 6 indicate that the adjusted R square value in the structural model equation 1 is 0.420824. This suggests that the CAR and OER variables explain 42.08% of the variance in NPF, while the remaining 57.92% is attributed to factors outside the scope of this study. The error term, ϵ_1 , can be calculated with the formula $\epsilon_1 = \sqrt{(1 - 0.420824)} = 0.7611$

Furthermore, for the structural model equation 2, the result of the adjusted R square

value is 0.671309. The results indicate that the CAR, OER, and NPF variables collectively account for 67.13% of the variance in ROA, with the remaining 32.87% influenced by other variables outside the study. The error term, ϵ_2 , can be calculated using the formula $\epsilon_2 = \sqrt{(1 - 0.671309)} = 0.5733$

Based on the findings of the hypothesis test and the determination coefficient test, the values for the path diagram are obtained as follows:

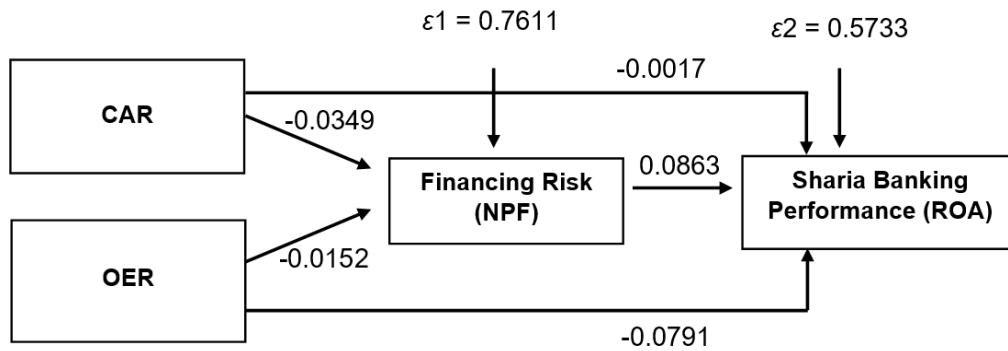


Figure 3. Path Diagram for Structural Model Equations 1 and 2

Based on the path diagram in Figure 3, the following two equations can be derived:

$$Z = -0.0394 X_1 - 0.0152 X_2 + 0.7611$$

$$Y = -0.0017 X_1 - 0.0791 X_2 + 0.0863 Z + 0.5733$$

Based on the comparison above, the direct impact of the CAR and OER variables on ROA is -0.0017 and -0.0791, respectively. Conversely, the direct effect of NPF on ROA is 0.0863, indicating a more significant effect. The indirect effect of independent variables on the dependent through intervening variable can be determined by multiplying the beta coefficient of the independent variable on the intervening variable by the beta coefficient of the intervening variable on the dependent variable. The indirect effect of the CAR variable on ROA with NPF as intervening variable was -0.0028 and the indirect effect of the OER variable on ROA with NPF as intervening variable was -0.0012. Thus, it can be concluded that the indirect effect of the independent variables on the dependent variable with the intervening variable is less significant than the direct effect of the independent variables on the dependent variable. These findings corroborate the results of the Sobel test above, indicating CAR and OER variables have no significant effect on ROA with NPF as an intervening variable.

Discussion

The Effect of Internal Bank Aspects on Financing Risk

The results of hypothesis testing in Table 4. indicate that CAR has a significant effect on NPF in Islamic commercial banking for the 2019-2023 period. The results indicate a negative coefficient value, meaning that if CAR increases, the bank's NPF will decrease. The capital adequacy ratio (CAR) indicates a bank's ability to cover potential losses arising from its operations and to provide the capital necessary for business expansion (Sarmigi et al., 2022). The higher the CAR, the stronger the capital position. The higher the CAR level in banking, the lower the likelihood of non-performing financing. This, in turn, can contribute to a reduction in the level of NPF within Sharia Commercial Banks in Indonesia. A high CAR demonstrates a bank's ability to anticipate potential financing challenges and effectively manage its capital risk. This study's findings align with those of previous studies Hernawati et al., (2021); Iswanto & Ibadurrahman (2022); Muhammad et al. (2020); Purnamasari & Ramayanti (2019); Visca Wulandari et al. (2019), demonstrating that CAR can significantly affect the decrease in NPF. However, this study's findings contradict the findings of Suprayitno & Hardiani (2021); Wahyudin et al. (2020) that there is no

significant effect of the CAR variable on bank NPF levels.

Furthermore, the findings indicate that the OER variable does not have a significant effect on NPF in Islamic commercial banking for the 2019-2023 period. The results of the hypothesis test reveal a negative coefficient value, meaning that if OER increases, the bank's NPF will decrease. The increased OER level reflects the level of banking management's ability to effectively manage costs and revenues within banking operations (Isnaeni et al., 2021). When management demonstrates strong performance, operational efficiency within the banking sector improves, which is correlated with a decline in the NPF ratio of Islamic commercial banks in Indonesia. In this study, the insignificant effect of OER on NPF can be explained based on empirical data on OER and NPF of Islamic general banking in Indonesia, where the level of banking NPF was relatively stable during the research period. The stable NPF level suggests that factors other than OER have a more significant effect on NPF, such as the bank's ability to manage credit risk in terms of providing minimum capital reserves. This study's findings align with the research conducted by (Priyadi et al., 2021) which concluded that OER/BOPO does not have a significant effect on NPF. However, the study's findings contradict the findings of studies conducted by Hafilah & Mahardikai (2019); Purnamasari & Ramayanti (2019); Suprayitno & Hardiani (2021) demonstrating that BOPO has a significant effect on NPF.

The Influence of Internal Bank Aspects and Financing Risk on Sharia Bank Performance

Based on the results of the hypothesis test presented in Table 4. It was determined that CAR has no direct significant effect on ROA in Islamic commercial banking for the 2019-2023 period. The results of the hypothesis test revealed a negative coefficient value, meaning that if CAR increases,

the bank's ROA will decrease. A high CAR can indicate that the bank is not optimally utilizing its capital (Dao, 2020). When CAR, as a bank's capital reserve, is not channeled into financing activities, the capital remains unproductive, hindering the bank's ability to increase profitability. Banks should explore strategies to enhance capital efficiency, such as pursuing more aggressive credit growth or implementing improved operational cost management, to boost ROA. Sharia banks must also comply with Bank Indonesia regulations, which require a minimum CAR of 8%. Consequently, Islamic banks strive to consistently maintain their CAR in compliance with these regulations (SEOJK No. 28/SEOJK.03/2019 Concerning the Bank Health Assessment System for Sharia People's Finance Companies, 2019). This study aligns with previous findings Astuti (2022); Devi (2021); Kustiningsih, et al. (2020); Syachreza & Gusliana (2020); Wahyudi (2020) CAR variable has no significant effect on banking ROA. Conversely, other studies (Agung Panji Subekti & Wardana (2022); Siregar & Fardinal (2021); Yusuf & Surjaatmadja (2018) found that CAR has a significant effect on banking ROA.

Furthermore, the findings indicate that OER has a significant effect on ROA in Islamic commercial banking for the 2019-2023 period. The results of the hypothesis test reveal a negative coefficient value, meaning that if OER increases, the bank's ROA will decrease significantly. This suggests that increased operating expenses can negatively impact operational efficiency, ultimately leading to lower profitability for the bank. An alternative term frequently used for the OER is the BOPO ratio. This metric assesses management's effectiveness in controlling costs, particularly operating expenses, to maximize operating income (Lite, 2019). Profits increase proportionally with income and inversely with expenses. Thus, bank management must strive to manage asset quality and improve operational efficiency because of the

crucial role of asset quality and operational efficiency as a reflection of the competitive level of Islamic banks' financial performance. The study's findings corroborate the conclusions of previous studies [Astuti \(2022\)](#); [Devi \(2021\)](#); [Kustiningsih, et al. \(2020\)](#); [Siregar & Fardinal \(2021\)](#); [Subekti & Wardana \(2022\)](#); [Syachreza & Gusliana \(2020\)](#); [Wahyudi \(2020\)](#) which found that OER influences banking ROA. Conversely, this study contradicts the findings of [\(Novalista, 2024\)](#), revealing that OER has no significant effect on banking ROA.

Furthermore, the results indicate that NPF does not have a significant effect on ROA in Islamic commercial banking for the 2019-2023 period. The hypothesis test findings indicate a positive coefficient value, meaning that if NPF levels rise, bank ROA will decrease. According to the theory of high risk, high return indicates that a high level of risk can result in higher returns [\(Hartono, 2017\)](#). However, in this case, a high NPF value signifies a high financing risk. Therefore, effective risk management strategies are crucial to mitigate these risks and ultimately generate substantial profits for Islamic commercial banks in Indonesia [\(Kuswahariani et al., 2020\)](#). In this study, NPF has no significant effect on the ROA of the banking industry. This finding aligns with empirical evidence demonstrating that while the NPL levels of Islamic commercial banks in Indonesia have remained relatively stable, their ROA levels have exhibited annual fluctuations throughout the research period. Consequently, it can be inferred that factors beyond NPL levels have a more significant effect on banking ROA. The study's findings corroborate the conclusions of previous [Astuti \(2022\)](#); [Devi \(2021\)](#); [Kustiningsih, et al. \(2020\)](#); [Nasokha & Yudiana \(2022\)](#); [Siregar & Fardinal \(2021\)](#); [Subekti & Wardana \(2022\)](#); [Wahyudi \(2020\)](#) which found that NPF has no significant effect on banking ROA.

The Effect of Internal Bank Aspects on Sharia Bank Performance Through Financing Risk

The results of the Sobel test indicate that CAR and OER variables do not have a significant effect on ROA through NPF in Islamic commercial banks during the 2019-2023 period. This means that NPF fails to strengthen the relationship between CAR and OER variables and ROA within Islamic commercial banks for the specified period. This means that NPF does not mediate the relationship between CAR and OER variables to ROA in Islamic commercial banks for the 2019-2023 period. In general, a high NPL level in the banking sector signifies high financing risk. This increased risk heightens the probability of loan defaults, which can subsequently negatively impact the financial performance of banks. [\(Kuswahariani et al., 2020\)](#). In this case, banks are required to have a minimum amount of reserve funds or CAR to mitigate these risks. However, a higher CAR level can lead to a decrease in the company's profitability. This is because capital allocated to meet the CAR requirements may become unproductive, thereby impacting the company's profitability [\(Dao, 2020\)](#).

In addition, a high NPF level can reduce the company's performance in generating profits. This is because high NPF will increase costs, thus potentially reducing profits due to inefficient bank operations [\(Isnaeni et al., 2021\)](#). On the other hand, the lower the NPF will reduce the cost of incurring losses due to non-performing financing and affect the increase in profit (ROA) obtained by Islamic commercial banks in Indonesia. As a result, Islamic banks are expected to be able to use their capital effectively in carrying out their operations to generate profits. The results of this study corroborate the studies conducted by ['Izza & Utomo \(2022\)](#); [Mujairimi \(2023\)](#); [Nasokha & Yudiana \(2022\)](#); [Syarif et al. \(2023\)](#); [Yusuf & Surjaatmadja \(2018\)](#) which state that NPF does not moderate the effects of CAR and OER on ROA.

CONCLUSION AND RECOMMENDATION

This study examines the effect of internal bank aspects on bank performance with financing risk as a mediating/intervening variable on Islamic general banking in Indonesia for the 2019-2023 period. The findings of this study can be summarized as follows: CAR has a significant effect on the NPF of Islamic commercial banks in Indonesia for the 2019-2023 period; OER does not have a significant effect on the NPF of Islamic commercial banks in Indonesia for the 2019-2023 period; CAR and NPF do not have a significant direct effect on the ROA of Islamic commercial banks in Indonesia for the 2019-2023 period, while OER has a significant direct effect on the ROA of Islamic commercial banks in Indonesia for the 2019-2023 period; subsequently, through the mediation of NPF, CAR and OER variables did not have a significant indirect effect on the ROA of Islamic commercial banks in Indonesia for the 2019-2023 period.

The practical implications of this study are primarily focused on providing actionable insights for Islamic banking managers, stakeholders, and

policy-makers to improve the financial performance of Islamic banks. These implications include improved risk management strategies, including financing risk mitigation. Banks can develop more robust credit appraisal systems to reduce the risk of non-performing financing (NPF), ensuring that funds are allocated to financially sound borrowers. Emphasis on restructuring steps, such as expanding capital reserves (measured by Capital Adequacy Ratio or CAR), can help mitigate losses from high NPF. Another implication is enhancing operational efficiency. Enhancing operational efficiency directly impacts profitability, as lower OER ratios are associated with higher ROA levels. By analyzing the interaction between NPF, OER, and CAR and their impact on ROA, managers gain a more comprehensive understanding of factors affecting profitability. This study underscores key areas (e.g., operational efficiency and capital adequacy) that Islamic banks must prioritize to sustain growth and competitiveness in the dynamic banking landscape. As Islamic banks play a crucial role in Indonesia's economy, these insights are vital for ensuring their resilience and long-term viability.

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