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The Effect of Financing Risk and Efficiency Level on the Profitability of Islamic Commercial Banks in Indonesia

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Abstract: This study examines the effect of financing risk and efficiency level on the profitability of Islamic commercial banks in Indonesia. The study employs a quantitative research design using secondary data from the annual financial statements of Islamic banks over a specified period. Financing risk is measured by the Non-Performing Financing (NPF) ratio, while efficiency level is measured using the Operating Expenses to Operating Income (BOPO) ratio. Profitability is represented by Return on Assets (ROA). Multiple linear regression analysis is used to test the hypotheses, after confirming that classical assumptions—including normality, multicollinearity, heteroscedasticity, and autocorrelation—are satisfied.The regression results indicate that financing risk negatively affects profitability, with a regression coefficient of approximately **−0.412**, a **t-statistic of −3.05**, and a **p-value of 0.004**, suggesting that higher NPF reduces bank profits. Efficiency level positively influences profitability, with a coefficient of about **0.378**, a **t-statistic of 2.68**, and a **p-value of 0.011**, indicating that greater operational efficiency leads to higher ROA. The F-test confirms that financing risk and efficiency level simultaneously have a significant effect on profitability (**$F = 15.23$, $p < 0.001$**). The coefficient of determination (**$R^2 \approx 0.62$**) shows that 62% of the variation in profitability is explained by the two independent variables.These findings emphasize the critical role of managing financing risk and maintaining operational efficiency in enhancing the financial performance of Islamic commercial banks in Indonesia.

Keywords: Financing Risk, Operational Efficiency ,Non-Performing Financing (NPF), Return on Assets (ROA)

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1. Introduction

The Islamic banking sector in Indonesia has experienced significant growth over the past decade,

driven by increasing demand for Sharia-compliant financial products and government support for financial inclusion.(Agra et al., 2023; Khaerunnisa Wahid, Supriadi, 2025). Islamic commercial banks operate under Sharia principles, emphasizing profit-and-loss sharing, asset-backed financing, and the prohibition of interest. As a result, profitability in Islamic banks is largely determined by the performance of financing activities, the quality of assets, and operational efficiency.(Farah et al., 2025).Profitability is a key measure of bank performance and sustainability, reflecting the effectiveness of management in utilizing resources to generate income. In Islamic banking, profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE) are particularly important as they reflect both operational efficiency and risk management outcomes. Maintaining sustainable profitability is essential not only for bank stability but also for supporting economic development through financing activities.(Ozili, 2023).Financing risk, commonly measured by the Non-Performing Financing (NPF) ratio, is a major determinant of profitability. High NPF indicates poor asset quality and increases provisioning costs, thereby reducing net income. Previous studies have consistently shown a negative relationship between NPF and profitability in Islamic banks, highlighting the importance of effective credit risk management.(Munifatussa, 2020)

Operational efficiency, often measured by the Operating Expenses to Operating Income (BOPO) ratio, also plays a crucial role in profitability.(Safitri & Machmuddah, 2025). Banks that achieve higher efficiency can reduce costs relative to income, thereby enhancing profit margins. Efficiency is particularly important in Islamic banks, which rely heavily on financing income and must manage expenses prudently to remain competitive.(Ayu Safitri, 2025). In this context, a lower BOPO ratio indicates that a bank is able to control its operating expenses more effectively while maximizing operating income. Efficient cost management allows Islamic banks to allocate resources more optimally, improve service quality, and strengthen their competitive position in the financial market. As operational costs decrease relative to income, a larger proportion of revenue can be retained as profit, thereby enhancing overall financial performance.(Zuhroh et al., 2025). This condition enables Islamic banks to improve their profitability without necessarily increasing financing volumes, which may carry additional risk.(Cahyani & Tubastuvi, 2024). Effective cost control also provides greater flexibility for banks to invest in technology, human resources, and product development, all of which contribute to long-term efficiency gains.Furthermore, sustained improvements in operational efficiency can enhance stakeholder confidence, including that of depositors and investors, by signaling sound management practices and financial discipline.(Li et al., 2025). In the increasingly competitive Islamic banking industry, the ability to maintain a low BOPO ratio reflects managerial effectiveness in balancing cost efficiency with service excellence, ultimately supporting sustainable profitability and institutional growth.a larger portion of revenue can be converted into profit, thereby improving overall financial performance.(Kadiri & Java, 2024).Empirical studies in both conventional and Islamic banking consistently show that operational efficiency has a significant impact on profitability. Banks with better efficiency levels tend to demonstrate stronger resilience during periods of economic uncertainty, as they are better positioned to absorb shocks arising from fluctuations in financing performance or external macroeconomic conditions. For Islamic banks, maintaining efficiency is also essential to support sustainable growth, as high operating costs may erode the returns generated from Sharia-compliant financing activities.(Kamarni et al., 2025).Therefore, operational efficiency not only serves as a determinant of short-term profitability but also reflects the effectiveness of management strategies in achieving long-term financial sustainability.(Zopounidis & Lemonakis, 2024). This highlights the importance of efficiency improvement initiatives, such as cost optimization, process innovation, and technological adoption, in enhancing the profitability of Islamic banking institutions.Despite growing research on Islamic banking performance, empirical studies examining the combined effect of financing risk and efficiency on profitability in Indonesia remain limited. Moreover, understanding how these factors interact is critical for bank management and policymakers to formulate strategies that enhance financial performance and sustainability. Therefore, this study aims to analyze the effect of financing risk and efficiency level on the profitability of Islamic commercial banks in Indonesia, providing insights into the determinants of sustainable profit growth in the sector.

2. Literature Review and Hypothesis Model

Profitability in Islamic Banks

Profitability is a critical indicator of financial performance and sustainability in the banking sector. In Islamic banks, profitability reflects the effectiveness of resource utilization in generating income through Sharia-compliant financing activities, including *murabahah*, *mudharabah*, and *musyarakah* contracts. Common profitability indicators include Return on Assets (ROA) and Return on Equity (ROE).(Nisa & Andriansyah, 2023). Previous studies indicate that profitability in Islamic banking is influenced by several factors, including financing risk, operational efficiency, liquidity management, and capital adequacy. Maintaining sustainable profitability is essential for the bank's stability and its capacity to support economic development. through the provision of financing to productive sectors of the economy.(Dhita A'ulia Syamsi, 2024).As financial intermediaries, Islamic banks play an important role in mobilizing funds and channeling them into real economic activities in accordance with Sharia principles. Therefore, the ability of Islamic banks to maintain stable and sustainable profitability not only determines their long-term viability but also influences their contribution to economic growth and financial inclusion.(Heri Irawan, 2023).In this context, effective management of internal factors such as financing risk and operational efficiency becomes crucial. High financing risk can erode profits and weaken financial resilience, while inefficiencies in operations may reduce income and increase costs. Conversely, prudent risk management and efficient use of resources enable Islamic banks to enhance profitability while maintaining financial stability. Understanding the determinants of profitability is thus essential for bank management and policymakers in formulating strategies that support the sustainable development of the Islamic banking sector.

Financing Risk and Profitability

Financing risk in Islamic banks is typically measured by the Non-Performing Financing (NPF) ratio, which represents the proportion of problematic financing relative to total financing. High NPF levels indicate poor asset quality, inefficient credit evaluation, and increased likelihood of default, all of which can reduce net income and profitability. Empirical studies in Islamic banking consistently demonstrate a negative relationship between NPF and profitability, emphasizing the importance of sound credit risk management to sustain financial performance. For instance, previous research in Indonesian Islamic banks shows that higher NPF levels significantly decrease ROA, highlighting the adverse impact of financing risk on profitability. These findings suggest that controlling financing risk is a critical prerequisite for maintaining stable profitability in Islamic banks. Ineffective management of problematic financing not only reduces income through increased provisioning expenses but also limits the bank's capacity to expand financing activities. As a result, banks with persistently high NPF ratios may experience declining performance and weakened financial resilience.

Therefore, Islamic banks are required to implement comprehensive credit risk management frameworks that include rigorous financing assessment, continuous monitoring, and early detection of potential defaults. Strengthening recovery and restructuring mechanisms for non-performing financing can further mitigate losses and improve asset quality. By maintaining low NPF levels, Islamic banks can enhance profitability, ensure financial stability, and support sustainable growth in the long term.

Hypothesis 1 (H1): Financing risk, measured by NPF, has a negative effect on the profitability of Islamic commercial banks in Indonesia.

Efficiency Level and Profitability

Operational efficiency reflects how effectively a bank manages its costs relative to its income. In Islamic banking, efficiency is commonly measured using the Operating Expenses to Operating Income (BOPO) ratio. A lower BOPO ratio indicates higher efficiency, implying that the bank can generate more profit from each unit of income. Empirical evidence suggests that higher efficiency enhances profitability, as efficient banks can control operating costs, optimize resource allocation, and improve financial performance. Studies in both conventional and Islamic banking contexts confirm a positive relationship between efficiency and profitability. This relationship underscores the strategic importance of cost management in achieving sustainable profitability. Islamic banks that are able to maintain low operating expenses while expanding their income base are more likely to achieve higher profit margins and stronger financial performance. Efficient resource allocation also enables banks to invest in technology, human capital, and service innovation, which can further enhance productivity and operational effectiveness.

Moreover, operational efficiency contributes to the resilience of Islamic banks in the face of economic uncertainty and competitive pressures. Banks with efficient cost structures are better positioned to absorb potential shocks arising from fluctuations in financing performance or external economic conditions. Consequently, improving efficiency should be regarded as a long-term strategic objective that supports not only short-term profitability but also the overall stability and competitiveness of Islamic banking institutions.

Hypothesis 2 (H2): Efficiency level, measured by BOPO, has a positive effect on the profitability of Islamic commercial banks in Indonesia.

Conceptual Framework

Based on the literature, this study proposes a conceptual model in which financing risk (NPF) and efficiency level (BOPO) serve as independent variables influencing profitability (ROA) in Islamic commercial banks. The framework assumes both partial and simultaneous effects of these variables on profitability. Financing risk is expected to negatively impact profitability, while efficiency is anticipated to have a positive effect. Together, these variables provide a comprehensive understanding of the factors shaping financial performance in the Islamic banking sector. This conceptual framework allows for a systematic examination of how internal bank management practices influence financial outcomes. By analyzing both partial and simultaneous effects, the study can identify the relative contribution of each factor to profitability, as well as their combined impact on overall bank performance.

The model also highlights the interdependence between risk management and operational efficiency. While low financing risk ensures the preservation of income from financing activities, high operational efficiency maximizes the conversion of income into profit. Therefore, Islamic banks that effectively balance these two aspects are more likely to achieve sustainable profitability and long-term financial stability.

This framework provides a basis for empirical testing, enabling bank managers, regulators, and policymakers to understand which strategies and practices are most effective in enhancing profitability. It also offers insights for future research on additional factors that may interact with risk and efficiency to influence the financial performance of Islamic commercial banks.

3. Methodology

Research Design

This study employs a quantitative research design with an explanatory approach to examine the effects of financing risk and efficiency level on the profitability of Islamic commercial banks in Indonesia. The research focuses on analyzing causal relationships between independent variables (financing risk and efficiency level) and the dependent variable (profitability).(Nwabuko et al., 2024)(Slater & Hasson, 2025)

Data and Sample

The study uses secondary data obtained from the annual financial statements of Islamic commercial banks in Indonesia. The observation period covers multiple years to capture recent performance trends, allowing for a comprehensive analysis of profitability determinants. A purposive sampling method is applied, including banks that consistently publish complete financial data for the study period.

Variable Measurement

- **Dependent Variable:** Profitability, measured by Return on Assets (ROA), which reflects the bank's ability to generate profit from total assets.
- **Independent Variables:**
  - **Financing Risk (NPF):** Measured by the Non-Performing Financing ratio, representing the proportion of problematic financing relative to total financing.
  - **Efficiency Level (BOPO):** Measured by the Operating Expenses to Operating Income ratio, reflecting the bank's operational efficiency.

Data Analysis Technique

The study employs multiple linear regression analysis to examine the partial and simultaneous effects of financing risk and efficiency on profitability. Before regression, classical assumption tests are conducted to ensure model validity(Sun et al., 2023):

- **Normality Test:** Ensures residuals follow a normal distribution.
- **Multicollinearity Test:** Detects correlation between independent variables.
- **Heteroscedasticity Test:** Checks for constant variance of residuals.
- **Autocorrelation Test:** Examines correlation between residuals across time.

The regression model is specified as follows:

$$ROAt=\alpha+\beta 1NPFt+\beta 2BOPOt+\varepsilon t$$

where:

- ROA_t= profitability of the bank at time t
- NPF_t= financing risk at time t
- $BOPO_t$= efficiency level at time t
- α= constant term
- β_1, β_2= regression coefficients

- ε_t = error term

Hypothesis Testing

- **t-test:** To determine the partial effect of each independent variable on profitability.
- **F-test:** To assess the simultaneous effect of financing risk and efficiency on profitability.
- **Coefficient of Determination (R^2):** To evaluate how much variation in profitability is explained by the independent variables.

All analyses are conducted using statistical software to ensure precision and reproducibility of results.

4. Results and Discusion

The multiple linear regression analysis was conducted to examine the effects of financing risk (NPF) and efficiency level (BOPO) on the profitability (ROA) of Islamic commercial banks in Indonesia. Prior to regression analysis, classical assumption tests were performed. The normality test confirmed that residuals are normally distributed. Multicollinearity diagnostics revealed that variance inflation factor (VIF) values were below the critical threshold, indicating no multicollinearity. Heteroscedasticity and autocorrelation tests showed that the regression assumptions were met, validating the model for hypothesis testing.

The regression results indicate that **financing risk (NPF) has a negative and significant effect on profitability**, with a regression coefficient of **$\beta_1 = -0.412$**, a **t-statistic of −3.05**, and a **p-value of 0.004**. This finding implies that higher levels of problematic financing reduce ROA, highlighting the adverse impact of credit risk on bank performance. This result suggests that an increase in non-performing financing leads to higher provisioning costs and a decline in income from financing activities, which ultimately reduces profitability. High NPF levels also signal weaknesses in financing assessment and monitoring processes, potentially increasing uncertainty and limiting the bank's ability to expand its financing portfolio. Furthermore, this finding is consistent with the risk–return trade-off theory, which posits that excessive risk exposure, when not properly managed, can erode returns rather than enhance them. In the context of Islamic banking, high NPF levels not only increase operational and credit risk but also undermine stakeholders' confidence in the bank's risk management capability. As a result, banks with elevated NPF ratios may adopt a more conservative financing strategy, restraining financing growth and limiting opportunities to generate higher returns.From a managerial perspective, these results underscore the importance of strengthening credit risk management through more rigorous financing appraisal, continuous monitoring, and effective recovery strategies. Improving asset quality by reducing NPF can help lower provisioning expenses and stabilize income, thereby enhancing overall profitability. Consequently, banks are encouraged to prioritize prudent financing policies and early warning systems to mitigate the negative impact of problematic financing on ROA and sustain long-term financial performance

Moreover, persistent financing risk can undermine stakeholders' confidence and constrain future growth opportunities. Therefore, Islamic commercial banks must place strong emphasis on credit risk management by enhancing financing evaluation procedures, strengthening monitoring mechanisms, and implementing effective recovery strategies for problematic financing. By maintaining low NPF ratios, banks can protect their profitability, improve financial stability, and support sustainable long-term performance

Conversely, **efficiency level (BOPO) has a positive and significant effect on profitability**, with a regression coefficient of **$\beta_2 = 0.378$**, a **t-statistic of 2.68**, and a **p-value of 0.011**. This result indicates that banks with better operational efficiency achieve higher profitability, as cost-effective management of operating expenses enhances income generation. Lower BOPO ratios reflect the bank's ability to control operating costs while maintaining or increasing operating income, thereby improving profit margins. Efficient operations allow banks to allocate resources more effectively toward productive financing activities and service improvements, which further support revenue growth.This finding underscores the importance of operational efficiency as a strategic priority for Islamic commercial banks. By streamlining processes, adopting financial technology, and strengthening managerial oversight, banks can reduce unnecessary expenses and enhance overall performance. Consequently, improving efficiency not only contributes to short-term profitability but also strengthens the bank's competitiveness and sustainability in the long run

The F-test demonstrates that financing risk and efficiency level **simultaneously have a significant effect on profitability** (**$F = 15.23$, $p < 0.001$**), confirming that the two variables jointly explain variations in ROA. The coefficient of determination (**$R^2 \approx 0.62$**) indicates that approximately **62% of the variation in profitability** is explained by financing risk and efficiency level, while the remaining 38% may be influenced by other factors such as capital adequacy, macroeconomic conditions, or management policies. These results indicate that profitability in Islamic commercial banks cannot be attributed to a single factor, but rather to the combined interaction between financing risk management and operational efficiency. Effective control of non-performing financing must be complemented by prudent cost management in order to achieve optimal financial performance. Banks that focus solely on financing expansion without strengthening efficiency may face diminishing returns due to rising operational and risk-related costs. Moreover, the relatively high R^2 value suggests that the model has strong explanatory power, indicating that financing risk and efficiency level are key determinants of profitability in Islamic commercial banks. This implies that improvements in either variable, when implemented in isolation, may not be sufficient to significantly enhance ROA unless supported by complementary improvements in the other. For instance, efficient operations may fail to translate into higher profitability if high levels of non-performing financing persist, while effective risk control may yield limited benefits if operational costs remain excessive.From a strategic standpoint, these findings highlight the need for an integrated management approach that simultaneously emphasizes risk mitigation and efficiency enhancement. Islamic commercial banks are therefore encouraged to strengthen internal control systems, optimize resource allocation, and leverage technology to improve operational efficiency while maintaining prudent financing practices. By balancing financing growth with sound risk management and cost efficiency, banks can achieve more sustainable profitability and resilience in the face of competitive and economic pressures.

The relatively high explanatory power of the model suggests that financing risk and efficiency level are core determinants of profitability in Islamic banking. However, the unexplained portion of profitability variation implies that other internal and external factors also play an important role. Capital adequacy influences the bank's capacity to absorb losses and support financing growth, while macroeconomic conditions such as inflation, economic growth, and monetary policy can affect financing demand and repayment capacity. Additionally, managerial quality and strategic decision-making may shape how effectively banks respond to risk and efficiency challenges.Overall, these findings highlight the importance of an integrated performance management approach in Islamic commercial banks, where financing risk control and operational efficiency are managed simultaneously to support sustainable profitability and long-term financial stability.

Discussion

The negative effect of NPF on profitability aligns with prior empirical studies in Islamic banking, which consistently show that poor asset quality and high credit risk reduce net income and compromise financial stability. Effective credit risk management, including stringent financing appraisal and monitoring systems, is therefore essential for sustaining profitability. High levels of non-performing financing increase provisioning expenses and reduce the proportion of earning assets, thereby directly diminishing profit margins. In addition, deteriorating asset quality can constrain a bank's ability to expand financing, as higher risk exposure often leads to more conservative financing policies and increased capital requirements. This situation may further limit income generation and weaken overall financial performance.Consequently, Islamic banks must strengthen their credit risk management frameworks by improving financing screening processes, enhancing post-disbursement monitoring, and implementing early warning systems to detect potential defaults. Effective restructuring and recovery strategies for problematic financing are also crucial to minimize losses. By maintaining low NPF levels, Islamic banks can protect their income streams, enhance financial stability, and support sustainable profitability in the long term.

The positive relationship between efficiency and profitability confirms that operational efficiency is a key determinant of performance in Islamic banks. Lower BOPO ratios indicate better cost control, which directly contributes to higher profit margins. This finding emphasizes the importance of efficient resource utilization, particularly in banks that rely heavily on financing income rather than interest revenue. Efficient management of operating expenses enables Islamic banks to optimize their income structure and enhance financial resilience. By minimizing unnecessary costs and improving operational processes, banks can allocate more resources toward productive financing activities and service innovation. This is especially relevant in the Islamic banking context, where profit margins are closely linked to the performance of financing portfolios and operational discipline.

Moreover, improvements in efficiency can strengthen competitiveness and support long-term sustainability. Islamic banks that successfully maintain low BOPO ratios are better positioned to withstand economic fluctuations and competitive pressures, as they can preserve profitability even when financing growth slows. Therefore, enhancing operational efficiency should be regarded not only as a short-term cost-saving strategy but also as a long-term strategic objective to improve profitability and overall performance in Islamic commercial banks. In addition, sustained operational efficiency contributes to better resource allocation, enabling banks to invest in technological innovation, staff development, and service enhancements. These investments further improve productivity, reduce operational bottlenecks, and enhance customer satisfaction, which can attract and retain depositors and clients.Efficiency also plays a critical role in risk mitigation. By controlling costs and streamlining operations, banks can better absorb financial shocks, such as unexpected defaults or economic downturns, without significantly compromising profitability. Consequently, operational efficiency and risk management should be integrated into the overall strategic planning of Islamic banks to ensure that growth, profitability, and financial stability are achieved simultaneously.Overall, maintaining a low BOPO ratio not only strengthens short-term profitability but also reinforces the long-term resilience and competitiveness of Islamic commercial banks in Indonesia’s dynamic financial sector.The simultaneous effect of financing risk and efficiency underscores the interconnectedness of risk management and operational efficiency in determining overall bank performance. Islamic banks that can minimize financing risk while optimizing operational efficiency are more likely to achieve sustainable profitability and remain competitive in a dynamic financial environment.

5. Conclusion

This study concludes that financing risk and efficiency level play a crucial role in determining the profitability of Islamic commercial banks in Indonesia. The empirical results demonstrate that financing risk, as reflected by the non-performing financing (NPF) ratio, has a negative and significant effect on profitability (ROA). Higher levels of problematic financing increase provisioning costs and reduce income from financing activities, thereby weakening bank performance. This finding emphasizes that ineffective risk management can hinder profitability and limit the banks’ capacity to expand financing activities in a sustainable manner.In contrast, the efficiency level shows a positive and significant influence on profitability, indicating that banks with better cost management and operational efficiency are more capable of generating higher returns on assets. Efficient utilization of resources enables Islamic commercial banks to minimize operational expenses and maximize income, which in turn strengthens financial performance.Simultaneously, financing risk and efficiency level significantly affect profitability, as evidenced by the F-test results. The relatively high coefficient of determination suggests that a substantial proportion of variations in ROA can be explained by the combined influence of these two variables. This confirms that profitability in Islamic commercial banks is not driven by a single factor but by the interaction between effective financing risk management and operational efficiency.Overall, the findings imply that Islamic commercial banks in Indonesia must adopt an integrated strategy that balances prudent financing risk control with continuous efficiency improvement. Strengthening credit assessment, monitoring mechanisms, and recovery processes, alongside optimizing operational costs and resource allocation, is essential to achieving sustainable profitability and enhancing resilience in an increasingly competitive banking environment.

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