

**Profitability of Sharia Commercial Banks in the Spin-Off Era: Moderating Role of Non-Performing Financing**

<sup>1\*</sup>Aulia Nurriski, <sup>2</sup>Putri Rizkiyah, <sup>3</sup>Afsana Yesmin

<sup>1\*</sup>Sekolah Tinggi Ilmu Ekonomi Tri Bhakti, Bekasi, Indonesia

<sup>2</sup>Universitas Sriwijaya, Palembang, Indonesia

<sup>3</sup>Premier University, Chittagong, Bangladesh

Email: <sup>2</sup>[putririskiyah29@gmail.com](mailto:putririskiyah29@gmail.com) , <sup>3</sup>[afsanayesmin@gmail.com](mailto:afsanayesmin@gmail.com)

Corresponding author e-mail: [aulianrrsk.16@gmail.com](mailto:aulianrrsk.16@gmail.com)

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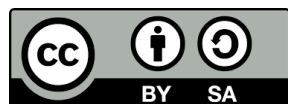
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**Abstract**

**Purpose** - This study aims to obtain empirical evidence on the influence of the Islamicity Performance Index (proxied by Profit-Sharing Ratio), Intellectual Capital, and Operational Efficiency Ratio on Return on Assets (ROA), with Non-Performing Financing as a moderating variable. This investigation is particularly relevant in the 2022–2024 period, which represents an era of post-pandemic recovery and accelerated spin-offs of Islamic banking units in Indonesia.

**Design/methodology/approach** - This study employs a quantitative research approach using secondary data. The population consists of 14 Sharia Commercial Banks listed by the Financial Services Authority (OJK) in Indonesia during the period 2022–2024. The sample includes 11 Sharia Commercial Banks selected based on purposive sampling criteria, resulting in 33 observations. The analysis technique used to test the hypothesis is multiple regression analysis and moderation interaction regression using EViews 9 software.

**Findings** - The results show that the Islamicity Performance Index has a negative and statistically significant effect on ROA, indicating that profit-sharing-based financing has not yet translated into higher short-term profitability during the spin-off era. Intellectual Capital and Operational Efficiency Ratio exhibit negative but statistically insignificant effects on ROA, suggesting that internal resource optimization remains uneven across Sharia banks. Non-Performing Financing has a negative and statistically insignificant direct effect on ROA; however, it significantly strengthens the relationship between the Islamicity Performance Index and ROA. This finding indicates that financing risk plays a critical role in shaping the effectiveness of Sharia-based financing structures on bank profitability, particularly in periods of structural transformation.

**Research limitations/implications** - This study is limited to Sharia Commercial Banks in Indonesia over the 2022–2024 period and relies solely on secondary data. Practically, the findings highlight the importance for Islamic bank management to integrate profit-sharing strategies with robust financing risk control. From a policy



*perspective, the results provide relevant insights for the Financial Services Authority (OJK) in designing supervisory frameworks that balance Sharia compliance, risk management, and profitability sustainability in the spin-off era.*

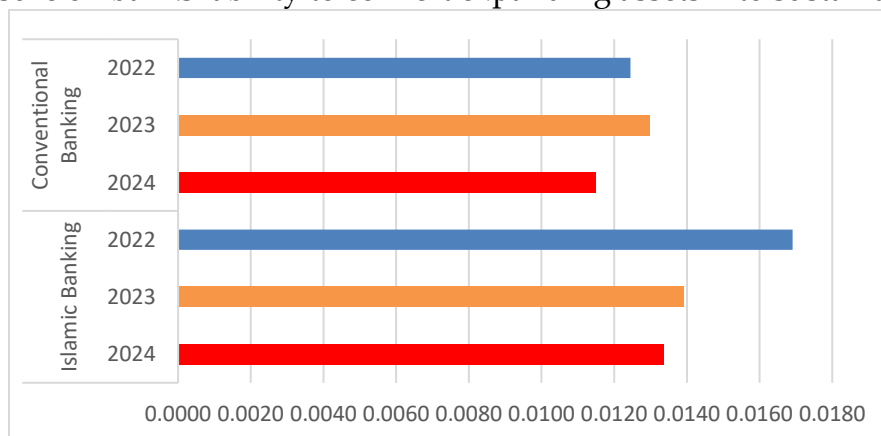
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## INTRODUCTION

Sharia banking in Indonesia has experienced rapid structural expansion over the past decade, driven not only by increasing public awareness of Sharia-compliant financial systems but also by major institutional reforms within the banking industry. As the country with the largest Muslim population in the world, Indonesia holds substantial potential for Sharia banking development. Beyond serving financial intermediation functions, Sharia banks are expected to embody ethical values, justice, and social responsibility in accordance with Islamic principles, positioning them as an alternative to interest-based conventional banking systems (Rozin et al., 2025).

A significant transformation in Indonesia's Sharia banking landscape has occurred following regulatory mandates encouraging the spin-off of Sharia Business Units (Unit Usaha Syariah/UUS) into independent Sharia Commercial Banks. Law No. 21 of 2008 on Sharia Banking and subsequent regulations issued by the Financial Services Authority (OJK) require UUS with assets exceeding specified thresholds to complete spin-offs. This policy aims to strengthen governance, improve managerial focus, and accelerate asset growth within fully-fledged Sharia banks (Hasanah et al., 2025). As a result, the 2022–2024 period represents a critical phase characterized by accelerated spin-offs, rapid asset expansion, and post-pandemic recovery pressures.

Despite this impressive institutional growth, Sharia banking faces a fundamental performance paradox. According to OJK data, the total assets of Indonesia's Sharia banking sector reached IDR 980.30 trillion in 2024, growing by 9.88% year-on-year, significantly higher than the 5.9% growth recorded by conventional banks. However, this strong asset growth has not been accompanied by proportional improvements in profitability. Return on Assets (ROA) in Sharia banking shows a persistent downward trend during the 2022–2024 period, indicating mounting pressure on banks' ability to convert expanding assets into sustainable profits.



**Figure 1. ROA for Conventional Banking and Sharia Banking**

Figure 1 illustrates that although Sharia banks consistently record higher ROA than conventional banks, both banking systems experience declining profitability. Sharia banking ROA decreased from approximately 1.7% in 2022 to around 1.35% in 2024, reflecting rising operational costs, asset quality challenges, intensified competition, and tighter macroeconomic conditions. This divergence between rapid asset growth and weakening profitability raises critical questions regarding the effectiveness of Sharia banks' internal resource allocation, financing structures, and risk management practices during the spin-off era.

From a theoretical perspective, this phenomenon is particularly important when examined through the lens of Sharia Enterprise Theory (SET). SET emphasizes that Sharia-based institutions are not solely profit-oriented but are also responsible for upholding fairness, ethical distribution of value, and accountability to stakeholders and society. One of the core operational manifestations of these values is profit-sharing-based financing, reflected in the Islamicity Performance Index (IPI), especially the Profit-Sharing Ratio. In principle, higher engagement in profit-sharing financing should align financial performance with Sharia values of justice and shared risk. However, empirical evidence increasingly suggests that profit-sharing mechanisms may generate higher monitoring costs, greater risk exposure, and delayed income recognition, especially during periods of rapid institutional restructuring.

Empirical evidence on the relationship between Sharia-based performance indicators and profitability remains inconclusive. Studies examining the Islamicity Performance Index proxied by the Profit-Sharing Ratio (PSR) report mixed results. Sari et al., (2025) find that PSR has a positive and significant effect on Return on Assets (ROA) in 12 Sharia Commercial Banks during the 2018–2020 period. Similarly, Imsar et al. (2023) report that PSR positively and significantly influences ROA in Sharia Commercial Banks in Indonesia over the 2017–2021 period. In contrast, Cahyani et al. (2025), examining Sharia Commercial Banks during the 2019–2023 period, find that PSR has a positive but statistically insignificant effect on ROA. Conversely, Isnaini & Saadati (2023) show that PSR is negatively and insignificantly associated with ROA in Sharia Commercial Banks during the 2017–2021 period. Consistent with this finding, Indrayani & Anwar (2022) demonstrate that PSR has a significantly negative effect on ROA in Sharia Commercial Banks over the 2015–2020 period. These mixed findings indicate that the profitability implications of profit-sharing financing remain unresolved under different institutional and economic conditions.

Similar inconsistencies are evident in studies examining Intellectual Capital. Sari et al. (2025), studying 12 Sharia Commercial Banks during the 2018–2022 period, find that Intellectual Capital has a positive but statistically insignificant effect on ROA. In contrast, Andiani & Prasetyo (2020), using data from Sharia Commercial Banks in Indonesia during the Q1 2017–Q4 2018 period, report a positive and significant relationship between Intellectual Capital and ROA. Supporting these results, Rosiana et al. (2020) find that Intellectual Capital positively and significantly affects ROA in banking firms listed on the Indonesia Stock Exchange during the 2014–2017 period. Similar findings are reported by Hasibuan & Windari (2024), who examine Bank BRI Syariah and Bank BTPN Syariah included in the Jakarta Islamic Index 70 (JII70) and find that Intellectual Capital has a positive and significant effect on ROA. However, Gunawan & Susanti (2025) report different results, showing that Intellectual Capital has a negative and statistically insignificant effect on ROA in state-owned enterprises during the 2019–2023 period.

Research gaps are also found in studies examining the Operational Efficiency Ratio (OER). Situmorang et al. (2024) find that the Operational Efficiency Ratio positively and significantly affects ROA in conventional banks listed on the Indonesia Stock Exchange during the 2019–2023 period. Similar results are reported by Sirait et al. (2023), who show that the Operational Efficiency Ratio has a positive and significant effect on ROA in banks listed on the Indonesia Stock Exchange over the 2017–2021 period. In contrast, Putri et al. (2023) find that the Operational Efficiency Ratio has a negative and significant effect on ROA at PT Bank Negara Indonesia (Persero) Tbk during the 2010–2020 period. Consistent with this finding, Fatimah et al. (2024) report that the Operational Efficiency Ratio negatively and significantly affects ROA in banks included in the Kompas100 Index during the 2018–2020 period. Moreover, Putri & Lestari (2025) demonstrate that the Operational Efficiency Ratio, also known as BOPO, negatively and significantly affects ROA in banking firms during the 2021–2024 period.

Likewise, prior research on Non-Performing Financing (NPF) in Islamic financial institutions reveals substantial variation in empirical results. Khasanah et al. (2022) find that NPF has a positive but statistically insignificant effect on ROA in five Sharia Commercial Banks in Indonesia during the 2015Q1–2020Q4 period. Similarly, Lestari et al. (2022), examining PT Bank Muamalat Indonesia during the 2009–2021 period, find that NPF significantly affects profitability as measured by ROA. In contrast, Norhayati (2023), studying five Sharia banks during the 2017–2022 period, finds that NPF has a negative and statistically insignificant effect on ROA. Latifah & Wirman (2021) report that NPF has a negative and significant effect on ROA at PT Bank Syariah Mandiri during the 2013–2020 period. Consistent with these results, Jazila et al. (2021) show that NPF negatively and insignificantly affects ROA in Sharia Commercial Banks in Indonesia during the 2014–2019 period. Similarly, Ishak & Pakaya (2022) document that Non-Performing Financing has a negative and significant effect on Return on Assets in Sharia Commercial Banks registered with the Financial Services Authority during the 2013–2020 period.

This study positions its novelty in examining how Non-Performing Financing (NPF) alters the effectiveness of Sharia-based financing structures during a period of exceptional structural change. While prior studies have extensively examined NPF as a moderating variable, most were conducted in relatively stable periods and did not account for the unique dynamics of accelerated spin-offs, post-pandemic recovery, and aggressive asset expansion. By focusing on the 2022–2024 period, this study captures a critical phase in which Sharia banks face heightened financing risk while simultaneously being expected to uphold Sharia values and maintain profitability.

Furthermore, the inclusion of Intellectual Capital and Operational Efficiency Ratio reflects the internal capability challenges faced by newly independent Sharia banks. Spin-offs often result in transitional inefficiencies, duplicated operational structures, and uneven human capital readiness. Therefore, statistically insignificant results for these variables should not be interpreted as a lack of relevance, but rather as evidence of structural adjustment constraints within the current Sharia banking ecosystem.

The selection of 11 Sharia Commercial Banks in this study represents institutions that have fully operated as independent Sharia banks during the observation period, thereby reflecting the core segment of Indonesia's Sharia banking industry post spin-off. Although the

number of observations is limited, the sample captures the most relevant actors directly affected by regulatory reforms, asset growth pressures, and profitability challenges, making it suitable for analyzing industry-wide structural dynamics rather than short-term statistical generalization.

Based on these considerations, this study examines the influence of the Islamicity Performance Index (Profit-Sharing Ratio), Intellectual Capital, and Operational Efficiency Ratio on Return on Assets, with Non-Performing Financing as a moderating variable. By integrating Sharia Enterprise Theory with contemporary regulatory and structural changes, this research contributes to the Islamic banking literature by demonstrating how fairness-oriented financing mechanisms interact with financing risk under conditions of rapid growth and institutional transformation.

## **LITERATUR REVIEW**

### **Sharia Enterprise Theory**

Sharia Enterprise Theory, introduced by Triyuwono (2000), conceptualizes Islamic financial institutions as entities accountable not only to shareholders, but also to Allah Subhanahu wa Ta'ala, society, and the environment. Within this framework, financial performance is not viewed solely as profit maximization, but as the outcome of ethical value creation, fairness in distribution, and responsible risk sharing. In Sharia banking operations, these values are operationalized through profit-sharing-based financing mechanisms, which are reflected in the Islamicity Performance Index (IPI), particularly the Profit-Sharing Ratio (PSR). Unlike interest-based financing, profit-sharing requires intensive monitoring, strong governance, and high-quality internal capabilities. Therefore, the effectiveness of PSR in enhancing profitability is not automatic, but depends on how well Sharia banks manage knowledge resources, operational efficiency, and financing risk.

### **Resource-Based View Theory**

Resource-Based View (RBV) Theory, developed by Wernerfelt (1984), From the perspective of Resource-Based View (RBV) Theory, organizational performance is driven by strategic internal resources that are valuable, rare, inimitable, and non-substitutable (Wernerfelt, 1984). In Islamic banking, Intellectual Capital plays a crucial role in translating Sharia values into effective banking practices. Human capital determines the capability of employees to structure Sharia-compliant contracts, monitor profit-sharing financing, and manage financing risk. Structural capital supports standardized Sharia governance and operational processes, while relational capital strengthens trust with customers. Thus, Intellectual Capital is not merely a productivity enhancer, but a key mechanism through which Sharia values embedded in the Islamicity Performance Index can be operationalized into sustainable financial performance.

### **Growth Theory**

Growth Theory, proposed by Penrose (1965), emphasizes that firm growth depends on the effective utilization of internal resources and managerial capability. In the context of Sharia

banking, especially during the post-spin-off period, operational efficiency reflects banks' ability to adapt to expanded operations, duplicated structures, and increasing compliance requirements. An increase in the Operational Efficiency Ratio (OER) may not solely indicate inefficiency, but also transitional investment in systems, governance, and service capacity. Therefore, the relationship between operational efficiency and profitability in Islamic banks must be understood as dynamic and conditional, particularly during periods of structural transformation.

## Risk and Return Theory

Risk and Return Theory, introduced by Markowitz (1952), explains that higher risk exposure increases the probability of lower realized returns when risks materialize. In Islamic banking, Non-Performing Financing (NPF) represents a critical form of financing risk that directly affects income stability, provisioning costs, and managerial focus. More importantly, NPF conditions the effectiveness of internal resources and Sharia-based financing mechanisms. High NPF levels can weaken the benefits of profit-sharing financing by increasing monitoring costs and reducing income realization. Similarly, high financing risk may limit the ability of intellectual capital and operational expansion to translate into profitability. Therefore, NPF is conceptually positioned as a moderating variable that alters the strength and direction of relationships between internal bank capabilities and financial performance.

## HYPOTHESES DEVELOPMENT

### The Effect of the Islamicity Performance Index on Return on Assets

Based on Sharia Enterprise Theory, Islamic banks are expected to implement profit-sharing financing as a manifestation of justice, transparency, and shared accountability. The Profit-Sharing Ratio reflects the bank's commitment to Sharia values, which can enhance stakeholder trust and reputational capital. Higher trust is expected to improve funding stability and asset utilization, thereby supporting profitability. However, profit-sharing contracts also involve higher monitoring costs and income uncertainty, particularly during periods of structural adjustment such as post spin-offs. Despite these challenges, profit-sharing financing is theoretically expected to contribute positively to bank performance. This argument is supported by empirical studies conducted by Cahyani et al. (2025), which document a positive relationship between PSR and ROA.

H<sub>1</sub>: The Islamicity Performance Index (Profit Sharing Ratio) has a positive effect on Return on Assets.

### Influence of Intellectual Capital on Return on Assets

According to Resource-Based View Theory, Intellectual Capital represents a strategic resource that enhances organizational capability and competitive advantage. In Islamic banking, strong Intellectual Capital supports complex financing structures, risk assessment, and Sharia compliance. During the post spin-off period, effective utilization of human and

structural capital becomes essential to transform asset growth into profitability. Therefore, banks with higher Intellectual Capital are expected to achieve better asset productivity and higher Return on Assets (ROA). Previous empirical findings by (Andiani & Prasetyo (2020) support this view, indicating that intellectual capital positively influences ROA.

H<sub>2</sub>: Intellectual Capital has a positive effect on Return on Assets.

### **The Impact of Operational Efficiency Ratio on Return on Assets**

Growth Theory suggests that firm performance depends on the efficient utilization of internal resources during expansion phases. In Sharia banking, rising operational costs may reflect strategic investments in governance, compliance, and service capacity. When managed efficiently, these costs can improve long-term performance by strengthening operational capability. Consequently, better operational efficiency is expected to enhance asset utilization and profitability. This argument is consistent with the findings of Situmorang et al. (2024), who report a positive relationship between OER and ROA.

H<sub>3</sub>: Operational Efficiency Ratio has a positive effect on Return on Assets.

### **The Influence of Non-Performing Financing on Return on Assets**

Risk-Return Theory explains that realized risk negatively affects financial performance when financing quality deteriorates. In Islamic banking, higher Non-Performing Financing increases provisioning costs, reduces income realization, and weakens asset productivity. These conditions directly suppress profitability and lower Return on Assets. Therefore, effective financing risk management is essential to sustain financial performance. Conversely, lower NPF levels indicate effective financing risk management that supports financial stability and enhances performance. Empirical evidence from Norhayati (2023) confirms that NPF has a negative impact on ROA.

H<sub>4</sub>: Non-Performing Financing has a negative effect on Return on Assets.

### **Non-Performing Financing does not strengthen the influence of Islamicity Performance Index on Return on Assets**

Within the framework of Sharia Enterprise Theory, profit-sharing financing represents a core mechanism for implementing fairness, transparency, and shared accountability in Islamic banking operations. The Islamicity Performance Index, through the Profit-Sharing Ratio, reflects the bank's commitment to these Sharia values. However, profit-sharing contracts are highly sensitive to financing quality, as returns depend on the actual performance of financed projects. When Non-Performing Financing increases, monitoring costs rise, income realization becomes uncertain, and potential losses escalate. These conditions weaken the ability of Sharia-oriented financing to translate ethical commitment into improved financial performance. Therefore, the impact of the Islamicity Performance Index on profitability is conditional upon the level of financing risk.

H<sub>5</sub>: Non-performing financing does not strengthen the influence of Islamicity Performance Index on Return on Assets



## Non-Performing Financing does not strengthen the influence of Intellectual Capital on Return on Assets

Based on the Resource-Based View, Intellectual Capital enhances organizational effectiveness through superior knowledge, skills, and managerial capability. In Islamic banking, these capabilities are essential for managing complex Sharia-compliant financing and risk assessment processes. However, when Non-Performing Financing is high, managerial attention and organizational resources are redirected toward recovery, restructuring, and risk mitigation activities. This shift reduces the capacity of Intellectual Capital to generate value and improve asset productivity. Consequently, the contribution of Intellectual Capital to profitability becomes less effective under elevated financing risk.

H<sub>6</sub>: Non-Performing Financing does not strengthen the influence of Intellectual Capital on Return on Assets

## Non-Performing Financing strengthens the influence of Operational Efficiency Ratio on Return on Assets

Growth Theory emphasizes that operational efficiency plays a crucial role during periods of expansion and structural change. In the presence of high Non-Performing Financing, banks face increased provisioning costs and income volatility, which intensify pressure on profitability. Under such conditions, efficient cost management and streamlined operations become essential to absorb financing losses and maintain financial stability. As a result, the importance of operational efficiency in determining profitability increases when financing risk rises. Therefore, financing risk strengthens the relationship between operational efficiency and Return on Assets.

H<sub>7</sub>: Non-Performing Financing strengthens the influence of Operational Efficiency Ratio on Return on Assets

## RESEARCH METHOD

The determination of the population that has been determined uses the purposive sampling technique. The determination of the criteria included as samples in this research is as follows:

**Table 1. Sample Selection**

	Number of Islamic banking companies registered with the Financial Services Authority as of June 2025	14 Companies
	Islamic banking companies not registered with the Financial Services Authority	(0 Company)
Criteria 1	Islamic banking companies registered with the Financial Services Authority	14 Companies
	Islamic banking companies that did not submit an Annual Report for 2022-2024 that can be used in this study	(1 Company)



Criteria 2	Islamic banking companies that submitted an Annual Report for 2022-2024 that can be used in this study	13 Companies
	Islamic banking companies that experienced losses for 2022-2024	(2 Companies)
Criteria 3	Islamic banking companies that reported profits for 2022-2024	11 Companies
<b>Sample Companies</b>		<b>11 Companies</b>
<b>Total N: 11 x 3 years of research = 33 Data Observations</b>		

Source: processed data (2025)

Based on the above criteria, from a total population of 14 companies, 11 companies were found to meet the requirements for this study.

This research employs panel data regression analysis. In panel data estimation, three alternative models can be applied, namely the Common Effect Model (CEM), the Fixed Effect Model (FEM-Covariance Model), and the Random Effect Model (REM). Model selection is conducted to identify the most appropriate estimation model among the three, using the Chow test, Hausman test, and Lagrange Multiplier test. Furthermore, hypothesis testing in this study is carried out using the determination coefficient test and the t-test.

## Measurement

### Islamicity Performance Index ( $X_1$ )

Measurement of Islamicity Performance Index is measured using the formula Imsar et al., (2023).

$$\text{Profit Sharing Ratio} = \frac{\text{Mudharabah} + \text{Musyawarah}}{\text{Total Financing}}$$

### Intellectual Capital ( $X_2$ )

Intellectual Capital measurement is measured using the formula Dianty et al. (2024).

There are several stages in measuring intellectual capital, namely:

1. Calculating value added (VA), calculated as the difference between output and input.

$$VA = \text{Out} - \text{In}$$

Information:

Out: output, total sales and other income.

In: input, sales expenses and other costs (excluding employee expenses)

2. Calculating the value added of capital used (VACA)

$$VACA = VA / CE$$

Information:

VA: Value added

CE: Capital employed (available funds, equity, net profit)

3. Calculating the value added of human capital (VAHU)

$$VAHU = VA / HC$$

Information:

VA: Value added

HC: Human capital (employee costs)



4. Calculating the value added of structural capital (STVA)

$$STVA = SC/VA$$

Information:

SC: Structural capital = VA - HC

VA: Value added

5. Calculating the value added of intellectual capital (VAIC)

$$VAIC = VACA + VAHU + STVA$$

### Operational Efficiency Ratio (X<sub>3</sub>)

Measurement of Operational Efficiency Ratio using the Putri & Lestari formula (2025).

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

### Return on Assets (Y)

The measurement of Return on Assets was measured using the formula Sari et al. (2025).

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

### Non-Performing Financing (X<sub>4</sub>)

Non-Performing Financing measurement is measured using the formula Latifah & Wirman (2021).

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

## RESULTS

Table 2. Descriptive Test Results

	IPI	IC	OER	NPF	ROA
Mean	0.5559	2.7668	0.7190	0.0205	0.0147
Median	0.6052	2.7726	0.7232	0.0191	0.0131
Maximum	0.9893	5.4522	0.9853	0.0375	0.0837
Minimum	0.0017	1.1810	0.3880	0.0070	0.0002
Std. Dev.	0.2830	0.9368	0.1446	0.0098	0.0165
Skewness	-0.3713	0.5407	-0.0177	0.1917	2.7993
Kurtosis	2.1889	3.6204	2.7379	1.6160	11.2424
Jarque-Bera	1.6627	2.1372	0.0962	2.8360	136.5128
Probability	0.4355	0.3435	0.9530	0.2422	0.0000
Sum	18.3451	91.3055	23.7258	0.6777	0.4859
Sum Sq. Dev.	2.5636	28.0844	0.6690	0.0031	0.0087
Observations	33	33	33	33	33

Source: Output Views9 (2025)

### Selection of the Best Panel Data Model

#### Chow Test

Decision-making criteria and based on the value of F calculated:

- If the probability (Prob) on the cross-section  $F < 0.05$  and if  $F$  calculates  $> F$  table then a better model is Fixed Effect Model (FEM).
- If the probability (Prob) on the Cross Section  $F$  is  $> 0.05$  and If  $F$  is calculated  $< F$  table then a better model is Common Effect (CEM).

**Table 3. Chow Test**

Effects Test	Statistic	d.f.	Prob.
Cross-section F	16.588888	(10,15)	0.0000
Cross-section Chi-square	82.164479	10	0.0000

Source: Output Eviews9 (2025)

Based on the results of the Chow Test using Eviews9, it is stated that the probability value of Cross Section  $F$  is 0.0000 which is less than the significance level value ( $\alpha = 0.05$ ). This means that the best model used is the Fixed Effect Model (FEM). Therefore, a Hausman Test is needed in order to choose the best model between the Fixed Effect Model and the Random Effect Model.

**Hausman Test**

Decision-making criteria and based on the value of  $F$  calculated:

- If the probability on the Cross Section Random  $> 0.05$ , then the better model is the Random Effect Model (REM).
- If the probability on Cross Section Random  $< 0.05$ , then the better model is the Fixed Effect Model (FEM).

**Table 4. Hausman Test**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	48.979052	7	0.0000

Source: Output Eviews9 (2025)

The Hausman test results show a probability value of 0.0000, which is smaller than the significance level of 5% ( $\alpha = 0.05$ ). These results indicate that the most appropriate model is the Fixed Effect Model (FEM). In this case, based on the Chow test, Hausman test, and Lagrange multiplier Test, the dominant model is the Fixed Effect Model (FEM), so the best model used is the Fixed Effect Model (FEM).

**Multiple Regression Analysis**



**Table 5. Panel Data Regression Analysis**

Variable	Prediction	Coefficient	T-Statistic	Prob.
C		0.1693	1.4558	0.1661
IPI	+	-0.0568	-1.9156	0.0747**
IC	+	-0.0120	-0.8854	0.3899
OER	+	-0.1086	-0.9422	0.3610
NPF	-	-5.4649	-1.2830	0.2190
IPI*NPF -> ROA	-	2.4993	2.1858	0.0451*
IC*NPF -> ROA	-	0.5460	1.0236	0.3222
OER*NPF -> ROA	+	2.9251	0.7193	0.4830

\* = 5% Significance, \*\* = 10% Significance

Note: IPI: Islamicity Performance Index, IC: Intellectual Capital, OER: Operational Efficiency, ROA: Return on Assets, NPF: Non-Performing Financing

Source: Output Eviews9 (2025)

The results of panel data regression estimation using the Fixed Effect Model (FEM) show the results of testing with panel data regression, so from these results the following model equation is obtained.

$$ROA = 0.01693 - 0.0568*IPI - 0.0120*IC - 0.1086*OER - 5.4649*NPF + 2.4993*IPI*NPF + 0.5460*IC*NPF + 2.9251*OER*NPF$$

## Coefficient of Determination Test

**Table 6. Determination Coefficient Test**

R-squared	0.964595	Mean dependent var	0.014724
Adjusted R-squared	0.924470	S.D. dependent var	0.016494
S.E. of regression	0.004533	Akaike info criterion	-7.652425
Sum squared resid	0.000308	Schwarz criterion	-6.836148
Log likelihood	144.2650	Hannan-Quinn criter.	-7.377772
F-statistic	24.03960	Durbin-Watson stat	3.544757
Prob(F-statistic)	0.000000		

Source: Output Eviews9 (2025)

R-Squared value of 0.964595 indicates that 96,4% of the variation in Return on Assets can be explained by Islamicity Performance Index, Intellectual Capital, Operational Efficiency Ratio and Non-Performing Financing. Meanwhile, the remaining 76.73% is explained by other factors that were not included in this model but have been identified in previous studies, such as the Capital Adequacy Ratio (CAR), Zakat Performance Ratio, Equitable Distribution Ratio (EDR), Islamic Income Ratio, Financing to Deposit Ratio (FDR), and Inflation.

**Partial Test (T-Test)**

**Table 7. T-test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.169393	0.116357	1.455804	0.1661
IPI	-0.056834	0.029668	-1.915654	0.0747**
IC	-0.012082	0.013645	-0.885431	0.3899
OER	-0.108693	0.115350	-0.942289	0.3610
NPF	-5.464942	4.259413	-1.283027	0.2190
IPI*NPF	2.499348	1.143431	2.185833	0.0451*
IC*NPF	0.546039	0.533405	1.023686	0.3222
OER*NPF	2.925134	4.066472	0.719330	0.4830

\* = 5% Significance, \*\* = 10% Significance

Note: IPI: Islamicity Performance Index, IC: Intellectual Capital, OER: Operational Efficiency, ROA: Return on Assets, NPF: Non-Performing Financing

Source: Output Eviews9 (2025)

The results of the test using the Fixed Effect Model (FEM) can be concluded as follows:

1. Islamicity Performance Index with a probability value of  $0.0747/2 = 0.03735 < 0.05$ , can be interpreted that the Islamicity Performance Index variable has a negative effect and is statistically significant on Return on Assets.
2. Intellectual capital with a probability value of  $0.3899/2 = 0.19495 > 0.05$ , can be interpreted that the Intellectual capital variable has a negative effect and is statistically insignificant on Return on Assets.
3. Operational Efficiency Ratio with a probability value of  $0.3610/2 = 0.1805 > 0.05$ , can be interpreted that the Operational Efficiency Ratio variable has a negative effect and is statistically insignificant on Return on Assets.
4. Non-Performing Financing with a probability value of  $0.2190/2 = 0.1095 > 0.05$ , can be interpreted that the Non-Performing Financing variable has a negative effect and is statistically insignificant on Return on Assets.
5. The interaction between Islamicity Performance Index and Non-Performing Financing has a probability value of  $0.0451/2 = 0.02255 < 0.05$ , which means that Non-Performing Financing significantly strengthens the effect of Islamicity Performance Index on Return on Assets.
6. The interaction between Intellectual Capital and Non-Performing Financing has a probability value of  $0.3222/2 = 0.1611 > 0.05$ , which means that Non-Performing Financing does not significantly moderate the effect of Intellectual Capital on Return on Assets.
7. The interaction between Operational Efficiency Ratio and Non-Performing Financing has a probability value of  $0.4830/2 = 0.2415 > 0.05$ , which means that Non-Performing Financing does not significantly moderate the effect of Operational Efficiency Ratio on

Return on Assets.

## DISCUSSIONS

### Islamicity Performance Index (Profit Sharing Ratio) on Return on Assets

The empirical results indicate that the Islamicity Performance Index, proxied by the Profit-Sharing Ratio (PSR), has a negative and statistically significant effect on Return on Assets (ROA). This finding suggests that a higher proportion of profit-sharing financing does not necessarily improve profitability in Indonesian Islamic banks during the 2022–2024 period. Contrary to theoretical expectations, profit-sharing schemes may generate additional costs and risks that outweigh their potential returns in the short run.

This phenomenon can be explained by the structural characteristics of profit-and-loss sharing (PLS) contracts, particularly *mudharabah* and *musyarakah*, which are highly vulnerable to moral hazard and information asymmetry. In practice, Islamic banks have limited control over business operations conducted by financing recipients, making it difficult to verify actual profits. As a result, banks must incur high monitoring, auditing, and supervisory costs to mitigate opportunistic behavior, which directly reduces profitability. These costs tend to increase further during periods of economic uncertainty, such as the post-pandemic recovery phase observed in Indonesia during 2022–2024.

Moreover, a contrasting pattern is observed among Islamic banks with high PSR but low ROA, indicating that strong adherence to Sharia principles does not automatically translate into superior financial performance. Many Indonesian Islamic banks remain conservative in risk management and lack advanced monitoring infrastructure, causing profit-sharing financing to be less efficient than mark-up-based contracts. This explains why the negative effect of PSR on ROA emerges despite its normative alignment with Sharia objectives.

The findings differ from studies by Sari et al. (2025) and Cahyani et al. (2025), which report a positive relationship, possibly due to differences in observation periods and economic conditions. However, the results are consistent with Isnaini & Saadati (2023), who argue that high monitoring costs and weak profit realization mechanisms in Indonesian Islamic banks suppress profitability derived from profit-sharing financing.

### Intellectual Capital on Return on Asset

The results show that Intellectual Capital (IC) has a negative and statistically insignificant effect on Return on Assets. This finding suggests that investments in intellectual resources have not yet translated into measurable financial performance improvements in Indonesian Islamic banks during the short-term observation period.

Unlike conventional banking, Islamic banking requires dual competencies, combining technical banking expertise with Sharia compliance knowledge. However, the quality and productivity of human resources in Indonesian Islamic banks remain uneven. Many banks still face limitations in developing Sharia-oriented risk analysts, financing officers, and product innovation specialists who are capable of generating added economic value. Consequently, expenditures on training, certification, and organizational development tend to increase operational costs without immediate revenue gains.

In addition, intellectual capital development in Islamic banks is largely oriented toward regulatory compliance and internal restructuring, rather than revenue-driven innovation. During the 2022–2024 period, many banks focused on institutional consolidation and governance strengthening, which delayed the financial benefits of intellectual capital investments. This explains why IC does not significantly enhance ROA in the short run, diverging from findings by Andiani & Prasetyo (2020) and Sari et al. (2025).

However, this result is consistent with Gunawan & Susanti (2025), who emphasize that intellectual capital tends to yield long-term benefits and may even reduce short-term profitability due to increased development and adjustment costs. Thus, the insignificant effect observed in this study reflects the time-lag nature of intellectual capital returns, particularly in a highly regulated Islamic banking environment.

### **Operational Efficiency Ratio on Return on Assets**

The findings indicate that the Operational Efficiency Ratio (OER) has a negative but statistically insignificant effect on Return on Assets. This result suggests that operational inefficiency was not the primary driver of profitability variations among Indonesian Islamic banks during the observation period.

One possible explanation is that Islamic banks were able to offset rising operational costs through income generated from non-financing activities, such as fee-based services and digital banking initiatives. Additionally, cost inefficiencies related to branch expansion, system upgrades, and regulatory compliance were largely strategic in nature and did not immediately deteriorate profitability.

Furthermore, the relatively homogeneous cost structures across Islamic banks during 2022–2024 reduced the variability of OER, weakening its explanatory power on ROA. This finding contrasts with studies on conventional banks (Sirait et al., 2023; Situmorang et al., 2024), but aligns with Putri & Lestari (2025), who argue that operational inefficiency does not always directly translate into lower profitability in regulated banking sectors.

### **Non-Performing Financing on Return on Assets**

The results show that Non-Performing Financing (NPF) has a negative but statistically insignificant effect on Return on Assets. This finding suggests that although deteriorating financing quality exerts downward pressure on profitability, its impact was not sufficiently strong to significantly reduce ROA during the study period.

Islamic banks face unique challenges in managing non-performing financing due to Sharia restrictions on interest-based penalties and restructuring mechanisms. Nevertheless, proactive provisioning policies and conservative financing portfolios enabled banks to absorb potential losses. This explains why NPF did not significantly affect profitability, despite its negative coefficient. This research is in line with the findings Norhayati (2023) which states that Non-Performing Financing has a negative effect on Return on Assets.

### **Non-Performing Financing strengthens Islamicity Performance Index on Return on Assets**

The empirical results indicate that Non-Performing Financing (NPF) significantly

moderates the relationship between the Islamicity Performance Index (proxied by the Profit Sharing Ratio) and Return on Assets. This finding implies that the negative impact of profit-sharing financing on profitability becomes stronger when financing risk increases.

Under conditions of high NPF, Islamic banks face greater uncertainty in realizing profits from profit-and-loss sharing contracts. The increase in problematic financing forces banks to intensify monitoring, restructuring, and risk mitigation efforts, which substantially raises operational and supervisory costs. In profit-sharing schemes, where returns depend on actual business performance, higher NPF exacerbates moral hazard and information asymmetry, making profit realization increasingly difficult.

This result highlights a unique phenomenon in Indonesian Islamic banking, where strong Sharia compliance through higher profit-sharing financing does not necessarily enhance profitability in high-risk environments. Instead, financing risk amplifies the adverse effect of the Islamicity Performance Index on ROA. Therefore, NPF plays a critical role in determining whether profit-sharing mechanisms contribute positively or negatively to bank performance.

## **Non-Performing Financing does not strengthen Intellectual Capital on Return on Assets**

The results show that Non-Performing Financing does not moderate the relationship between Intellectual Capital and Return on Assets. This indicates that financing risk does not alter the impact of intellectual resource investments on bank profitability.

Intellectual Capital primarily reflects long-term investments in human capital, organizational processes, and knowledge systems. Although higher NPF increases financial pressure through provisioning and asset quality deterioration, it does not directly influence the effectiveness of intellectual capital in generating short-term profits. In Indonesian Islamic banks, the benefits of intellectual capital development—such as employee training, Sharia certification, and system improvements—require extended periods to translate into financial returns.

The absence of a moderating effect suggests that fluctuations in financing quality do not accelerate or weaken the contribution of intellectual capital to profitability. This finding reinforces the argument that intellectual capital yields delayed economic benefits, regardless of short-term financing risk conditions.

## **Non-Performing Financing does not strengthen Operational Efficiency Ratio on Return on Assets**

The empirical findings indicate that Non-Performing Financing does not moderate the relationship between the Operational Efficiency Ratio and Return on Assets. This suggests that financing risk does not significantly influence the effect of operational efficiency on bank profitability.

Operational Efficiency Ratio reflects internal cost management and operational effectiveness. While higher NPF increases provisioning costs and reduces income, these effects are managed separately from routine operational expenses. Consequently, inefficiencies in operational activities are primarily driven by internal managerial decisions rather than by external financing risk conditions.

This result implies that even under high NPF levels, the impact of operational efficiency on profitability remains stable. Therefore, improving operational efficiency in Islamic banks should focus on cost control and process optimization rather than relying on changes in financing risk levels.

## CONCLUSIONS

This study provides an integrated understanding of how Islamic banks in Indonesia maintain profitability amid increasing financing risk during the post-pandemic and accelerated spin-off period (2022–2024). The main finding highlights a critical paradox in Islamic banking sustainability: stronger adherence to Sharia-based financing principles, particularly profit-sharing schemes, does not automatically translate into higher profitability when financing risk intensifies.

The negative and significant effect of the Islamicity Performance Index, proxied by the Profit Sharing Ratio, indicates that profit-sharing-based financing exposes Islamic banks to higher monitoring costs, moral hazard, and uncertainty in income realization. This condition becomes more pronounced when Non-Performing Financing (NPF) increases, as evidenced by the significant moderating role of NPF. Rather than strengthening profitability, higher financing risk amplifies the negative impact of profit-sharing mechanisms on Return on Assets. This finding suggests that during periods of heightened risk, the ethical superiority of profit-sharing contracts must be accompanied by robust risk control mechanisms to prevent erosion of financial performance.

Meanwhile, the insignificant effects of Intellectual Capital and the Operational Efficiency Ratio on profitability reflect the structural challenges faced by Islamic banks during the observation period. Investments in human capital, systems, and organizational capabilities – particularly following spin-offs – tend to generate long-term benefits rather than immediate financial returns. Similarly, operational cost pressures during post-spin-off adjustments and post-pandemic recovery appear to dilute the short-term impact of efficiency improvements on profitability. The absence of a moderating role of NPF on these relationships indicates that financing risk does not materially alter the short-run contribution of internal capability investments to profitability.

Overall, the findings answer the central research question by demonstrating that Islamic banks can remain competitive under financing risk pressures not by expanding profit-sharing financing aggressively, but by strategically aligning Sharia compliance, operational capability development, and financing risk management. Sustainability in Islamic banking is therefore contingent upon balancing ethical objectives with prudent risk mitigation and efficiency-oriented managerial practices.

### 1. Managerial Implications for Islamic Bank Management

Islamic bank executives should reassess the implementation of profit-sharing financing during periods of elevated Non-Performing Financing. Rather than increasing the volume of profit-sharing contracts indiscriminately, banks should strengthen monitoring mechanisms, improve project evaluation quality, and adopt selective risk-sharing strategies to mitigate moral hazard and information asymmetry. Enhancing post-disbursement supervision and integrating risk-based pricing within Sharia-compliant

frameworks can help preserve profitability without compromising Sharia principles.

In addition, investments in Intellectual Capital should be more closely linked to measurable productivity outcomes. Human resource development programs need to focus not only on Sharia compliance knowledge but also on risk assessment, financing restructuring, and performance-based incentives to ensure that intellectual capital contributes to value creation rather than merely increasing operational costs.

## 2. Policy Implications for the Financial Services Authority (OJK)

The findings suggest that regulatory encouragement of profit-sharing financing should be accompanied by supervisory guidelines that emphasize risk mitigation and monitoring effectiveness. OJK may consider issuing specific policy frameworks or technical guidelines for managing profit-sharing contracts under high NPF conditions, including standardized monitoring practices and early warning systems tailored to Islamic financing structures.

Furthermore, given the transitional inefficiencies following spin-offs, OJK could support Islamic banks by promoting cost-efficiency benchmarking and facilitating shared infrastructure or collaborative platforms among Sharia banks to reduce operational duplication and inefficiency during the adjustment phase.

## 3. Implications for the Sustainability of Islamic Banking

This study underscores that the sustainability of Islamic banks is not determined solely by higher Sharia compliance or resource investment, but by the strategic integration of ethical financing, operational efficiency, and financing risk management. Strengthening Sharia values must go hand in hand with strengthening managerial discipline and risk governance to ensure that ethical objectives support, rather than undermine, long-term financial resilience.

## 4. Directions for Future Research

Future studies may extend this research by incorporating governance quality, risk management effectiveness, or financing composition as mediating variables to better explain how Sharia-based financing translates into profitability. Comparative studies between pre- and post-spin-off periods or between Islamic and conventional banks may also provide deeper insights into structural differences in risk absorption and profitability dynamics.

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