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Financial Ratio-Based Risk Assessment of Musharakah Financing in Indonesian Islamic Banking: The Moderating Role of Sharia Compliance

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ABSTRACT

This study examines the effect of financial ratios on musharakah financing risk in Islamic banks in Indonesia, with sharia compliance positioned as a moderating variable. The study develops an explanatory model linking bank financial performance, represented by key financial ratios, to the level of risk associated with musharakah-based financing. Using secondary data obtained from the annual financial reports of Islamic commercial banks in Indonesia, this study applies a quantitative approach to evaluate the relationship between financial ratios, sharia compliance, and musharakah financing risk. The analysis is conducted by employing moderated regression analysis or panel data regression to capture both the direct effects of financial ratios and the interaction effect of sharia compliance. The findings are expected to show that financial ratios play an important role in explaining variations in musharakah financing risk, indicating that bank liquidity, profitability, capital adequacy, and financing quality are closely related to risk exposure in profit-sharing financing contracts. Furthermore, sharia compliance is expected to moderate the relationship between financial ratios and musharakah financing risk, suggesting that stronger adherence to Islamic principles may improve risk control and enhance the quality of financing governance. The novelty of this study lies in integrating financial ratio analysis with sharia compliance as a moderating mechanism in the context of musharakah financing risk. Practically, the findings may assist Islamic banks, regulators, and sharia supervisory boards in strengthening financial risk management while maintaining compliance with Islamic banking principles.

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Introduction

The banking industry plays a central role in economic development because banks transform public savings into productive financing for households, firms, micro, small, and medium enterprises, and other real-sector activities. In bank-based economies such as Indonesia, this intermediation function is especially important because banks remain the main channel through which financial resources are allocated to productive sectors. However, the contribution of banks to economic growth depends not only on the volume of financing distributed, but also on the quality of asset allocation and the effectiveness of risk control. Recent evidence shows that credit risk is shaped by both bank-specific and systematic factors, meaning that weak screening, poor monitoring, and macroeconomic pressure can increase non-performing loans or financing (Naili & Lahrichi, 2022). A high level of non-performing loans may also weaken credit expansion because problematic assets reduce banks' capacity and willingness to provide new financing (Tölö & Virén, 2021; Thornton & Di Tommaso, 2021). Therefore, banks must balance their intermediation role with prudent portfolio diversification, adequate capital management, and continuous risk monitoring. Profitability and asset quality are also important for stability, as stronger earnings can improve bank

resilience when supported by sound risk governance (Pessarossi et al., 2020). Consequently, inefficient asset allocation, excessive financing concentration, and inadequate risk management may increase non-performing financing and ultimately threaten the stability of the banking system.

In the Islamic banking system, the intermediation function is conducted under Sharia principles. Islamic banks are prohibited from engaging in interest-based transactions, as interest is classified as riba. Instead, Islamic banking emphasizes fairness, transparency, asset-backed transactions, risk sharing, and the linkage between finance and real economic activity. Islamic banking in Indonesia has developed since 1992 and has gradually become an important component of the national financial system. OJK's Islamic finance development reports indicate that Islamic banking remains a strategic sector within Indonesia's broader Islamic financial ecosystem, covering Sharia commercial banks, Sharia business units, and Sharia rural banks. OJK also reported that Islamic banking financing reached Rp643.55 trillion in 2024, growing 9.92% year on year (Otoritas Jasa Keuangan, 2025).

A distinctive feature of Islamic banking is the use of profit-and-loss sharing (PLS) contracts, particularly *mudharabah* and *musyarakah*. *Mudharabah* refers to a partnership in which one party provides capital while the other manages the business, whereas *musyarakah* is a joint partnership in which two or more parties contribute capital and share profits based on a pre-agreed ratio, while losses are borne according to each party's capital contribution. This makes *musyarakah* closer to equity-based financing than debt-based financing. Conceptually, *musyarakah* reflects the ideal spirit of Islamic finance because it promotes fairness, risk sharing, transparency, and direct participation in productive economic activities. Al Nasser and Muhammed (2013) emphasize that Islamic banking is fundamentally grounded in the prohibition of interest and the application of profit-and-loss sharing principles. Recent studies also confirm that PLS financing remains an essential feature of Islamic banks because it links financing activities to real economic performance and strengthens the participatory nature of Islamic financial intermediation (Meslier et al., 2020; Salman, 2022; Wicaksono et al., 2024). Meslier et al. (2020), for example, show that Islamic banks' equity financing is influenced by bank fundamentals, market competition, and the Sharia governance environment, while Wicaksono et al. (2024) demonstrate that PLS financing plays an important role in explaining credit-risk dynamics in Indonesian Islamic banks.

However, PLS financing also carries a higher risk profile than sale-based contracts such as *murabahah*. In *musyarakah*, the bank's return depends on the actual performance of the financed business, which exposes the bank to business failure, inaccurate profit reporting, moral hazard, and information asymmetry. Warninda, Ekaputra, and Rokhim (2019) found that *mudharabah* and *musyarakah* affect Islamic bank credit risk differently, with *musyarakah* showing a reverse U-shaped relationship with credit risk and reaching its maximum risk when the proportion of *musyarakah* financing is around 37–39% of total financing. Belkhaoui, Alsagr, van Hemmen, and Elgammal (2020) similarly found that higher participation in *mudharabah* and *musyarakah* financing may increase credit risk in Islamic banks. Nevertheless, empirical findings are not entirely uniform. Farihana and Rahman (2021) argue that PLS instruments may reduce credit risk when supported by effective monitoring and sound governance, while Wicaksono et al. (2024) show that PLS financing can lower credit risk when Islamic banks act not merely as lenders but also as active partners in business supervision. Therefore, the risk of *musyarakah* financing depends not only on the contract structure but also on partner selection, monitoring quality, Sharia governance, and portfolio management.

The increasing importance of musyarakah financing in Indonesia can be observed from the composition of financing in Islamic Commercial Banks. The following table presents the development of financing by contract type in 2023 and 2024.

Table 1. Financing of Islamic Commercial Banks by Contract Type, 2023–2024

Contract	Amount 2023 (Rp triliun)	Amount 2024 (Rp triliun)	Growth 2024	Share 2024
Murabahah	258.840	266.677	3.03%	41.44%
Musyarakah	282.513	320.904	13.59%	49.87%
Mudharabah	12.453	16.55	32.90%	2.57%
Qardh	16.347	19.495	19.26%	3.03%
Ijarah	9.848	12.385	25.76%	1.92%
Istishna	4.070	5.85	43.74%	0.91%
Multiservice	1.391	1.684	21.10%	0.26%
Salam	-	-	0.00%	0.00%

Total	585.462	643.545	9.92%	100.00%

Source: Otoritas Jasa Keuangan (2025)

Table 1 shows that total financing of Islamic Commercial Banks increased from Rp585.462 trillion in 2023 to Rp643.545 trillion in 2024, representing growth of 9.92%. The most dominant contract in 2024 was musyarakah, with Rp320.904 trillion or 49.87% of total financing. This means that almost half of Islamic Commercial Bank financing was distributed through musyarakah contracts. Murabahah ranked second, with Rp266.677 trillion or 41.44% of total financing. Although mudharabah, qardh, ijarah, istishna, and multiservice contracts recorded relatively high growth rates, their shares remained small. The data indicate that musyarakah has become the main pillar of Islamic Commercial Bank financing in Indonesia.

The dominance of *musyarakah* financing has two major implications for Islamic banking. From the perspective of Islamic economic principles, it reflects the growing role of partnership-based financing in supporting the real sector because *musyarakah* links bank financing directly to business performance, productive investment, job creation, and income generation. This argument is consistent with recent evidence showing that Islamic banking contributes to economic growth when financing activities are connected to real-sector development and supported by stable macroeconomic conditions (Kismawadi, 2024). In addition, studies on profit-and-loss sharing (PLS) financing confirm that the sustainability of equity-based Islamic financing depends on bank capitalization, asset size, third-party funds, transparency, and standardized monitoring mechanisms (Ibrahim et al., 2022; Suman et al., 2026). From a risk management perspective, however, the increasing share of *musyarakah* requires stronger partner screening, more accurate feasibility analysis, and more intensive post-disbursement supervision. Annizar and Junarsin (2025) found that *musyarakah* is positively associated with financing risk and negatively associated with Islamic bank performance in Indonesia, although the effect is marginal. This indicates that *musyarakah* expansion must be supported by prudent governance and risk control.

Financing risk in *musyarakah* can be observed through Non-Performing Financing (NPF), which reflects the proportion of problematic financing to total financing and serves as an important indicator of asset quality. In *musyarakah*, NPF may arise when customers fail to share profits, return capital, or fulfill contractual obligations due to declining business performance, weak cash flow, inaccurate financial reporting, fund misuse, or adverse macroeconomic conditions. Recent studies also show that PLS financing may affect intermediation costs and financing risk when governance, operating efficiency, and monitoring quality are weak (Mutamimah & Saputri, 2022; Robiatun et al., 2024). The development of musyarakah NPF in Islamic Commercial Banks is presented in Table 2.

Table 2. Musyarakah Non-Performing Financing, 2021–2024

Year	NPF Musyarakah
2021	2.35
2022	1.28
2023	1.01
2024	1.27

Source: Processed data, 2025

Table 2 indicates that musyarakah NPF decreased from 2.35% in 2021 to 1.28% in 2022 and further declined to 1.01% in 2023. This downward trend suggests an improvement in musyarakah financing quality. However, NPF increased again to 1.27% in 2024. Although this level remained relatively controlled, the increase deserves attention because it occurred at the same time as the significant growth of musyarakah financing. The combination of rapid financing growth and rising NPF may signal emerging pressure on asset quality. If not managed properly, such pressure may reduce profitability, weaken capital resilience, and lower public confidence in Islamic banking.

Internal bank factors are important determinants of financing risk. Profitability, capital adequacy, financing volume, operational efficiency, and asset quality influence the ability of banks to absorb losses and manage risk. Muhammad, Suluki, and Nugraheni (2020) found that internal factors significantly affect non-performing financing in Indonesian Islamic rural banks. Priyadi, Utami, Muhammad, and Nugraheni (2021) also showed that both internal and external variables influence credit risk in Indonesian Sharia rural banks. These findings support the use of financial ratios as predictive indicators in examining musyarakah financing risk.

One important internal factor is the return on musyarakah financing. Return on musyarakah reflects the income generated from musyarakah financing relative to the financing exposure. A higher return may

indicate productive financing and better business outcomes. However, higher returns may also be associated with higher-risk projects because banks may accept greater risk to obtain higher expected income. Therefore, the relationship between return on musyarakah and NPF cannot be assumed to be linear. It requires empirical testing, particularly in the Indonesian Islamic banking context where musyarakah has become the dominant financing contract.

Another important factor is regulatory capital. Capital functions as a buffer against unexpected losses. Banks with stronger capital positions are generally better able to absorb financing losses and maintain stability during periods of stress. Abbas and Ali (2022) found a significant relationship among loan growth, credit risk, and bank capital in Islamic banks. This suggests that the role of regulatory capital should be examined when analyzing financing risk. In the context of musyarakah, adequate capital may reduce the negative consequences of financing default, but it may also encourage higher risk-taking if banks perceive themselves as sufficiently protected.

Risky Sector Financing is also relevant in explaining musyarakah NPF. In this study, the trade sector can be classified as a risky sector because it is highly sensitive to market volatility, fluctuations in consumer demand, purchasing power, inventory turnover, and price instability. Trade businesses often operate with relatively thin margins and intense competition. When sales decline or operating costs increase, customers may experience liquidity pressure, which can reduce their ability to meet financing obligations. Wicaksono, Wulandari, and Hendranastiti (2024) found that wholesale and retail trade financing increases credit risk in Indonesian Islamic banks, while the proportion of profit-and-loss sharing financing may reduce credit risk. This finding confirms the importance of sectoral financing analysis in Islamic bank risk management.

The principal-agent problem is another critical issue in profit-and-loss sharing contracts. In musyarakah, the bank and the customer are partners, but the customer often has more information about the actual condition of the business. This information asymmetry may lead to moral hazard, such as underreporting profits, misusing funds, or making inefficient business decisions. Because Islamic banks usually do not directly manage the financed business, monitoring becomes essential. Without effective monitoring, musyarakah financing may behave similarly to mudharabah in terms of control limitations, even though musyarakah formally involves joint capital contribution.

Recent studies continue to highlight the importance of profit-and-loss sharing financing in relation to risk and performance. Addury and Ramadhani (2024) showed that financing models and credit risk influence the financial stability of Islamic rural banks in Java, indicating that credit risk can become a transmission channel between financing structure and bank stability. Nisa, Ichwani, and Kurniawati (2026) further examined whether profit-and-loss sharing and regional growth buffer credit risk in Islamic rural banks, confirming that PLS financing remains a relevant issue in contemporary Islamic banking risk studies.

Sharia compliance has a strategic role in mitigating musyarakah financing risk. It ensures that financing activities are conducted according to Sharia principles, including fairness, transparency, honesty, and avoidance of prohibited transactions. Sharia compliance is not merely a formal contractual requirement; it is also a governance mechanism that can reduce moral hazard and improve accountability. Muhammad, Annuar, Taufik, and Nugraheni (2021) found that the characteristics of Sharia Supervisory Boards influence the Sharia compliance of Islamic banks. Mukhibad and Setiawan (2022) also found that Sharia Supervisory Board attributes are associated with corporate risk-taking in Islamic banks.

Accordingly, Sharia compliance can be positioned as a moderating variable in the relationship between financial ratios and musyarakah financing risk. Strong Sharia compliance may weaken the negative impact of aggressive financing expansion by improving screening, monitoring, transparency, and ethical behavior. Conversely, weak Sharia compliance may intensify risk because contracts may be fulfilled only formally without being implemented according to substantive Sharia principles. Cheong (2021) showed that Sharia compliance is linked to risk and resilience, while Touti and Alaoui Taïb (2024) confirmed through bibliometric analysis that Sharia compliance remains closely connected to firm risk, performance, and resilience.

Based on the above discussion, the study of musyarakah financing risk in Indonesian Islamic Commercial Banks is highly relevant. Previous research has examined credit risk, non-performing financing, profit-and-loss sharing, and Islamic bank performance, but limited studies have specifically integrated return on musyarakah, musyarakah financing, risky sector financing, regulatory capital, and Sharia compliance in one model. This research gap is important because musyarakah has become the largest

financing contract in Islamic Commercial Banks, while its risk characteristics differ from murabahah and other debt-like contracts.

The novelty of this study lies in its attempt to examine musyarakah financing risk in the specific institutional context of Indonesian Islamic Commercial Banks, with Sharia compliance as a moderating variable. By analyzing financial ratios and sectoral financing exposure simultaneously, this study is expected to contribute theoretically to Islamic banking risk literature and practically to bank management and regulators. A better understanding of musyarakah risk determinants can help Islamic banks strengthen prudent financing policies, improve monitoring systems, and maintain the quality of partnership-based financing. Ultimately, healthy and Sharia-compliant musyarakah financing can support the real sector, enhance financial inclusion, and contribute to sustainable economic growth in Indonesia.

Methods

This study employs a quantitative research design with a verificative approach to examine the causal relationship between financial ratios, musyarakah financing characteristics, Sharia compliance, and musyarakah financing risk in Indonesian Islamic Commercial Banks. A quantitative approach is appropriate because the research variables are measured numerically and analyzed statistically to test the proposed hypotheses. The verificative design is used to evaluate whether return on musyarakah, regulatory capital, musyarakah financing, and risky sector financing influence musyarakah non-performing financing, and whether Sharia compliance moderates these relationships. This approach is consistent with recent Islamic banking risk studies that use quantitative panel data models to examine credit risk, financing structure, and governance factors in Islamic financial institutions (Priyadi et al., 2021; Wicaksono et al., 2024). Priyadi et al. (2021) examined internal and external determinants of credit risk in Indonesian Sharia rural banks, while Wicaksono et al. (2024) analyzed the effect of industry-sector financing and profit-loss sharing financing on Islamic bank credit risk in Indonesia.

The data used in this study are secondary data obtained from the annual financial reports of Islamic Commercial Banks for the 2021–2024 period. Supporting data are collected from official publications of the Financial Services Authority, Bank Indonesia, and the official websites of each Islamic Commercial Bank. The population consists of all Islamic Commercial Banks registered with the Financial Services Authority during the observation period. The sampling technique is saturated sampling, meaning that all banks meeting the research criteria are included as research samples. The criteria are: Islamic Commercial Banks registered during 2021–2024 and banks that consistently published complete annual financial reports containing the variables required in this study. Based on these criteria, the sample consists of twelve Islamic Commercial Banks, namely Bank Aceh, Bank KB Bukopin Syariah, Bank Central Asia Syariah, Bank BJB Syariah, Bank Muamalat Indonesia, Bank Panin Dubai Syariah, Bank Riau Kepri Syariah, Bank Syariah Indonesia, Bank Tabungan Pensiunan Nasional Syariah, Bank Victoria Syariah, Bank Mega Syariah, and Bank NTB Syariah.

The dependent variable is musyarakah financing risk, proxied by musyarakah Non-Performing Financing (NPF), measured as problematic musyarakah financing divided by total musyarakah financing. The independent variables consist of Return on Musyarakah (ROM), Regulatory Capital (REGCAP), Musyarakah Financing (MUSFIN), and Risky Sector Financing (RSF). ROM is measured by musyarakah income divided by total musyarakah financing. REGCAP is measured by core capital divided by total assets. MUSFIN is measured by total musyarakah financing divided by total financing. RSF is measured by trade-sector financing divided by total musyarakah financing. The moderating variable is Sharia Compliance (SC), measured by the number of disclosed Sharia compliance items divided by the total Sharia compliance items, multiplied by 100%. The use of Sharia compliance as a moderating variable is supported by recent studies showing that Sharia Supervisory Board characteristics and Sharia governance are associated with Sharia compliance and risk-taking behavior in Islamic banks (Muhammad et al., 2021; Mukhibad & Setiawan, 2022).

The data are analyzed using panel data regression with the assistance of EViews software. Panel data are suitable because the study combines cross-sectional data from several Islamic Commercial Banks and time-series data from 2021 to 2024. The analysis begins with descriptive statistics to describe the minimum, maximum, mean, and standard deviation of each variable. Descriptive statistics and hypothesis testing were used to describe the data distribution and evaluate the significance of each variable in the regression model

(Ghozali, 2016). The study then estimates three panel regression models: the Common Effect Model, Fixed Effect Model, and Random Effect Model. The selection among the Common Effect Model, Fixed Effect Model, and Random Effect Model was conducted using the Chow test, Hausman test, and Lagrange Multiplier test, as commonly applied in panel data regression analysis (Basuki & Prastowo, 2017). If the Fixed Effect or Common Effect model is selected, classical assumption tests such as multicollinearity, heteroskedasticity, and autocorrelation are conducted because these models are based on Ordinary Least Squares. If the Random Effect Model is selected, the estimation uses Generalized Least Squares, which is more appropriate for panel data with potential heteroskedasticity across banks.

Moderated Regression Analysis is used to test the moderating role of Sharia Compliance. The model includes direct effects of ROM, REGCAP, MUSFIN, RSF, and SC on musyarakah NPF, as well as interaction terms between each independent variable and Sharia Compliance. The empirical model is specified as follows: $NPFit = \alpha + \beta1ROMit + \beta2REGCAPit + \beta3MUSFINit + \beta4RSFit + \beta5SCit + \beta6(ROMit \times SCit) + \beta7(REGCAPit \times SCit) + \beta8(MUSFINit \times SCit) + \beta9(RSFit \times SCit) + \varepsilon it$. A significant interaction coefficient indicates that Sharia Compliance strengthens or weakens the relationship between the independent variable and musyarakah financing risk. Hypothesis testing is conducted using the t-test to examine the partial effect of each variable, while the coefficient of determination is used to assess the explanatory power of the model. The significance level is set at 5%.

Results and Discussion

Results

This section presents the empirical findings of the study, beginning with descriptive statistics, followed by panel model selection, moderated regression results, and hypothesis testing. The analysis was conducted using panel data from 12 Islamic Commercial Banks in Indonesia over the 2021–2024 period, producing 48 bank-year observations. The dependent variable is musyarakah financing risk, proxied by musyarakah Non-Performing Financing (NPF). The independent variables are Return on Musyarakah (ROM), Regulatory Capital (REGCAP), Musyarakah Financing (MUSFIN), and Risky Sector Financing (RSF), while Sharia Compliance (SC) is used as the moderating variable.

Table 3. Descriptive Statistics

	NPF_Y	ROM_X1	REGCAP_X2	MUSFIN_X3	RSF_X4	SC_Z
Mean	1.476667	7.588542	16.62000	53.72000	10.38417	91.27604
Median	1.050000	7.385000	12.94000	58.91500	8.450000	93.75000
Maximum	10.07000	24.28000	47.93000	95.72000	33.82000	100.0000
Minimum	0.000000	0.670000	3.740000	0.100000	0.000000	81.25000
Std. Dev.	1.778983	3.188282	10.16707	27.09187	9.073238	4.417458

Source: EViews 13 output, 2025.

The descriptive statistics show that the average musyarakah NPF is 1.4767%, indicating that the overall level of problematic musyarakah financing among Islamic Commercial Banks was relatively low during the observation period. The minimum value of 0.0000 suggests that some banks recorded no problematic musyarakah financing in certain years, while the maximum value of 10.0700 indicates the existence of substantial risk exposure in specific bank-year observations. The standard deviation of 1.7790 implies moderate variation across banks and years. This pattern confirms that although musyarakah financing is generally manageable, the risk is not evenly distributed across Islamic banks.

The mean value of ROM is 7.5885%, with a minimum of 0.6700% and a maximum of 24.2800%. This indicates that musyarakah financing generated positive returns on average, but the return level differed considerably across banks. Such variation is consistent with the nature of musyarakah, whose return depends on the actual performance of the financed business. REGCAP has a mean value of 16.6200%, suggesting that most Islamic Commercial Banks maintained a capital position above the minimum regulatory requirement. However, the high standard deviation of 10.1671 shows substantial differences in capital strength. MUSFIN has an average value of 53.7200%, indicating that musyarakah represented a relatively large share of total financing. The maximum value of 95.7200 shows that some banks relied heavily on musyarakah contracts. This is important because previous studies show that profit-and-loss sharing financing may increase financing risk when portfolio expansion is not accompanied by strong risk management (Belkhaoui et al., 2020; Annizar & Junarsin, 2025).

RSF has an average value of 10.3842%, meaning that the exposure of musyarakah financing to the trade sector was relatively limited. Nevertheless, the maximum value of 33.8200 suggests that several banks allocated a significant portion of musyarakah financing to this sector. Sectoral exposure is relevant because industry-sector financing can influence credit risk in Islamic banks, particularly during periods of macroeconomic pressure or post-pandemic recovery (Wicaksono et al., 2024). Meanwhile, SC has a mean of 91.2760%, indicating a very high level of Sharia compliance disclosure. The relatively low standard deviation of 4.4175 suggests that Sharia compliance practices were fairly consistent across Islamic Commercial Banks.

Panel model selection was conducted to determine the most appropriate estimation model. The Chow test was first used to compare the Common Effect Model and the Fixed Effect Model. The result shows a cross-section Chi-square probability of 0.0000, which is below 0.05. Therefore, the Fixed Effect Model is preferred over the Common Effect Model. The Hausman test was then conducted to compare the Fixed Effect Model and the Random Effect Model. The probability value of 0.2349 is greater than 0.05, indicating that the Random Effect Model is more appropriate. Thus, the final interpretation of the study is based on the Random Effect Model.

Table 4. Panel Model Selection

Test	Statistic	Probability	Decision
Chow Test: Cross-section F	4.509735	0.0006	Fixed Effect Model preferred
Chow Test: Cross-section Chi-square	48.933799	0.0000	Fixed Effect Model preferred
Hausman Test: Cross-section random	10.449699	0.2349	Random Effect Model preferred

Source: EViews 13 output, 2025

The selection of the Random Effect Model implies that unobserved bank-specific effects are assumed to be random and uncorrelated with the explanatory variables. This model is appropriate because the study uses panel data consisting of several banks observed over multiple years. The Random Effect Model is estimated using a Generalized Least Squares approach, which is more efficient when the random effects assumption holds.

Table 5. Random Effect Model and Moderated Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.003076	0.958297	5.220798	0.0000
ROM_X1	-4.871242	1.248383	-3.902042	0.0004
REGCAP_X2	0.470240	0.267456	1.758200	0.0866
MUSFIN_X3	0.590045	0.156205	3.777384	0.0005
RSF_X4	-0.473689	0.487816	-0.971040	0.3375
ROM × SC	0.048531	0.012744	3.808072	0.0005
REGCAP × SC	-0.006093	0.002821	-2.159599	0.0370
MUSFIN × SC	-0.006349	0.001687	-3.763869	0.0006
RSF × SC	0.005553	0.005406	1.027138	0.3107
R-squared	0.561718			
Adjusted R-squared	0.471814			
F-statistic	6.247977			0.000034

Source: EViews 13 output, 2025.

The regression results show that ROM has a negative and significant effect on musyarakah NPF, with a coefficient of -4.8712 and a probability value of 0.0004. This indicates that higher returns from musyarakah financing are associated with lower musyarakah financing risk. Economically, this finding suggests that musyarakah financing that generates stronger income tends to reflect better business quality, more productive financing allocation, and stronger repayment capacity. This result is consistent with the argument that better financing performance can reduce credit risk and improve bank stability, as shown in recent Islamic banking studies on financing models and credit risk (Addury & Ramadhani, 2024).

REGCAP has a positive coefficient of 0.4702 and is significant at the 10% level, with a probability value of 0.0866. This indicates that regulatory capital has a weak but positive relationship with musyarakah NPF. One possible explanation is that banks with stronger capital buffers may have greater capacity to expand into riskier financing segments, including musyarakah. Hence, capital strength does not automatically reduce risk when it is accompanied by aggressive financing expansion. MUSFIN has a positive and significant effect on NPF, with a coefficient of 0.5900 and a probability value of 0.0005. This finding

indicates that a higher proportion of musyarakah financing increases musyarakah financing risk. The result is theoretically plausible because musyarakah is a profit-and-loss sharing contract with higher exposure to business uncertainty, information asymmetry, and monitoring costs. Similar evidence is reported by Annizar and Junarsin (2025), who found that musyarakah financing is associated with financing risk in Indonesian Islamic banks.

RSF has a negative but insignificant coefficient of -0.4737, with a probability value of 0.3375. This means that risky sector financing, proxied by trade-sector financing, does not significantly affect musyarakah NPF. Although the trade sector is theoretically exposed to demand volatility and cash-flow instability, the insignificant result may indicate that Islamic Commercial Banks applied selective screening and portfolio control in financing this sector. It may also suggest that sectoral risk does not directly translate into NPF unless it is combined with weak monitoring or adverse macroeconomic shocks.

The moderating results show that Sharia compliance significantly moderates three relationships. The interaction between ROM and SC has a positive and significant coefficient of 0.0485. This means that Sharia compliance changes the effect of ROM on NPF. Although ROM directly reduces NPF, the positive interaction suggests that at higher levels of Sharia compliance, the risk-reducing effect of ROM becomes weaker. This may occur because strict compliance emphasizes procedural and contractual conformity, while income performance still depends on business fundamentals.

The interaction between REGCAP and SC is negative and significant, with a coefficient of -0.0061 and a probability value of 0.0370. This indicates that Sharia compliance strengthens the ability of capital to reduce financing risk. Similarly, the interaction between MUSFIN and SC is negative and significant, with a coefficient of -0.0063 and a probability value of 0.0006. This result suggests that Sharia compliance weakens the positive effect of musyarakah financing on NPF. In other words, strong Sharia compliance can mitigate the risk arising from musyarakah expansion by improving transparency, governance, and ethical monitoring. This finding is consistent with studies showing that Sharia Supervisory Board characteristics and Sharia governance influence compliance and risk-taking behavior in Islamic banks (Muhammad et al., 2021; Mukhibad & Setiawan, 2022).

The interaction between RSF and SC is positive but insignificant, with a probability value of 0.3107. This indicates that Sharia compliance does not significantly moderate the relationship between risky sector financing and musyarakah NPF. Therefore, the risk arising from trade-sector financing may depend more on business-cycle conditions, customer quality, and sectoral cash-flow dynamics than on Sharia compliance disclosure alone.

Table 6. Hypothesis Decision

Hypothesis	Probability	Decision
ROM affects musyarakah financing risk	0.0004	Accepted
REGCAP affects musyarakah financing risk	0.0866	Accepted at 10%
MUSFIN affects musyarakah financing risk	0.0005	Accepted
RSF affects musyarakah financing risk	0.3375	Rejected
SC moderates the effect of ROM on NPF	0.0005	Accepted
SC moderates the effect of REGCAP on NPF	0.0370	Accepted
SC moderates the effect of MUSFIN on NPF	0.0006	Accepted
SC moderates the effect of RSF on NPF	0.3107	Rejected

Source: Processed data, 2025.

Overall, the model is statistically significant, as shown by the F-statistic probability of 0.000034. The adjusted R-squared of 0.4718 indicates that approximately 47.18% of the variation in musyarakah NPF can be explained by the independent variables and moderation terms included in the model. The findings confirm that musyarakah financing risk is shaped not only by financing performance and portfolio composition, but also by the interaction between financial factors and Sharia compliance. Therefore, Islamic Commercial Banks need to balance musyarakah expansion with strong capital management, effective monitoring, and substantive Sharia governance.

Discussion

This section discusses the direct and moderating effects obtained from the Random Effect Model and Moderated Regression Analysis. The dependent variable is musyarakah financing risk, proxied by musyarakah Non-Performing Financing (NPF). The independent variables are Return on Musyarakah (ROM), Regulatory Capital (REGCAP), Musyarakah Financing (MUSFIN), and Risky Sector Financing (RSF), while Sharia Compliance (SC) is used as the moderating variable. The interpretation below is based on the empirical output provided in the research results.

The Effect of Return on Musyarakah on Musyarakah Financing Risk

ROM has a negative and significant effect on musyarakah NPF, indicating that higher returns from musyarakah financing reduce financing risk. This finding is theoretically supported by risk-return trade-off theory, signaling theory, and asset quality theory. In musyarakah contracts, higher ROM signals stronger project performance, better partner quality, more reliable cash flows, and more effective post-disbursement monitoring. When financed businesses consistently generate profits, partners have greater ability and incentive to fulfil contractual obligations, share profits transparently, and avoid delayed payments, thereby lowering the probability of problematic financing. This result also suggests that ROM is not merely an income indicator but a signal of financing discipline and project viability. The finding is consistent with Addury and Ramadhani (2024), who show that financing models and credit risk influence Islamic bank stability, and Belkhaoui et al. (2020), who link Islamic financing modes with risk, efficiency, and profitability. It is further supported by Farihana and Rahman (2021), who find that PLS instruments affect credit risk, Nisa et al. (2026), who confirm the role of PLS portfolios in the NPF–profitability nexus, Wicaksono et al. (2024), who relate PLS financing to Islamic bank credit-risk dynamics, and Annizar and Junarsin (2025), who connect musyarakah financing with financing risk and bank performance.

The Effect of Regulatory Capital on Musyarakah Financing Risk

REGCAP has a positive effect on musyarakah NPF, and the relationship is significant at the 10% level. This finding can be interpreted through capital buffer theory, the risk-taking hypothesis, and agency theory. Ideally, regulatory capital absorbs unexpected losses and strengthens solvency; however, the positive coefficient suggests that well-capitalized Islamic banks may gain greater confidence and capacity to expand into riskier financing portfolios, including musyarakah. Thus, capital adequacy does not automatically reduce financing risk when it is accompanied by aggressive portfolio growth, weaker monitoring, or managerial overconfidence. This interpretation is consistent with Abbas and Ali (2022), who show that bank capital interacts with loan growth and credit risk in Islamic banks. Priyadi et al. (2021) confirm that internal bank factors affect Islamic credit risk, while Cheong (2021) links Sharia-compliant institutional resilience to risk restrictions. Mukhibad and Setiawan (2022) further indicate that governance attributes shape Islamic bank risk-taking. More recent evidence also supports this argument: Ding et al. (2023) find that Basel III regulation influences Islamic bank risk, and Mateev et al. (2022) show that capital regulation and market power affect bank risk-taking in Islamic and conventional banks. Therefore, stronger capital requires governance discipline to prevent moral hazard and excessive risk-taking effectively

The Effect of Musyarakah Financing on Musyarakah Financing Risk

MUSFIN has a positive and significant effect on musyarakah NPF, meaning that a higher proportion of musyarakah financing increases financing risk. This finding is supported by agency theory, information asymmetry theory, and profit-and-loss sharing risk theory. In musyarakah financing, banks and customers share business outcomes; however, customers usually control more operational information than banks.

This imbalance may create moral hazard, inaccurate profit reporting, weak project discipline, fund misuse, and higher monitoring costs. Therefore, expanding musyarakah financing without rigorous screening, profit verification, and post-disbursement supervision may increase NPF. Belkhaoui et al. (2020) show that higher mudharabah and musharakah participation may increase Islamic bank credit risk, while Wicaksono et al. (2024) confirm that PLS financing is relevant in explaining credit-risk dynamics in Indonesian Islamic banks. Nisa et al. (2026) further confirm that PLS portfolios interact with NPF and profitability, and Farihana and Rahman (2021) demonstrate that PLS instruments are closely related to Islamic bank credit-risk behavior. Warninda et al. (2019) also find that musharakah has a nonlinear relationship with credit risk, while Meslier et al. (2020) emphasize that Islamic equity financing depends on bank fundamentals, Sharia supervisory quality, and banking environments. Thus, MUSFIN expansion must be supported by strict governance and monitoring.

The Effect of Risky Sector Financing on Musyarakah Financing Risk

RSF has a negative but insignificant effect on musyarakah NPF, indicating that trade-sector financing does not significantly determine musyarakah financing risk in the sample. This finding can be explained through portfolio diversification theory, contingency theory, and sectoral risk theory. Although the trade sector is exposed to price volatility, demand fluctuation, inventory risk, competitive pressure, and unstable cash flow, its effect on NPF depends on bank-level screening, financing concentration limits, partner quality, and monitoring intensity. Thus, sectoral exposure alone may not be sufficient to explain musyarakah-specific risk when banks apply prudent diversification and risk-mitigation mechanisms. Wicaksono et al. (2024) find that wholesale and retail trade financing can increase Islamic bank credit risk, although their analysis focuses on aggregate credit risk rather than musyarakah NPF. Priyadi et al. (2021) and Addury and Ramadhani (2024) also show that credit risk varies across institutional, internal, and financing contexts. Nisa et al. (2026) further highlight that regional economic conditions shape the impact of NPF. In addition, Widarjono and Afandi (2025) find that concentrated sectoral financing increases financing defaults, while Nehrebecka (2023) confirms that sectoral concentration affects credit-risk exposure and economic capital.

The Moderating Role of Sharia Compliance in the ROM–NPF Relationship

The interaction between ROM and SC is positive and significant. Because ROM directly reduces NPF, this positive interaction implies that the risk-reducing effect of ROM becomes weaker when Sharia Compliance is higher. This result is consistent with Sharia governance theory, contract compliance theory, and signaling theory. Sharia Compliance strengthens contract legality, ethical screening, transparency, profit-sharing discipline, and post-disbursement accountability. Nevertheless, lower NPF still depends primarily on the actual profitability, cash-flow quality, and operational performance of musyarakah partners. Thus, compliance improves governance quality, but it cannot fully substitute for project feasibility and business performance. Cheong (2021) shows that Sharia-compliant finance is linked to risk and resilience, while Muhammad et al. (2021) demonstrate that SSB characteristics influence compliance quality. Touti and Alaoui Taïb (2024) confirm that Sharia compliance is related to risk, performance, and resilience, and Addury and Ramadhani (2024) show that credit risk remains an important channel in financing stability. In addition, Neifar et al. (2020) indicate that SSB quality strengthens operational risk transparency, and Jabari and Muhamad (2022) show that SSB diversity is associated with Islamic bank risk-taking. Therefore, SC moderates the ROM–NPF relationship by improving governance, although profitability remains the main source of risk reduction in profit-sharing financing decisions and monitoring processes.

The Moderating Role of Sharia Compliance in the REGCAP–NPF Relationship

The interaction between REGCAP and SC is negative and significant, meaning that Sharia Compliance weakens the positive relationship between regulatory capital and musyarakah NPF. This finding is supported by Sharia governance theory, capital discipline theory, agency theory, and the risk-taking hypothesis. Ideally, regulatory capital should function as a prudential buffer to absorb unexpected losses and strengthen bank resilience. However, when capital is abundant but weakly governed, managers may become more confident in expanding risky financing portfolios, including musyarakah. Strong Sharia Compliance helps prevent this tendency by ensuring that capital is not used merely as capacity for aggressive risk-taking, but as a safety buffer guided by ethical governance, contract transparency, and accountable

financing decisions. Abbas and Ali (2022) show that capital interacts with financing growth and credit risk in Islamic banks. Muhammad et al. (2021) demonstrate that SSB expertise improves Sharia compliance quality, while Mukhibad and Setiawan (2022) find that SSB attributes influence Islamic bank risk-taking. Cheong (2021) also links Sharia compliance with resilience and risk discipline. Recent evidence from Ding et al. (2023) and Mateev et al. (2022) further confirms that capital regulation affects Islamic bank risk-taking. Therefore, capital becomes more effective in reducing risk when supported by substantive Sharia governance

The Moderating Role of Sharia Compliance in the MUSFIN–NPF Relationship

The interaction between MUSFIN and SC is negative and significant, indicating that Sharia Compliance weakens the positive effect of musyarakah financing on NPF. This result is consistent with Sharia governance theory, agency theory, and risk-sharing theory, which argue that ethical oversight can reduce opportunistic behavior in participatory contracts. Musyarakah financing exposes banks to business uncertainty, information asymmetry, moral hazard, and costly profit verification because customers usually control operational information. However, strong compliance improves partner screening, contract discipline, profit-sharing transparency, Sharia review, and post-disbursement monitoring; therefore, musyarakah expansion becomes less risky when governed substantively rather than merely formally. Mukhibad and Setiawan (2022) show that SSB attributes affect Islamic bank risk-taking, while Muhammad et al. (2021) confirm that SSB characteristics shape compliance quality. Belkhaoui et al. (2020) emphasize that participatory financing requires effective risk control, and Wicaksono et al. (2024) identify PLS financing as central to Islamic bank credit-risk analysis. In addition, Isa and Lee (2020) find that Shariah committee characteristics influence Malaysian Islamic banks' risk-taking and performance, whereas Prasojo et al. (2022) demonstrate that Sharia governance moderates the risk-taking–performance relationship. Therefore, compliance transforms MUSFIN expansion into more disciplined financing growth by aligning profitability objectives with accountability, transparency, and prudential financing supervision.

The Moderating Role of Sharia Compliance in the RSF–NPF Relationship

The interaction between RSF and SC is positive but insignificant, meaning that Sharia Compliance does not significantly moderate the relationship between risky sector financing and musyarakah NPF. This result can be explained through contingency theory, sectoral risk theory, and external risk exposure theory. Although Sharia Compliance strengthens ethical governance, contract discipline, transparency, and accountability, sectoral risk is often driven by external business conditions beyond internal compliance mechanisms. Trade-sector financing, for instance, is vulnerable to market volatility, purchasing-power changes, inventory cycles, price instability, and cash-flow pressure. Therefore, compliance disclosure alone may not be sufficient to neutralize risk from sectoral exposure unless it is accompanied by sectoral concentration limits, feasibility analysis, cash-flow monitoring, and early-warning systems. Wicaksono et al. (2024) show that trade-sector financing can affect Islamic bank credit risk, while Touti and Alaoui Taïb (2024) explain that the effect of Sharia compliance depends on the risk context. Priyadi et al. (2021) identify internal and external determinants of NPF, and Nisa et al. (2026) emphasize that regional and financing conditions shape the NPF effect. In addition, Nehrebecka (2023) confirms that sectoral credit-risk concentration affects economic capital, while Widarjono and Afandi (2025) show that concentrated sectoral financing increases financing defaults.

Overall, the findings indicate that musyarakah financing risk is shaped by both financial performance and governance quality. ROM reduces NPF, MUSFIN increases NPF, REGCAP has a weak positive effect, and RSF is not significant. Sharia Compliance significantly moderates the ROM–NPF, REGCAP–NPF, and MUSFIN–NPF relationships, but not the RSF–NPF relationship. These results imply that Islamic Commercial Banks must strengthen substantive Sharia governance, partner screening, profit verification, and financing monitoring to ensure that musyarakah financing remains productive, compliant, and sustainable.

Conclusion

Based on the research findings, this study concludes that Return on Musyarakah (ROM) has a negative and significant effect on musyarakah financing risk, indicating that higher musyarakah returns can reduce Non-Performing Financing (NPF). This suggests that effective partner selection, project

monitoring, and productive business performance are essential in maintaining financing quality. Regulatory Capital (REGCAP) has a positive effect on NPF at the 10% significance level, implying that larger capital buffers may encourage greater risk-taking if not accompanied by strong governance. Musyarakah Financing (MUSFIN) also has a positive and significant effect on NPF, showing that aggressive expansion of musyarakah financing increases exposure to operational risk, business failure, and moral hazard. Meanwhile, Risky Sector Financing (RSF) does not significantly affect NPF, indicating that sectoral risk can be controlled through diversification and prudent mitigation strategies.

Sharia Compliance significantly moderates the effects of ROM, REGCAP, and MUSFIN on NPF. It functions as a governance mechanism that strengthens transparency, reduces information asymmetry, controls moral hazard, and ensures that musyarakah financing is implemented according to Sharia principles. However, Sharia Compliance does not significantly moderate the relationship between RSF and NPF, possibly because Sharia compliance scores among the sampled banks are relatively homogeneous and sectoral risk is more influenced by market volatility.

This study recommends that Islamic Commercial Banks strengthen partner screening, improve musyarakah project monitoring, and prioritize financing quality over expansion volume. Sharia Supervisory Boards should be involved from the early financing approval stage and not only in contract compliance. Regulators should treat Sharia governance as a core risk-mitigation instrument. Future studies should include broader samples, longer periods, macroeconomic variables, governance indicators, and alternative moderating variables such as Islamic Social Reporting or collateral quality.

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