

Capital Buffers, Leverage, and Asset Quality in Islamic Banks: Comparative Evidence from BSI and BIMB

Dedy Mainata*, Shamil Hekmatyar Siregar

Department of Shariah Banking, Faculty of Islamic Economics and Business, State Islamic University of Sultan Aji Muhammad Idris Samarinda, Jalan KH. Abul Hasan No. 03, Kalimantan Timur, 75131, Indonesia

ABSTRACT

Purpose: This study compares the post-merger financial performance of Bank Syariah Indonesia (BSI) and Bank Islam Malaysia Berhad (BIMB) during 2021–2024 across profitability, efficiency, intermediation, capital strength, leverage, and asset quality. **Methodology:** Using 16 matched quarterly observations (2021Q1–2024Q4), paired differences were assessed using ratio-appropriate transformations and paired t-tests or Wilcoxon signed-rank tests according to distributional diagnostics. **Results:** BSI records higher ROA and ROE, stronger capital and equity buffers, and lower leverage. BIMB exhibits lower operating costs and deeper intermediation through higher FDR and FAR. Asset quality is mixed: BSI has higher gross NPF but lower net NPF, while BIMB shows stronger gross financing quality. **Conclusion:** BSI demonstrates comparative strengths in profitability and capital resilience, whereas BIMB performs better in cost efficiency and intermediation. **Implications:** Because the evidence is limited to two banks and 16 quarters, generalization should be cautious. Even so, the findings support stronger cost and asset-quality management at BSI and closer liquidity management at BIMB. **Originality:** The study provides a post-merger matched-quarter comparison of BSI and BIMB within an integrated prudential–profitability framework.

ARTICLE INFO

Keywords: asset quality, bank syariah indonesia (BSI), bank islam Malaysia berhad (BIMB), capital buffers, financial performance

Article info:

Received March 12, 2026

1st revision July 02, 2026

2nd revision July 23, 2026

Accepted July 29, 2026

Available online August 24, 2026

Published August 24, 2026

JEL Code:
G21, G32

Copyright: © 2026. Author/s This work is licensed under [Attribution-ShareAlike 4.0 International](https://creativecommons.org/licenses/by-sa/4.0/)



*Corresponding Author at Department of Shariah Banking, Faculty of Islamic Economics and Business, State Islamic University of Sultan Aji Muhammad Idris Samarinda, Jalan KH. Abul Hasan No. 03, Kalimantan Timur, 75131, Indonesia
E-mail address: dmainata@gmail.com

INTRODUCTION

Islamic banking in Southeast Asia provides a relevant comparative setting because Indonesia and Malaysia combine large Islamic-finance markets with different stages of institutional development. Indonesia's landscape changed materially with the 2021 formation of Bank Syariah Indonesia (BSI), while Bank Islam Malaysia Berhad (BIMB) operates as a mature full-fledged Islamic bank within Malaysia's Value-Based Intermediation (VBI) environment. These contrasts create a useful setting for examining whether post-merger scale and institutional maturity are reflected in financial performance (Bank Negara Malaysia, 2018; Bank Islam Malaysia Berhad, 2025; PT Bank Syariah Indonesia Tbk, 2025).

Recent evidence shows that Islamic-bank performance is multidimensional. Capital and liquidity can improve efficiency, while profitability and stability depend on the interaction among operating costs, intermediation, capitalization, funding structure, and asset quality (Bitar et al., 2017a, 2020; Hassan et al., 2019; Hidayat et al., 2021). Southeast Asian evidence also documents meaningful variation in Islamic-bank efficiency across countries and institutions (Chowdhury & Haron, 2021). Accordingly, a single profitability ratio is insufficient for evaluating institutional performance.

Despite this literature, direct institution-level evidence comparing BSI and BIMB after the BSI merger remains limited. Existing studies predominantly use multi-bank or cross-country samples and therefore do not isolate the post-merger BSI–BIMB contrast using matched quarterly observations. This study addresses that gap by comparing profitability (ROA, ROE), efficiency (BOPO/CIR), intermediation (FDR, FAR), capital strength (CAR, ELR, EAR), leverage (DER), and asset quality (gross and net NPF) over 2021Q1–2024Q4.

The study asks two questions: (1) Are there significant differences in profitability, efficiency, intermediation, capital strength, leverage, and asset quality between BSI and BIMB? (2) What managerial and prudential implications follow from these differences? The objective is to provide a matched-quarter comparison that identifies the relative strengths and trade-offs of the two banks without inferring causal relationships among the ratios.

The contribution is threefold. Empirically, the study provides post-merger matched-quarter evidence for two major Southeast Asian Islamic banks. Methodologically, it evaluates multiple prudential and performance dimensions within a consistent paired-comparison design. Practically, it translates the observed differences into institution-specific recommendations on cost efficiency, financing quality, capital use, leverage, and liquidity management.

Resource-Based View (RBV) provides the principal organizational lens for interpreting BSI's post-merger scale: integrated networks, technology, human capital, and market access can become performance-enhancing resources when they are effectively combined (Barney, 1991). Complementary banking evidence shows that capitalization, liquidity, and operating efficiency jointly shape Islamic-bank performance, while differences across institutional environments remain important (Bitar et al., 2017a, 2017b, 2020; Olson & Zoubi, 2017). In Southeast Asia, efficiency is heterogeneous across banks and countries, reinforcing the need for institution-specific comparison rather than broad generalization (Chowdhury & Haron, 2021; Mai et al., 2023).

The efficiency channel links operating costs to earnings. Cost inefficiency can increase earnings uncertainty, whereas stronger cost discipline supports ROA and ROE (Boubaker et al., 2022; Hidayat et al., 2021). The intermediation channel concerns the conversion of funding into financing: higher financing ratios may support income, but aggressive financing can intensify liquidity and credit-risk pressures (Azad et al., 2023; Hassan et al., 2019; Sutrisno & Widarjono, 2022). The capital and leverage channels reflect a balance between resilience and return generation. Recent Islamic-banking studies show that capital structure is shaped by profitability, liquidity, competition, and institutional conditions, and that capitalization interacts with efficiency and risk (Bitar et al., 2018; Bukair, 2019; Guizani & Ajmi, 2021; Saeed et al., 2020; Smaoui & Ghouma, 2020; Smaoui et al., 2020; Toumi, 2020).

Asset quality completes this framework. Higher financing growth can raise subsequent credit risk, while stronger screening, monitoring, and provisioning can contain residual loss exposure (Abbas & Ali, 2021; Sakti & Mohamad, 2018; Sobarsyah et al., 2020). Profitability therefore reflects a portfolio of interacting mechanisms rather than one dominant ratio; recent evidence similarly emphasizes heterogeneity in profitability, risk-adjusted returns, and bank stability (Bilgin et al., 2021; Gazi et al., 2024; Ooi et al., 2021; Paltrinieri et al., 2021; Rouetbi et al., 2023). This integrated perspective motivates the comparative hypotheses below.

Post-merger resource integration can increase revenue capacity through scale, customer reach, technology, and broader asset deployment. Recent comparative work also shows that Islamic-bank profitability varies with capital, liquidity, efficiency, and business-model characteristics (Bitar et al., 2017a; Gazi et al., 2024; Paltrinieri et al., 2021). Therefore, BSI's consolidated resource base is expected to translate into stronger profitability.

H1: BSI records higher ROA and ROE than BIMB during 2021Q1–2024Q4.

Operating maturity and disciplined cost structures can improve bank efficiency. Evidence from Southeast Asia and wider Islamic-bank samples links lower cost inefficiency with stronger performance and more stable earnings (Boubaker et al., 2022; Chowdhury & Haron, 2021; Mai et al., 2023). BIMB's longer operating history and VBI-oriented governance therefore support an expectation of lower operating-cost intensity.

H2: BIMB records a lower BOPO/CIR than BSI during the observation period.

Financial intermediation increases the share of deposits and assets deployed into financing, but it must be balanced against liquidity pressure. Evidence shows that financing intensity and liquidity conditions affect Islamic-bank profitability and stability (Azad et al., 2023; Hassan et al., 2019; Sutrisno & Widarjono, 2022). BIMB's mature intermediation model is therefore expected to exhibit greater financing depth.

H3: BIMB records higher FDR and FAR than BSI during the observation period.

Capital buffers strengthen loss-absorption capacity and interact with bank efficiency and risk. Islamic-bank capital studies show that capital ratios respond to liquidity, profitability, competition, and institutional conditions (Bitar et al., 2018, 2020; Smaoui & Ghouma, 2020; Smaoui et al., 2020). A newly consolidated bank may also retain additional headroom during integration and expansion.

H4: BSI records higher CAR, ELR, and EAR than BIMB during the observation period.

Capital-structure evidence for Islamic banks supports a trade-off between leverage-based return enhancement and financial resilience. Greater equity support generally reduces leverage exposure, although excessive capitalization may constrain equity efficiency (Bukair, 2019; Guizani & Ajmi, 2021; Toumi, 2020).

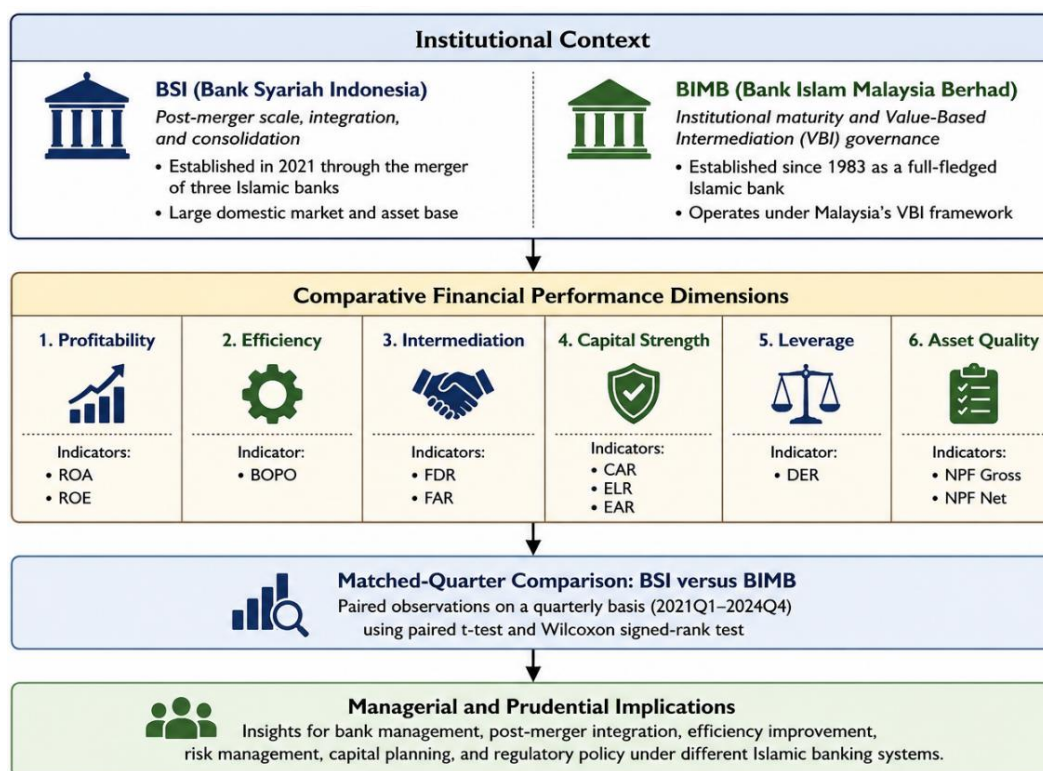
H5: *BSI records a lower DER than BIMB during the observation period.*

Asset quality depends on origination, monitoring, portfolio composition, and loss coverage. Cross-bank evidence shows that financing growth can increase credit risk, while stronger asset quality and provisioning improve resilience (Abbas & Ali, 2021; Sakti & Mohamad, 2018; Sobarsyah et al., 2020). BSI's inherited post-merger portfolio can raise gross problem financing, while provisioning may reduce residual net exposure.

H6a: *BSI records a higher gross NPF ratio than BIMB during the observation period.*

H6b: *BSI records a lower net NPF ratio than BIMB during the observation period.*

As illustrated in **Figure 1**, the framework links the two institutional contexts to six financial-performance dimensions, which are then evaluated through matched-quarter comparisons and interpreted for managerial and prudential implications.



Source: Developed by the authors.

Figure 1. Conceptual framework for the BSI–BIMB matched-quarter comparison

METHODOLOGY

The study uses 16 matched quarterly observations for BSI and BIMB from 2021Q1 to 2024Q4. The primary inputs were quarterly or interim financial statements published by each bank; annual reports were used to cross-check year-end classifications and figures (Bank Islam Malaysia Berhad, 2025; PT Bank Syariah Indonesia Tbk, 2025). The unit of analysis is the bank-

quarter. Financial items were harmonized by economic meaning before ratios were computed so that differences in Indonesian and Malaysian reporting terminology did not mechanically drive the comparison.

Table 1 summarizes the operational definitions, interpretation, and primary data source for each indicator used in the paired comparison.

Table 1. Variable definitions and measurement

Dimension	Indicator	Operational definition	Interpretation	Primary data source
Profitability	ROA	Net profit / average total assets	Higher = stronger profitability	Quarterly/interim statements
Profitability	ROE	Net profit / average equity	Higher = stronger shareholder return	Quarterly/interim statements
Efficiency	BOPO/CIR	Operating expenses / operating income	Lower = greater cost efficiency	Quarterly/interim statements
Intermediation	FDR	Financing / customer deposits	Contextual; higher = deeper intermediation	Quarterly/interim statements
Intermediation	FAR	Financing / total assets	Higher = greater financing intensity	Quarterly/interim statements
Capital	CAR	Regulatory capital / risk-weighted assets	Higher = larger regulatory buffer	Regulatory disclosure in bank reports
Capital	ELR	Equity / liabilities	Higher = larger equity cushion	Quarterly/interim statements
Capital	EAR	Equity / total assets	Higher = larger equity cushion	Quarterly/interim statements
Leverage	DER	Liabilities / equity	Lower = more conservative leverage	Quarterly/interim statements
Asset quality	NPF gross	Gross impaired financing / gross financing	Lower = better gross asset quality	Financing-quality disclosure
Asset quality	NPF net	Residual impaired financing after provisions / gross financing	Lower = lower residual financing risk	Financing-quality disclosure

Source: Authors' construction from BSI and BIMB financial disclosures.

For each indicator X , the analysis compares the same calendar quarter across the two banks. The paired difference is defined as:

$$\Delta X_t = X^{BSI}_{,t} - X^{BIMB}_{,t} \quad (1)$$

where ΔX_t is the BSI–BIMB paired difference for indicator X in quarter t , $X^{BSI}_{,t}$ and $X^{BIMB}_{,t}$ are the corresponding bank-specific values, and t ranges from 2021Q1 to 2024Q4. Positive values indicate a higher BSI ratio; negative values indicate a higher BIMB ratio. The design is comparative and does not estimate a multivariate causal model.

Ratio-appropriate transformations were used before parametric testing. Bounded proportions in the open interval (0,1) were transformed using the logit function:

$$\text{logit}(p_t) = \ln[p_t / (1 - p_t)], \quad 0 < p_t < 1 \quad (2)$$

where p_t is the observed bounded ratio in quarter t and $\ln$ denotes the natural logarithm. FDR and DER were treated as positive unbounded ratios and transformed using the natural logarithm. If a bounded value equals zero or one, it is clipped before transformation as follows:

$$p_t^* = \min\{\max(p_t, \epsilon), 1 - \epsilon\}, \quad \epsilon = 10^{-6} \quad (3)$$

Normality of transformed paired differences was assessed using the Shapiro–Wilk diagnostic. Variables satisfying the normality condition were evaluated with paired t -tests; otherwise, Wilcoxon signed-rank tests were used on the paired observations. Because equality of variances between banks is not an assumption of the paired t -test, Levene’s test is treated only as a supplementary dispersion diagnostic. For paired t -tests, Cohen’s d_z is reported where available. Statistical significance is assessed at $\alpha = 0.05$.

The analysis proceeded by collecting and matching quarterly disclosures, harmonizing ratio definitions, computing and validating the indicators, applying ratio-appropriate transformations, diagnosing the distribution of paired differences, selecting the paired test, and interpreting statistical significance together with effect magnitude. Given the two-bank design and 16 matched quarters, inference is intentionally limited to the observed institutions and period.

RESULT AND DISCUSSION

Table 2 reports the paired comparisons. The results show a clear division of strengths: BSI has stronger profitability, capital and equity buffers, and lower leverage, whereas BIMB has lower operating costs and deeper intermediation. Asset quality is split between gross and net NPF. The discussion therefore focuses on the mechanisms behind these differences rather than repeating each table value.

Table 2. Paired comparison of BSI and BIMB, 2021Q1–2024Q4

Variable	Mean BSI	Mean BIMB	Δ BSI–BIMB	Test and p-value	Effect size	Direction
ROA	0.0214	0.0016	+0.0198	Wilcoxon; $p < .001$	—	BSI > BIMB
ROE	0.1654	0.0194	+0.1460	Wilcoxon; $p < .001$	—	BSI > BIMB
BOPO	0.7381	0.7122	+0.0259	Paired t ; $p = .0046$	$d_z \approx 0.83$	BIMB more efficient
FDR	0.8083	1.1036	−0.2953	Paired t ; $p < .001$	$d_z \approx -6.75$	BIMB > BSI
FAR	0.6691	0.7181	−0.0490	Paired t ; $p < .001$	$d_z \approx -1.43$	BIMB > BSI
CAR	0.2465	0.1694	+0.0771	Wilcoxon; $p = .0063$	—	BSI > BIMB
ELR	0.1181	0.0901	+0.0280	Wilcoxon; $p = .0001$	—	BSI > BIMB
EAR	0.1033	0.0826	+0.0207	Wilcoxon; $p = .0001$	—	BSI > BIMB

Variable	Mean BSI	Mean BIMB	Δ BSI–BIMB	Test and p-value	Effect size	Direction
DER	8.5453	11.1428	–2.5975	Paired t; $p < .001$	$d_z \approx -2.07$	BSI lower leverage
NPF gross	0.0249	0.0124	+0.0125	Paired t; $p < .001$	$d_z \approx 2.87$	BIMB lower gross NPF
NPF net	0.0069	0.0086	–0.0017	Wilcoxon; $p = .0021$	—	BSI lower net NPF

Source: Authors' calculations from matched quarterly observations.

Profitability and operating efficiency

BSI's higher ROA and ROE despite its higher BOPO indicates that cost efficiency is not the only mechanism supporting earnings. A plausible interpretation is that post-merger scale, broader customer reach, asset deployment, and revenue capacity offset part of BSI's operating-cost disadvantage. This is consistent with RBV and with evidence that Islamic-bank profitability reflects interacting effects of capitalization, liquidity, efficiency, and business-model characteristics (Barney, 1991; Bitar et al., 2017a; Gazi et al., 2024). BIMB's lower BOPO, by contrast, is consistent with operational maturity and disciplined resource use; recent efficiency studies similarly show that cost structures and institutional context materially shape Islamic-bank performance (Boubaker et al., 2022; Chowdhury & Haron, 2021; Hidayat et al., 2021).

Intermediation and liquidity

BIMB's higher FDR and FAR indicate deeper intermediation, but the FDR above 100% should not be read as unambiguously superior performance. It implies that financing exceeds customer deposits and therefore requires stronger reliance on equity or other funding sources and tighter liquidity management. This interpretation is consistent with evidence that liquidity, financing intensity, and credit risk are jointly relevant to Islamic-bank stability and profitability (Azad et al., 2023; Hassan et al., 2019; Sutrisno & Widarjono, 2022). Hence, BIMB's intermediation advantage is accompanied by a funding-liquidity trade-off.

Capital strength and leverage

BSI's higher CAR, ELR, and EAR together with lower DER indicate a more equity-supported balance sheet. Such buffers increase loss-absorption capacity and provide room for expansion, although excessive capital can reduce leverage-based return efficiency. The pattern is consistent with recent evidence that Islamic-bank capital decisions respond to profitability, liquidity, competition, and institutional conditions and that capital interacts with efficiency and risk (Bitar et al., 2018, 2020; Guizani & Ajmi, 2021; Saeed et al., 2020; Smaoui et al., 2020). It also supports a trade-off interpretation in which BSI prioritizes resilience more strongly while BIMB operates with greater leverage.

Asset quality and provisioning

The gross–net NPF split requires separate interpretation. BIMB's lower gross NPF is consistent with stronger front-end financing quality, screening, monitoring, or portfolio composition. BSI's lower net NPF despite higher gross NPF suggests that provisions absorb a larger share of impaired financing, leaving lower residual exposure after coverage. The

available dataset does not isolate write-offs consistently, so the difference should not be attributed to write-off policy without additional disclosure. This cautious interpretation aligns with evidence that financing growth, capitalization, and risk management jointly influence credit risk in Islamic banks (Abbas & Ali, 2021; Sakti & Mohamad, 2018; Sobarsyah et al., 2020). Overall, the findings are not a simple ranking of one bank over the other. BSI combines stronger profitability and capital resilience with weaker cost efficiency and higher gross NPF; BIMB combines stronger efficiency and intermediation with higher leverage and an FDR that warrants liquidity attention. This multidimensional pattern is consistent with evidence that Islamic-bank risk-adjusted performance varies across institutions, governance conditions, and risk configurations (Bilgin et al., 2021; Ooi et al., 2021; Paltrinieri et al., 2021; Rouetbi et al., 2023).

PRACTICAL IMPLICATION

For BSI, the priority is to preserve profitability and capital headroom while reducing BOPO through process simplification, digital integration, and tighter operating-cost control. The higher gross NPF also supports stronger origination standards, sectoral monitoring, and early-warning mechanisms, while maintaining adequate provisioning. For BIMB, the priority is to preserve cost efficiency and gross asset quality while strengthening stable funding and liquidity planning as financing remains high relative to deposits. Regulators and boards should therefore assess Islamic-bank performance as a portfolio of profitability, efficiency, intermediation, capital, leverage, and asset-quality outcomes rather than through a single ratio.

THEORETICAL IMPLICATION

The findings extend RBV by showing that post-merger scale can coexist with incomplete cost synergies: resource consolidation may support profitability before full operating-efficiency gains are realized. They also reinforce contemporary intermediation and capital-structure evidence by demonstrating that deeper financing, stronger capital buffers, leverage, and asset quality involve simultaneous risk–return trade-offs rather than one-directional performance effects (Bitar et al., 2020; Guizani & Ajmi, 2021; Hassan et al., 2019; Saeed et al., 2020). The BSI–BIMB comparison therefore supports a multidimensional view of Islamic-bank performance in which organizational capabilities and prudential configuration jointly shape observed outcomes.

CONCLUSION AND RECOMMENDATION

This study finds a consistent division of comparative strengths between BSI and BIMB during 2021Q1–2024Q4. BSI records stronger profitability, capital and equity buffers, and lower leverage, while BIMB records better operating efficiency and deeper intermediation. Asset quality is mixed: BIMB has lower gross NPF, whereas BSI has lower net NPF. The evidence

therefore suggests that sustainable Islamic-bank performance depends on balancing earnings, cost discipline, financing depth, capital resilience, leverage, and financing quality.

The conclusions are institution-specific. The study covers only two banks and 16 matched quarters, and cross-jurisdiction differences in disclosure and regulatory terminology cannot be removed completely. Future research should extend the sample and period, incorporate direct measures of funding liquidity and provisioning coverage, and use explanatory panel or dynamic models to test the mechanisms suggested by the paired comparisons. For practice, BSI should focus on cost and upstream asset-quality improvement, whereas BIMB should maintain efficiency while managing liquidity and leverage as intermediation expands.

REFERENCES

- Abbas, F., & Ali, S. (2021). Economics of loan growth, credit risk and bank capital in Islamic banks. *Kybernetes*, 51(12), 3591–3609. <https://doi.org/10.1108/K-03-2021-0232>
- Azad, A. S. M. S., Azmat, S., & Hayat, A. (2023). What determines the profitability of Islamic banks: Lending or fee? *International Review of Economics & Finance*, 86, 882–896. <https://doi.org/10.1016/j.iref.2019.05.015>
- Bank Islam Malaysia Berhad. (2025). Integrated Annual Report 2024: Driving a Sustainable Future. <https://bimb.irplc.com/investor-relations/interactiveAR2024/>
- Bank Negara Malaysia. (2018). Implementation Guide for Value-Based Intermediation. <https://www.bnm.gov.my/documents/20124/761682/Implementation%2BGuide%2Bfor%2BValue-based%2BIntermediation.pdf>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Bilgin, M. H., Danisman, G. O., Demir, E., & Tarazi, A. (2021). Economic uncertainty and bank stability: Conventional vs. Islamic banking. *Journal of Financial Stability*, 56, 100911. <https://doi.org/10.1016/j.jfs.2021.100911>
- Bitar, M., Hassan, M. K., & Hippler, W. J. (2018). The determinants of Islamic bank capital decisions. *Emerging Markets Review*, 35, 48–68. <https://doi.org/10.1016/j.ememar.2017.12.002>
- Bitar, M., Madiès, P., & Taramasco, O. (2017a). What makes Islamic banks different? A multivariate approach. *Economic Systems*, 41(2), 215–235. <https://doi.org/10.1016/j.ecosys.2016.06.003>
- Bitar, M., Hassan, M. K., & Walker, T. (2017b). Political systems and the financial soundness of Islamic banks. *Journal of Financial Stability*, 31, 18–44. <https://doi.org/10.1016/j.jfs.2017.06.002>
- Bitar, M., Pukthuanthong, K., & Walker, T. (2020). Efficiency in Islamic vs. conventional banking: The role of capital and liquidity. *Global Finance Journal*, 46, 100487. <https://doi.org/10.1016/j.gfi.2019.100487>
- Boubaker, S., Uddin, M. H., Kabir, S. H., & Mollah, S. (2022). Does cost-inefficiency in Islamic banking matter for earnings uncertainty? *Review of Accounting and Finance*, 22(1), 1–36. <https://doi.org/10.1108/RAF-07-2022-0193>
- Bukair, A. A. A. (2019). Factors influencing Islamic banks' capital structure in developing economies. *Journal of Islamic Accounting and Business Research*, 10(1), 2–20. <https://doi.org/10.1108/JIABR-02-2014-0008>

- Chowdhury, M. A. M., & Haron, R. (2021). The efficiency of Islamic banks in the Southeast Asia (SEA) region. *Future Business Journal*, 7, 16. <https://doi.org/10.1186/s43093-021-00062-z>
- Gazi, M. A. I., Karim, R., Senathirajah, A. R. b. S., Ullah, A. K. M. M., Afrin, K. H., & Nahiduzzaman, M. (2024). Bank-specific and macroeconomic determinants of profitability of Islamic Shariah-based banks: Evidence from new economic horizon using panel data. *Economies*, 12(3), 66. <https://doi.org/10.3390/economies12030066>
- Guizani, M., & Ajmi, A. N. (2021). The capital structure decision of Islamic and conventional banks: Empirical evidence from Malaysia. *Asia-Pacific Journal of Business Administration*, 13(2), 216–234. <https://doi.org/10.1108/APJBA-06-2020-0218>
- Hanif, M. (2024). Performance evaluation of Islamic banking services industry: Evidence from GCC. *Journal of Risk and Financial Management*, 17(11), 523. <https://doi.org/10.3390/jrfm17110523>
- Hassan, M. K., Khan, A., & Paltrinieri, A. (2019). Liquidity risk, credit risk and stability in Islamic and conventional banks. *Research in International Business and Finance*, 48, 17–31. <https://doi.org/10.1016/j.ribaf.2018.10.006>
- Hidayat, S. E., Sakti, M. R. P., & Al-Balushi, R. A. A. (2021). Risk, efficiency and financial performance in the GCC banking industry: Islamic versus conventional banks. *Journal of Islamic Accounting and Business Research*, 12(4), 564–592. <https://doi.org/10.1108/JIABR-05-2020-0138>
- Mai, X. T. T., Nguyen, H. T. N., Ngo, T., Le, T. D. Q., & Nguyen, L. P. (2023). Efficiency of the Islamic banking sector: Evidence from two-stage DEA double frontiers analysis. *International Journal of Financial Studies*, 11(1), 32. <https://doi.org/10.3390/ijfs11010032>
- Olson, D., & Zoubi, T. (2017). Convergence in bank performance for commercial and Islamic banks during and after the Global Financial Crisis. *The Quarterly Review of Economics and Finance*, 65, 71–87. <https://doi.org/10.1016/j.qref.2016.06.013>
- Ooi, C.-A., Setiawan, D., & Hooy, C.-W. (2021). Muslim CEOs and bank risk-taking: Evidence from Indonesia. *Global Finance Journal*, 50, 100507. <https://doi.org/10.1016/j.gfj.2019.100507>
- Paltrinieri, A., Dreassi, A., Rossi, S., & Khan, A. (2021). Risk-adjusted profitability and stability of Islamic and conventional banks: Does revenue diversification matter? *Global Finance Journal*, 50, 100517. <https://doi.org/10.1016/j.gfj.2020.100517>
- PT Bank Syariah Indonesia Tbk. (2025). Laporan Tahunan 2024.
- Rouetbi, M., Ftiti, Z., & Omri, A. (2023). The impact of displaced commercial risk on the performance of Islamic banks. *Pacific-Basin Finance Journal*, 79, 102022. <https://doi.org/10.1016/j.pacfin.2023.102022>
- Saeed, M., Izzeldin, M., Hassan, M. K., & Pappas, V. (2020). The inter-temporal relationship between risk, capital and efficiency: The case of Islamic and conventional banks. *Pacific-Basin Finance Journal*, 62, 101328. <https://doi.org/10.1016/j.pacfin.2020.101328>
- Sakti, M. R. P., & Mohamad, A. (2018). Efficiency, stability and asset quality of Islamic vis-à-vis conventional banks: Evidence from Indonesia. *Journal of Islamic Accounting and Business Research*, 9(3), 378–400. <https://doi.org/10.1108/JIABR-07-2015-0031>
- Smaoui, H., & Ghouma, H. (2020). Sukuk market development and Islamic banks' capital ratios. *Research in International Business and Finance*, 51, 101064. <https://doi.org/10.1016/j.ribaf.2019.101064>
- Smaoui, H., Ben Salah, I., & Diallo, B. (2020). The determinants of capital ratios in Islamic banking. *The Quarterly Review of Economics and Finance*, 77, 186–194. <https://doi.org/10.1016/j.qref.2019.11.002>

- Sobarsyah, M., Soedarmono, W., Yudhi, W. S. A., Trinugroho, I., Warokka, A., & Pramono, S. E. (2020). Loan growth, capitalization, and credit risk in Islamic banking. *International Economics*, 163, 155–162. <https://doi.org/10.1016/j.inteco.2020.02.001>
- Sutrisno, S., & Widarjono, A. (2022). Is profit–loss-sharing financing matter for Islamic bank’s profitability? The Indonesian case. *Risks*, 10(11), 207. <https://doi.org/10.3390/risks10110207>
- Toumi, K. (2020). Islamic ethics, capital structure and profitability of banks; what makes Islamic banks different? *International Journal of Islamic and Middle Eastern Finance and Management*, 13(1), 116–134. <https://doi.org/10.1108/IMEFM-05-2016-0061>