

A Comparative Analysis of Financial Performance Indicators between Islamic Banks and Islamic Windows in Malaysia: Evidence from 2014 to 2024.

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Abstract:

The banking industry represents a highly promising sector in Islamic finance, as evidenced by the growing reliance on its services in many countries. This study analyzes and compares the performance of Islamic banks and Islamic windows operating in Malaysia over the period 2014–2024. The analysis focuses on four key financial indicators: return on assets (ROA), return on equity (ROE), net profit margin (NPM), and cost-to-income ratio (CTI). A descriptive and analytical approach was employed, using JASP software for both descriptive and inferential analyses, within a comparative framework to highlight similarities and differences between the two banking models.

The results reveal clear differences between Islamic banks and Islamic windows. Islamic windows outperform Islamic banks in ROA, NPM, and CTI, achieving higher returns on assets, higher net profit margins, and superior operational efficiency, although their performance exhibits greater volatility over time. In contrast, Islamic banks demonstrate more stable returns, particularly in ROE, reflecting more consistent profitability for shareholders, but they exhibit lower cost efficiency, as indicated by higher CTI values. Overall, while Islamic windows deliver higher returns and

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better cost efficiency, Islamic banks provide greater stability in shareholder returns. These findings provide valuable insights for regulators, industry stakeholders, and policymakers seeking to enhance performance and competitiveness within Malaysia's Islamic banking sector. Moreover, the study contributes to the academic understanding of the similarities and differences between Islamic banks and Islamic windows, offering avenues for future research on additional financial indicators and operational comparisons within the sector.

Keywords: Financial indicators; Islamic banks; Islamic windows; Banking in Malaysia.

Jel Classification Codes: G3, Z12 , G21.

1. INTRODUCTION:

The Islamic banking sector has experienced remarkable growth (Saleem et al., 2025) over the past few years (Farah et al., 2025), Report data (Islamic Financial Services Board (IFSB), 2025) indicate that the sector continued its growth trajectory, recording an annual growth rate of 17.05% in total Islamic banking assets in 2024, The Islamic finance industry in Southeast Asia is the largest of its kind globally, accounting for nearly a quarter of the worldwide total (ASEAN Forms About Quarter of Global Islamic Finance Industry; GCC Ties to Spur Growth, 2025). It can be said that Malaysia is considered one of the pioneers in this field (Muttaqin, 2025) It is important to note that Malaysia operates a dual banking system, comprising both Islamic and conventional banks (Hariffin, 2025), The credit for this goes to Bank Negara Malaysia (BNM) (Najib et al., 2025). By adopting an integrated framework that supports it (Naja et al., 2023), All of this is based on the principles of Islamic law (Zulkepli et al., 2025). Except for transactions involving the giving and receiving of interest (Baldeh & Redzuan, 2025). Sharing both profits and losses (Alkindi & Utami, 2025), In addition to emphasizing the social aspect (Avdukic & Asutay, 2025). Alongside ethical practices that appeal to both Muslims and non-Muslims (Zulkepli et al., 2025), All these practices pursued by Islamic banks contribute to stability in the financial system (Balaylar et al., 2025), This demonstrates its resilience in the face of external crises (Saleem et al., 2025).

Our study focused on a set of financial indicators used to evaluate the performance of Islamic banks: return on assets (ROA) and return on equity (ROE) as measures of profitability (Ariyani et al., 2025; Butt & Chamberlain, 2025); net profit margin (NPM) as an indicator of operational efficiency and profitability (Fadila et al., 2025); and the cost-to-income ratio (CTI) as a measure of cost efficiency (Hanif, 2025).

Based on the above, our study seeks to answer the main question:

To what extent do the four financial indicators: ROA, ROE, CTI, and NPM differ between Islamic banks and Islamic windows in Malaysia during the period from Q1 2014 to Q3 2024?

Based on the previous research question, The primary hypotheses of this study are formulated as four null hypotheses (H_0) concerning the financial performance indicators of Islamic Banks and Islamic Windows in Malaysia during the period from Q1 2014 to Q3 2024.

ROA (Return on Assets):

H₀₁: There is no statistically significant difference in ROA between Islamic Banks and Islamic Windows in Malaysia during the period from Q1 2014 to Q3 2024.

ROE (Return on Equity):

H₀₂: There is no statistically significant difference in ROE between Islamic Banks and Islamic Windows in Malaysia during the period from Q1 2014 to Q3 2024.

NPM (Net Profit Margin):

H₀₃: There is no statistically significant difference in NPM between Islamic Banks and Islamic Windows in Malaysia during the period from Q1 2014 to Q3 2024.

CTI (Cost-to-Income Ratio):

H₀₄: There is no statistically significant difference in CTI between Islamic Banks and Islamic Windows in Malaysia during the period from Q1 2014 to Q3 2024

The primary objective of our study is to analyze the fundamental differences in financial indicators (ROA, ROE, CTI, NIM) between Malaysian Islamic banks and Islamic windows at the national level. The goal is to identify similarities and differences in financial performance and stability while controlling for regulatory, legislative, technological, and other environmental factors.

Our research contribution lies in highlighting the fundamental differences between Islamic windows and Islamic banks in Malaysia, a

pioneer in the banking sector, within the same economic and regulatory environment. By excluding extraneous variables, we aim to understand the extent of similarities and differences in financial indicators specifically, whether significant differences exist between the two models and if one is superior to the other.

Literature Review :

- study (Fadila et al., 2025) compared the performance of Islamic banks in Malaysia and Indonesia using the Islamic Performance Index (IPI) alongside traditional financial indicators such as Return on Equity (ROE), Net Profit Margin (NPM), and Return on Assets (ROA). Employing a descriptive analytical approach aligned with the PRISMA protocol, the study reviewed research published between 2020 and 2024. The results revealed significant performance differences between the two countries, attributed to variations in asset size, regulatory environments, and management strategies. These findings underscore the importance of developing banking policies that consider economic specificities while balancing financial efficiency with compliance to Islamic Sharia principles.
- A study (Aznol et al., 2024) was conducted to examine the impact of internal and external risks on the profitability of banks in Malaysia from 2010 to 2022, using unbalanced panel data covering 29 banks (14 Islamic and 15 conventional). The analysis employed random effects and fixed effects models, utilizing profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE). The results indicated that Islamic banks are less profitable than conventional banks; however, they are more resilient and less affected by crises, underscoring the role of risk management in enhancing sustainability and profitability.
- (Ariffin et al., 2024) This study aimed to examine the financial performance of Islamic banks in Malaysia during the COVID-19 pandemic by analyzing data from the annual reports of 15 banks for the years 2019–2021, using financial ratios related to profitability, liquidity, solvency, and efficiency. The findings revealed that Islamic banks were able to manage their liquidity positions effectively throughout the

pandemic, although variations in performance across institutions were observed. The study contributes to the literature by providing empirical evidence on the resilience of Malaysian Islamic banks before and during the crisis, highlighting the need for these banks to enhance competitiveness, adopt preventive measures against future shocks, and uphold Islamic ethics to ensure Shariah compliance. It also offers practical implications for regulators and policymakers in addressing unprecedented uncertainty, making it a pioneering empirical work in the context of Islamic banking performance during the pandemic.

- (Fazam et al., 2021) This study examined the financial performance of Islamic banks in Malaysia over the period 2011–2020 by focusing on return on assets (ROA) and return on equity (ROE) as dependent variables, while bank size, risk management, and gross domestic product (GDP) were treated as independent variables. Using secondary data from the annual reports of the three largest Islamic banks—Maybank Islamic Berhad, CIMB Islamic Bank Berhad, and Bank Islam Malaysia Berhad—the analysis employed a pooled ordinary least squares (OLS) regression model. The findings revealed that bank size was not a significant determinant of profitability, as smaller banks tended to perform better than larger ones. Similarly, risk management showed insignificant results, with higher debt levels associated with increased credit risk due to greater likelihood of uncollectible loans. GDP also proved insignificant, reflecting challenges faced by clients in sustaining earnings over time because of regulatory constraints, reduced business activity, and lower tax burdens. Overall, the study concluded that these variables did not exert a major impact on the profitability of Islamic banks in Malaysia, suggesting that other internal and external factors may play a more decisive role in shaping financial performance.
- The researchers (Sulub & Che Mohd Salleh, 2019) aimed to compare the financial performance of Islamic and conventional banks in Malaysia's dual banking environment, using key financial indicators return on equity (ROE), return on assets (ROA), earnings per share (EPS), and

debt ratio—over the period 2012–2016. Comparative statistical analyses, including t-tests and correlation assessments, were conducted to evaluate differences between four Islamic banks and four conventional banks. The results indicated that conventional banks outperformed their Islamic counterparts in terms of profitability and returns, whereas Islamic banks exhibited higher debt levels, increasing their financial risk. Consequently, Islamic banks need to improve their efficiency and competitiveness while upholding their Islamic ethical principles and foundations.

Studies examining some of the variables in our research have varied; however, what distinguishes our study is its duration, encompassing 43 observations, as well as the types of variables analyzed and the use of advanced statistical methods. These factors contribute to the existing literature by highlighting the similarities and differences between Islamic banks and Islamic windows in Malaysia, specifically addressing whether one is superior to the other.

Materials and Methods:

This study employed a descriptive-analytical research approach to examine the financial performance of Islamic Banks and Islamic Windows in Malaysia from Q1 2014 to Q3 2024. The descriptive component involved summarizing and comparing the four key financial indicators: Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Cost-to-Income Ratio (CTI), while the analytical component focused on identifying statistically significant differences between the two banking models. The statistical analyses conducted included normality tests, Wilcoxon Signed-Rank tests, paired-samples t-tests, and effect size calculations. Data processing and analyses were performed using JASP software, while Python was utilized for data visualization and supplementary computations, strictly based on these four indicators.

Data Collection:

Secondary data were collected from the Islamic Financial Services website for the period from Q1 2014 to Q3 2024. The four indicators were chosen for their importance in the study, and the main reason was the

availability of data, The data primarily consist of financial indicators for Islamic banks and Islamic banking windows in Malaysia, including:

- **Return on Assets (ROA).**
- **Return on Equity (ROE).**
- **Net Profit Margin.**
- **Cost-to-Income Ratio.**

Table 1. Financial Indicators Used in the Study and Their Calculation Methods.

Financial Indicators	Abbreviation	How to Calculate Indicators
Return on Assets	(ROA)	Net income (before extraordinary items, taxes, and Zakat)/ Total assets*100
Return on Equity	(ROE)	Net income (before extraordinary items, taxes, and Zakat)/ Equity*100
Net Profit Margin	(NPM)	Net income (before extraordinary items, taxes, and Zakat)/ Gross income*100
Cost to Income	(CTI)	Operating costs/ Gross income*100

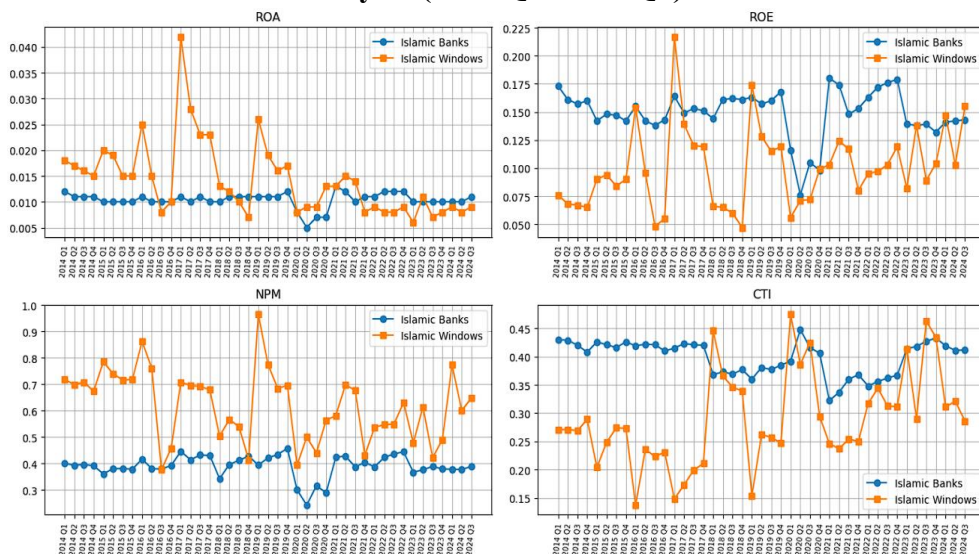
Source: Prepared by the researcher using (IFSB 2025).

2.Results and Discussions:

Graphs of Study Variables

First and foremost, we must graphically represent the variables in our study. This will make it easier to observe their distribution and gain a preliminary understanding of them.

Fig.1. Comparison of Financial Indicators of Islamic Banks and Windows in Malaysia (2014 Q1–2024 Q3).



Source: Prepared by the researcher based on Python.

By using Python to display analytical graphs of financial indicators (ROA, ROE, NPM, CTI) for both Malaysian Islamic banks and windows over the period 2014 Q1 to 2024 Q3, it is evident that there are structural differences in performance between the two models. The return on assets (ROA) demonstrates relative stability for Islamic banks, in contrast to the sharp fluctuations observed in the windows, reflecting the banks' stronger ability to employ assets efficiently. Regarding return on equity (ROE), Islamic banks have maintained high levels and show a general upward trend, while windows have experienced significant fluctuations and occasional declines, indicating greater sensitivity to their financial structure. For the net profit margin (NPM), Islamic banks have exhibited relatively moderate and stable levels, whereas windows recorded higher levels accompanied by volatility, which may undermine the sustainability of their profitability. Finally, the Cost to Income Index (CTI) reveals higher operational efficiency in Islamic banks compared to windows, which have experienced substantial fluctuations, suggesting differences in expense and resource management. Overall, the analysis highlights the stability and

A Comparative Analysis of Financial Performance Indicators between Islamic Banks and Islamic Windows in Malaysia: Evidence from 2014 to 2024.

solidity of Islamic banks, whereas windows, despite often achieving higher profitability, fall short in terms of sustainability and are more exposed to fluctuations.

Descriptive Statistics for Study Variables:

To gain a comprehensive understanding of the data, it is essential to perform basic statistical analyses using JASP software, which will further enhance your insight.

Table 2. Descriptive Statistics of Malaysian Islamic Banks.

	ROA	ROE	NPM	CTI
Valid	43	43	43	43
Missing	0	0	0	0
Mode	0.010 ^a	0.142 ^a	0.378 ^a	0.421 ^a
Median	0.011	0.151	0.392	0.412
Mean	0.010	0.149	0.390	0.398
Std. Error of Mean	2.211×10^{-4}	0.003	0.007	0.005
Std. Deviation	0.001	0.021	0.043	0.030
Variance	2.102×10^{-6}	4.378×10^{-4}	0.002	9.182×10^{-4}
Skewness	-1.675	-1.417	-1.423	-0.701
Std. Error of Skewness	0.361	0.361	0.361	0.361
Kurtosis	4.448	3.119	2.977	-0.536
Std. Error of Kurtosis	0.709	0.709	0.709	0.709
Range	0.008	0.104	0.215	0.126
Minimum	0.005	0.076	0.242	0.322
Maximum	0.013	0.180	0.457	0.448
Sum	0.447	6.415	16.790	17.133

^a The mode is computed assuming that variables are discreet.

Source: JASP Team (2025), JASP (Version 0.95.3) [Computer software].

The outputs from the JASP statistical program indicate that Islamic banks in Malaysia have demonstrated very strong and consistent financial performance over the past decade. The analysis covers triple data points, totaling 43 observations, from the first quarter of 2014 to the third quarter of 2024. The average Return on Assets (ROA) of 1.0% and Return on Equity (ROE) of 14.9% serve as indicators of good profitability and relative stability. Additionally, the low standard deviation of ROA (0.001) provides

clear evidence of limited volatility, reflecting high management efficiency. However, the significant negative skewness of ROA (-1.675) reveals the presence of negative outliers, such as the poor performance in 2020 during the COVID-19 pandemic, which pulled the average down. This suggests that Malaysian Islamic banks possess the resilience and ability to recover quickly from economic shocks. Nonetheless, they remain vulnerable to the impacts of global crises, underscoring the need to adopt risk management strategies to mitigate future fluctuations and maintain strong performance.

Table 3. Descriptive Statistics of Malaysian Islamic Windows.

	ROA	ROE	NPM	CTI
Valid	43	43	43	43
Missing	0	0	0	0
Mode	0.008 ^a	0.103 ^a	0.708 ^a	0.271 ^a
Median	0.013	0.096	0.648	0.273
Mean	0.014	0.100	0.621	0.289
Std. Error of Mean	0.001	0.005	0.020	0.013
Std. Deviation	0.007	0.036	0.134	0.083
Variance	5.120×10 ⁻⁵	0.001	0.018	0.007
Skewness	1.703	0.962	0.065	0.486
Std. Error of Skewness	0.361	0.361	0.361	0.361
Kurtosis	4.190	1.390	-0.322	-0.095
Std. Error of Kurtosis	0.709	0.709	0.709	0.709
Range	0.036	0.170	0.589	0.338
Minimum	0.006	0.047	0.376	0.137
Maximum	0.042	0.217	0.965	0.475
Sum	0.610	4.310	26.704	12.445

^a The mode is computed assuming that variables are discreet.

Source: JASP Team (2025), JASP (Version 0.95.3) [Computer software]..

Our study sample consisted of 43 observations from Malaysian Islamic windows. The statistical analysis revealed that their performance, measured by return on assets (ROA), averaged 1.4 percent with a standard deviation of 0.7 percent. This suggests a relatively weak ability to invest assets efficiently. Additionally, the ROA distribution was right-skewed

(skewness = 1.703), indicating that only a few entities achieved exceptional returns, while most recorded typical returns.

Regarding return on equity (ROE), the average was 10% with a standard deviation of 3.6%, indicating a moderately acceptable ability to generate returns for shareholders despite variations in form, size, and other factors (values ranged from 4.7% to 21.7%).

The net profit margin (NPM) averaged a high 62.1%, with a standard deviation of 13.4%, suggesting strong and stable profit margins. This stability is further supported by the near-symmetrical distribution (skewness = 0.065). Additionally, the cost-to-income ratio (CTI) was relatively low, averaging 28.9% with a variance of 8.3%, indicating acceptable operational efficiency, despite occasional instances where the ratio increased to 47.5

Nature of Data Distribution :

To determine whether the data follow a normal distribution, a series of statistical analyses can be performed based on the graph. Since most of the data is financial, it does not follow a normal distribution, and we will verify that

Table 4. Shapiro–Wilk Test Results for Assessing Normality of ROA, ROE, NPM, and CTI for Islamic Banks and Islamic Windows.

	Islamic Banks ROA	Islamic Banks ROE	Islamic Banks NPM	Islamic Banks CTI	Islamic Windows ROA	Islamic Windows ROE	Islamic Windows NPM	Islamic Windows CTI
Valid	43	43	43	43	43	43	43	43
Missing	0	0	0	0	0	0	0	0
Shapiro-Wilk	0.802	0.888	0.884	0.901	0.847	0.944	0.967	0.961
P-value of Shapiro-Wilk	< .001	< .001	< .001	0.001	< .001	0.036	0.247	0.151

Source: JASP Team (2025), JASP (Version 0.95.3) [Computer software].In order to ensure that the data is distributed normally, the Shapiro-Wilk test was used. The following table summarizes the most important test results.

Table 5. Testing the normal distribution of study variables Summary of the most important results.

Indicators	Shapiro–Wilk p-value	Normal Distribution
Islamic Banks ROA	< .001	No
Islamic Banks ROE	< .001	No
Islamic Banks NPM	< .001	No
Islamic Banks CTI	0.001	No
Islamic Windows ROA	< .001	No
Islamic Windows ROE	0.036	No
Islamic Windows NPM	0.247	Yes
Islamic Windows CTI	0.151	Yes

Source: Prepared by the researcher Based on the outputs of the JASP.

From the above, it can be said that most indicators do not follow a normal distribution Based on this, the Wilcoxon Signed-Rank Test was selected as the most appropriate method for comparing paired samples in our study. However, the results of the Paired Samples t-test were also included for comparison purposes, with the primary interpretation based on the Wilcoxon test results..

Table 6. Paired-Samples Test Results and Effect Sizes for Performance Indicators (ROA, ROE, NPM, CTI) in Islamic Banks vs Islamic Windows.

Indicator	p-value	Z-value	Effect Size	Direction	Superior Group	Brief Comment
ROA	0.001	(3.327)	(0.604)	Negative	Islamic Windows	There is a statistically significant difference, with Islamic windows achieving a higher return on assets (ROA) and a large effect size.

***A Comparative Analysis of Financial Performance Indicators between
Islamic Banks and Islamic Windows in Malaysia: Evidence from 2014 to 2024.***

ROE	<0.001	5.139	0.910	Positive	Islamic Banks	There is a statistically significant difference; Islamic banks achieve substantially higher return on equity (ROE) with a very large effect size.
NPM	<0.001	(5.675)	(0.994)	Negative	Islamic Windows	There is a statistically significant difference; Islamic Windows achieve a much higher net profit margin with a very large effect size.
CTI	<0.001	5.170	0.916	Positive	Islamic Windows	Statistically significant; Islamic Windows demonstrate superior cost efficiency (lower CTI) with a very large effect

						size
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Source: Prepared by the researcher Based on the outputs of the JASP.

The results of the Wilcoxon Signed-Rank test showed statistically significant differences between the performance of Islamic banks and Islamic windows across all four indicators. While Islamic windows outperform Islamic banks in ROA, NPM, and CTI, Islamic banks, conversely, outperform Islamic windows in ROE. The magnitude of the effect for all indicators is very large, further reinforcing the significance of these differences.

Comparison of Four Indicators in Both Islamic Banks and Islamic Windows in Malaysia.

Based on the above statistical analysis, the most important similarities and differences between Malaysian Islamic banks and windows can be summarised as follows:

Table 7. Similarities and Differences Between Financial Indicators of Malaysian Islamic Banks and Islamic Banking Windows from Q1 2014 to Q3 2024

Financial Indicator	Islamic Banks	Islamic Windows	Similarities	Differences
ROA (Return on Assets)	Stable at relatively low levels.	Highly volatile, characterized by sharp fluctuations.	Both demonstrate the ability to generate returns on assets.	Banks are more stable, whereas windows are more volatile.
ROE (Return on Equity)	Relatively high and stable, with an upward trend.	Exhibiting significant fluctuations and declines during certain periods.	Both deliver positive returns to shareholders.	Banks demonstrate greater consistency, whereas windows are less sustainable.
NPM (Net Profit Margin)	Moderate and relatively stable.	Higher, but highly volatile.	Both generate operating profits.	Windows are more profitable during certain periods but are less stable overall.

A Comparative Analysis of Financial Performance Indicators between Islamic Banks and Islamic Windows in Malaysia: Evidence from 2014 to 2024.

CTI (Cost-to- Income Ratio)	Higher (e.g., 39.8%), indicating lower operational efficiency.	Lower (e.g., 28.9%), reflecting superior cost efficiency.	Both are influenced by expense management.	Islamic Windows demonstrate significantly better cost control and operational efficiency compared to full-fledged Islamic banks.
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Source: Prepared by the researcher Based on the outputs of the JASP.

Overall, Islamic Windows appear to operate with superior cost efficiency but face higher volatility, whereas full-fledged Islamic banks demonstrate more stable profitability performance.

- **ROA:** Islamic Windows show higher ROA due to their smaller asset base and more focused portfolio management, allowing them to achieve higher returns per unit of asset. However, this comes with greater volatility compared to full-fledged Islamic banks.
- **ROE:** Full-fledged Islamic banks demonstrate higher ROE compared to Islamic windows, with very large effect size, reflecting more stable returns to shareholders over the period. Islamic windows, by contrast, exhibit lower and more volatile ROE performance.
- **NPM:** Islamic Windows demonstrate higher NPM as they operate with lower fixed costs and a more streamlined structure, leading to higher net profit relative to revenues, although with higher fluctuations.
- **CTI:** Islamic Windows have lower CTI values compared to full-fledged Islamic banks, reflecting higher operational efficiency due to their streamlined structures and effective cost control, whereas Islamic banks incur higher costs due to their more complex operations and compliance requirements.

3. Conclusion :

In this study, we aimed to compare key financial indicators Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and

Cost-to-Income Ratio (CTI) between Islamic banks and Islamic windows in Malaysia, a leading country in this sector. We focused on a single country to eliminate economic, political, and technological differences across countries, ensuring that the results would be accurate within a consistent environment. Our objective was to determine whether Islamic banking windows follow the same approach as Islamic banks or adopt different strategies. The analysis covered the period from Q1 2014 to Q3 2024, based on approximately 43 observations. The results revealed significant differences, reflecting variations in operational structures, financing strategies, and management practices.

The results also demonstrated that Islamic windows outperformed Islamic banks in most financial indicators, particularly in three key metrics: Return on Assets, Net Profit Margin, and Cost-to-Income Ratio. Additionally, Islamic banks surpassed Islamic windows in the Return on Equity indicator. The results of the study enhance the academic understanding of the similarities and differences between them and represent a significant contribution of data to comparative studies in the field of Islamic banking finance. Additionally, the study opens opportunities for future research that examines additional indicators and compares returns, financing, and other factors. This, in turn, supports the formulation of practical recommendations aimed at improving the efficiency, effectiveness, and sustainability of the industry.

Ultimately, this research represents a significant step toward deepening our understanding of the fundamental performance of Islamic banks and Islamic windows. It also highlights the need to develop banking policies that account for the specific characteristics of each model and effectively address evolving market challenges.

Recommendations:

The empirical findings of this study have significant practical implications for key stakeholders in Malaysia's dual banking system. Below, we translate the statistical results particularly the superior cost efficiency of Islamic windows and the greater stability of full-fledged Islamic banks into concrete, actionable recommendations.

- For Bank Executives:

Islamic Window Managers should leverage their cost advantage, characterized by lower Cost-to-Income (CTI) ratios, by investing in digital transformation and Sharia-compliant fintech solutions to enhance service delivery without increasing fixed costs. However, to mitigate profitability volatility reflected in fluctuations in Return on Assets (ROA) and Net Profit Margin (NPM) they should focus on developing long-term client relationships and diversifying revenue streams beyond transaction-based income.

Full-fledged Islamic bank CEOs: While your institutions exhibit greater stability in ROE and ROA, your higher CTI (39.8%) indicates operational inefficiency. Consider outsourcing non-core functions (e.g., IT, back-office operations) or forming strategic alliances with conventional banks to adopt a cost-sharing model similar to that of windows without compromising the independence of Sharia governance.

- For Regulators (Bank Negara Malaysia):

Promote the Islamic Window Model as a Scalable Entry Strategy: Given its proven cost efficiency, BNM should facilitate the establishment of new Islamic windows particularly by mid-sized conventional banks to accelerate financial inclusion and expand access to Sharia-compliant services without the systemic risks associated with undercapitalized standalone entities.

Enhance disclosure requirements by mandating separate financial reporting for Islamic windows, extending beyond the current IFSB guidelines. This will improve transparency, enable accurate performance benchmarking, and mitigate the risks of cross-subsidization between conventional and Islamic operations.

Develop a Tailored Supervisory Framework: Acknowledge the hybrid nature of windows and avoid applying the same capital or governance standards used for full-fledged banks. Implementing a risk-proportionate regulatory approach will encourage innovation while ensuring stability.

- For Investors and Market Analysts:

Reassess valuation models: Islamic windows should not be evaluated solely based on profit stability. Their superior cost efficiency (CTI of 28.9%) indicates strong underlying operational health and potential for margin expansion during economic recovery phases, making them attractive for growth-oriented portfolios.

Diversify Exposure Across Models: Investors seeking stable returns should consider full-fledged Islamic banks, which offer consistent return on equity (ROE). Conversely, those willing to tolerate short-term volatility in exchange for higher efficiency and cost advantages may prefer Islamic windows. A blended portfolio can capture the complementary strengths of both models.

Monitor Governance Quality: Since windows operate within conventional structures, investors should closely monitor Sharia compliance independence, board composition, and conflict-of-interest safeguards as key non-financial risk indicators.

Limitations of the Study:

This study is subject to several limitations that should be taken into account when interpreting the results. First, the geographical scope is limited to Malaysia, which limits the possibility of generalising the results to other countries with different regulatory frameworks, economic conditions or Islamic financial ecosystems, as each country has a system that distinguishes it from the regulatory environment that governs it.

Second, the analysis relies exclusively on four financial performance indicators: return on assets, return on equity, national precautionary mechanism, and CTI, omitting other relevant metrics such as liquidity ratios (e.g., LCR, NSFR) and capital adequacy metrics (e.g., CAR). The inclusion of these indicators would provide a more comprehensive assessment of banks' financial health and resilience.

Third, the time frame extends from the first quarter of 2014 to the third quarter of 2024 and includes major macroeconomic shocks, most notably the COVID-19 pandemic (2020–2021). However, the model does

not isolate or control for the specific impact of the pandemic on performance dynamics.

Finally, the study does not include bank-level explanatory variables that could affect financial outcomes, such as total assets, governance structures, Sharia compliance intensity, or strategic orientation. Future research could address these gaps through multivariate regression analyses, dynamic panel models, or cross-country comparative studies.

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