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Are Islamic Windows More Efficient Than Full-Fledged Islamic Banks? Panel Evidence from Five Dual-Banking Countries

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Abstract: This paper investigates whether Islamic windows - Shariah-compliant divisions operating within conventional banks - deliver superior financial performance relative to full-fledged Islamic banks. Using a quarterly panel of 394 observations spanning 2014Q1–2023Q4 for five established dual-banking jurisdictions (Indonesia, Malaysia, Oman, Pakistan, and Saudi Arabia) drawn from the IFSB Prudential and Structural Islamic Financial Indicators (PSIFIs) database, the study estimates pooled ordinary least squares regressions with country fixed effects and heteroskedasticity-robust standard errors. The empirical results reveal that, after controlling for bank size and asset quality, Islamic windows exhibit a 30.5 percentage point lower cost-to-income ratio, a 28.3 percentage point higher net profit margin, a 0.74 percentage point higher return on assets, and a 0.76 percentage point lower non-performing financing ratio relative to full-fledged Islamic banks. All four differentials are significant at the 1% level. The findings are robust to the inclusion of country-level controls and remain stable across alternative specifications. The results carry direct policy implications for emerging Islamic finance jurisdictions, particularly Uzbekistan, where Law LRU-1126 (adopted 27 March 2026) has formally enabled the establishment of Islamic windows in commercial banks.

Keywords: Islamic windows; full-fledged Islamic banks; bank efficiency; panel data; cost-to-income ratio; net profit margin; Uzbekistan; IFSB PSIFIs.

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1. Introduction

Over the past two decades, Islamic finance has evolved from a niche segment into a globally recognized component of the financial architecture. According to the ICD-LSEG Islamic Finance Development Report 2023, the global Islamic banking industry encompassed 336 full-fledged Islamic banks and 274 Islamic windows operating within conventional banks as of 2022. Notably, while the number of full-fledged banks grew by 36% over the preceding decade, Islamic windows expanded by 84%, suggesting a pronounced industry preference for the window model as an entry vehicle into Shariah-compliant finance.

This divergent growth pattern raises a central empirical question: do Islamic windows actually outperform full-fledged Islamic banks once they are operational, or does their rapid expansion merely reflect lower entry barriers? The question carries

weight beyond academic curiosity. For policymakers in emerging Islamic finance jurisdictions - including those in Central Asia, North Africa, and the Commonwealth of Independent States - the choice between licensing windows or full institutions has substantial implications for financial inclusion, regulatory complexity, and the long-term competitiveness of the Islamic banking segment.

Uzbekistan provides a particularly timely setting for revisiting this question. Law LRU-1126 "On introducing amendments and additions to certain legislative acts of the Republic of Uzbekistan aimed at the introduction of Islamic banking in Uzbekistan" was adopted on 27 March 2026 and entered into force on 19 June 2026. The law formally authorizes commercial banks to establish Islamic windows under licensing arrangements supervised by the Central Bank of Uzbekistan. Given that no full-fledged Islamic bank currently operates in Uzbekistan, the window model represents the most plausible near-term pathway to the development of a domestic Shariah-compliant banking segment. Whether this pathway is empirically justified, however, has not been adequately addressed in the literature, particularly using recent panel evidence.

This paper contributes to filling this gap in three ways. First, it assembles a balanced quarterly panel of 394 observations covering five dual-banking jurisdictions over the period 2014Q1–2023Q4, drawn directly from the standardized IFSB PSIFIs database. Second, it implements a comparative estimation strategy that exploits within-country variation between window operations and full Islamic banks, controlling for bank size, asset quality, and country fixed effects. Third, it derives policy implications specifically calibrated to the institutional context of Uzbekistan's nascent Islamic finance ecosystem.

2. Literature Review

The theoretical case for expecting Islamic windows to outperform full-fledged Islamic banks rests primarily on two complementary perspectives in organizational economics. Entry cost theory, developed by Duvall and Ford (1985) in the context of multi-product firms, predicts that organizations entering a new market through an established institutional platform incur substantially lower fixed costs than *de novo* entrants. Applied to banking, this implies that Islamic windows - which can leverage the parent bank's existing branch network, information technology infrastructure, regulatory compliance apparatus, and trained human capital - should achieve operational efficiency more quickly, and at a lower marginal cost, than newly established standalone Islamic banks (Kamaruddin, Safa, and Mohd, 2008).

Empirical investigations of the relative performance of Islamic windows and full-fledged Islamic banks have produced increasingly convergent findings, though substantial heterogeneity remains across samples and methodologies. Early evidence by Rosli and Abu Bakar (2003) for the Malaysian banking system documented that Islamic windows during the late 1990s achieved both lower operating expense ratios and higher returns on equity than the small group of standalone Islamic banks then operating. Ainley et al. (2007), in a regulatory assessment for the United Kingdom's Financial Services Authority, observed analogous patterns across mature dual-banking jurisdictions, attributing the differential primarily to economies of scope and the deeper financial market access available to parent institutions.

Bukhari, Awan, and Ahmed (2013) provided one of the more rigorous comparative analyses using Pakistani banking data. Their results confirmed that Islamic windows generated higher returns and exhibited lower operational costs than full-fledged Islamic banks, but importantly demonstrated that the differential persisted after controlling for bank size and corporate governance characteristics. Kamaruddin, Safa, and Mohd (2008) applied data envelopment analysis (DEA) to Malaysian data and reported that Islamic windows operated closer to the efficient frontier than their full-fledged counterparts across both cost and profit dimensions.

More recent contributions have extended the analysis to cross-country settings. Khujamkulov et al. (2021), drawing on data from several Central Asian and South Asian jurisdictions, identified a persistent efficiency premium for window operations that appeared robust to alternative model specifications. Dadabayev (2025) provides the most directly relevant recent contribution from the Uzbek policy perspective. Analyzing the impact of Islamic window activities on the financial sectors of several emerging economies, Dadabayev demonstrates that the organization of Islamic windows within conventional banks generates measurable economic efficiency gains, expands financial inclusion, and provides an effective mechanism for attracting foreign investment to developing-country banking systems. Dadabayev's analysis particularly emphasizes that, in jurisdictions where comprehensive Islamic banking legislation is still being developed, the window model functions as a pragmatic transitional architecture: it allows national authorities to test Shariah-compliant products within an existing regulatory perimeter while building the institutional capacity required for full-fledged Islamic banking at a later stage.[1][2]

3. Data and Methodology

3.1 Data and sample

The empirical analysis draws on quarterly observations from the Islamic Financial Services Board's Prudential and Structural Islamic Financial Indicators (IFSB PSIFIs) database. The PSIFIs platform provides standardized, supervisor-reported indicators for Islamic banking systems globally, with separate series for full-fledged Islamic banks (IBD) and Islamic windows (IBW) in jurisdictions where both organizational forms coexist.

Five jurisdictions are included in the sample: Indonesia, Malaysia, Oman, Pakistan, and Saudi Arabia. Selection was guided by three criteria: (i) the simultaneous presence of both full-fledged Islamic banks and Islamic windows; (ii) consistent quarterly reporting to the PSIFIs framework throughout the sample period; and (iii) geographic and developmental heterogeneity in Islamic banking experience, ranging from mature markets (Malaysia, Saudi Arabia) to relatively newer entrants (Oman). The sample period spans 2014Q1 through 2023Q4, yielding a balanced panel of 394 quarterly observations across 10 cross-sectional units (5 countries $\times$ 2 organizational forms).

3.2 Variables

The dependent variables capture four dimensions of bank performance: the cost-to-income ratio measures operational efficiency; the net profit margin captures profitability per unit of gross income; the return on assets measures asset productivity; and the non-performing financing ratio gauges asset quality. All four indicators are expressed in percentage points.

The principal explanatory variable is window, a binary indicator equal to one if the cross-sectional unit corresponds to Islamic windows and zero for full-fledged Islamic banks. Control variables include size, defined as the natural logarithm of total assets, and country fixed effects implemented through four binary indicators (with Indonesia as the omitted base category). For the CIR, NPM, and ROA regressions, NPF additionally serves as a control for asset-quality variation; in the NPF regression, NPF is the dependent variable and is therefore excluded from the regressors.

3.3 Econometric specification

The baseline empirical model is specified as:

$$Y_{(i,t)} = \alpha + \beta_1 \cdot WINDOW_i + \beta_2 \cdot SIZE_{(i,t)} + \beta_3 \cdot NPF_{(i,t)} + \sum_k \gamma_k D_k + \varepsilon_{\{i,t\}} \quad (1)$$

where Y denotes one of the four performance indicators, i indexes the cross-section (country $\times$ organizational form), t indexes the quarter, D_k are country dummies, and ε is the error term. A critical methodological note concerns the choice of fixed-effects structure. Because WINDOW is time-invariant within each cross-sectional unit (e.g.,

Malaysia_BANK is always classified as BANK throughout the panel), introducing cross-section (entity) fixed effects would generate perfect collinearity with the WINDOW dummy. The identification strategy therefore relies on country fixed effects, which exploit the within-country variation between window and full-bank observations while absorbing time-invariant national heterogeneity in banking systems, regulatory environments, and economic structures.

All regressions are estimated by ordinary least squares with Huber-White heteroskedasticity-consistent (HC1) standard errors, implemented in EViews Student Lite Version. As a preliminary diagnostic, Welch t-tests of mean equality are conducted across the WINDOW classification for each dependent variable.[3]

4. Empirical Results

4.1 Descriptive statistics

Table 1 reports group means and standard deviations separately for the BANK (full-fledged Islamic banks) and window (Islamic windows) subsamples. The unconditional differences are economically substantial. The mean CIR for full-fledged Islamic banks (65.77%) exceeds that of Islamic windows (46.07%) by approximately 19.7 percentage points, indicating that windows operate with markedly lower cost structures relative to their gross income. The NPM differential moves in the opposite direction (26.18% for banks versus 46.38% for windows), implying that windows convert a substantially larger share of gross income into net profit. Patterns for ROA (1.26% versus 1.78%) and NPF (2.44% versus 1.67%) similarly favour Islamic windows.[4]

Table 1. Descriptive statistics by organizational form (2014Q1–2023Q4)

Variable	BANK Mean	BANK SD	WINDOW Mean	WINDOW SD	Difference
CIR (%)	65.77	36.07	46.07	14.25	–19.70
NPM (%)	26.18	36.34	46.38	15.93	+20.20
ROA (%)	1.26	1.35	1.78	0.77	+0.52
NPF (%)	2.44	1.78	1.67	0.99	–0.77
N	197	-	197	-	-

Source: author's calculations based on IFSB PSIFIs and EViews program.

4.2 Welch t-tests of mean equality

Given the substantial differences in within-group dispersion documented in Table 1, mean equality is assessed using the Satterthwaite-Welch t-test, which does not assume homogeneous variances. Table 2 reports the test statistics for the four performance indicators. The null hypothesis of equal means is rejected at the 1% level for all four variables, providing initial empirical support for the proposition that Islamic windows differ systematically from full-fledged Islamic banks across all dimensions of bank performance examined.[5]

Table 2. Welch t-tests of mean equality: WINDOW versus BANK

Variable	Mean BANK	Mean WINDOW	Difference	Welch t	p-value
CIR	65.77	46.07	–19.70	7.13	0.000

Variable	Mean BANK	Mean WINDOW	Difference	Welch t	p-value
NPM	26.18	46.38	+20.20	7.14	0.000
ROA	1.26	1.78	+0.52	4.64	0.000
NPF	2.44	1.67	-0.77	5.32	0.000

Source: author's calculations based on IFSB PSIFIs and EViews program.

4.3 Multivariate regression results

Table 3 presents the central empirical findings of the paper. Each column reports estimates from a separate equation following specification (1), with the column header indicating the dependent variable. The coefficient on WINDOW retains its sign, magnitude, and high level of statistical significance across all four specifications, even after controlling for bank size, asset quality, and country fixed effects.[6]

Table 3. Pooled OLS regressions: the effect of organizational form on bank performance

	(1) CIR	(2) NPM	(3) ROA	(4) NPF
WINDOW	-30.467***	+28.266***	+0.740***	-0.763***
	(-7.04)	(+6.25)	(+5.34)	(-6.33)
SIZE	-9.836***	+6.919***	+0.274***	+0.012
	(-4.74)	(+3.23)	(+4.04)	(+0.25)
NPF	-4.017***	+3.467**	+0.016	-
	(-2.91)	(+2.36)	(+0.31)	-
Country FE	Yes	Yes	Yes	Yes
Constant	222.25***	-83.44***	-1.896*	3.570***
	(7.14)	(-2.61)	(-1.93)	(5.45)
Observations	394	394	394	394
R ²	0.517	0.450	0.469	0.593
F-statistic	59.10***	46.40***	46.92***	94.59***

Notes. Dependent variables are indicated in column headers. *t*-statistics in parentheses, computed using Huber-White (HC1) heteroskedasticity-consistent standard errors. Country fixed effects (Malaysia, Oman, Pakistan, Saudi Arabia; Indonesia is the omitted base category) are included in all specifications but coefficients are suppressed for brevity. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Estimation performed in EViews Student Lite Version.

The estimated WINDOW coefficient in column (1) of -30.47 implies that, holding bank size, asset quality, and country fixed effects constant, the cost-to-income ratio of Islamic windows is 30.47 percentage points lower than that of full-fledged Islamic banks. This effect is statistically significant at the 1% level (*t* = -7.04) and economically substantial: it exceeds the unconditional difference reported in Table 1, suggesting that

the inclusion of controls actually strengthens the estimated efficiency advantage of windows. The model explains 51.7% of the cross-sectional and temporal variation in CIR, with an F-statistic of 59.10 ($p < 0.001$) confirming overall model significance.[7]

Column (2) reveals an analogous and equally robust finding for the net profit margin. Islamic windows achieve, on average, a 28.27 percentage point higher NPM than full-fledged Islamic banks ($t = +6.25$; $p < 0.001$). The coefficient on SIZE is positive and significant ($+6.92$; $t = +3.23$), consistent with the presence of scale economies in profit generation. Column (3) demonstrates that the window advantage extends to asset profitability, with WINDOW associated with a 0.74 percentage point increase in ROA ($t = +5.34$; $p < 0.001$). Although the absolute magnitude appears modest, it represents approximately 50% of the dependent variable's mean (1.52%), implying a substantively large effect.[8]

Column (4) examines asset quality, the only dimension where the literature has occasionally documented disadvantages for window arrangements due to potential conflicts of interest with the parent bank. The estimated WINDOW coefficient (-0.76 ; $t = -6.33$; $p < 0.001$) decisively rejects this concern in the present sample: Islamic windows exhibit non-performing financing ratios approximately 0.76 percentage points lower than full-fledged Islamic banks, suggesting tighter credit discipline rather than laxer underwriting standards.[9]

5. Discussion and Policy Implications

The empirical findings of this paper align consistently with the predictions of entry cost and dynamic capabilities theories. The substantial CIR advantage of Islamic windows (30.47 percentage points) is consistent with the cost-sharing thesis: by leveraging the parent bank's existing branch network, IT systems, regulatory compliance apparatus, and human capital, windows avoid the large fixed-cost investments required to establish standalone Islamic banks. The corresponding NPM advantage suggests that this cost efficiency is not offset by lower revenue generation, but rather amplifies bottom-line performance.[10]

The lower NPF ratio of windows merits particular emphasis. Critics of the window model have historically argued that hybrid structures may attract weaker borrowers or face commingling risks.[11] The present evidence suggests the opposite: windows in mature dual-banking jurisdictions appear to maintain stricter credit discipline than full-fledged Islamic banks, possibly reflecting the transfer of established risk-management routines from the parent institution.[12]

These results carry direct relevance for Uzbekistan's nascent Islamic finance framework. Law ЎПК-1126 has established the legal foundation for Islamic windows in commercial banks, but the law's implementation will depend critically on regulatory design, supervisory capacity, and the willingness of established commercial banks to invest in Shariah-compliant product lines.[13] The present findings provide strong empirical justification for prioritizing the window model in the initial phase of Islamic finance development: it offers a documented efficiency premium, lower entry barriers for banks, and - as a consequence of operating within established institutions - reduced regulatory and supervisory complexity for the Central Bank of Uzbekistan.[14]

Several caveats merit acknowledgment. First, the analysis is restricted to five countries, and the generalizability of findings to other regional contexts requires further investigation. Second, while country fixed effects absorb time-invariant national heterogeneity, time-varying macroeconomic shocks (e.g., commodity price cycles in Saudi Arabia, the COVID-19 pandemic) are not separately modeled. Third, the absence of bank-level microdata for windows precludes investigation of within-window heterogeneity by parent bank characteristics. Future research employing institution-level data and longer time windows would usefully extend the present findings.[15]

6. Conclusion

Using a balanced quarterly panel of 394 observations covering Indonesia, Malaysia, Oman, Pakistan, and Saudi Arabia for the period 2014Q1–2023Q4, this paper establishes that Islamic windows systematically outperform full-fledged Islamic banks across four central dimensions of bank performance: operational efficiency (CIR), profitability per unit of income (NPM), asset productivity (ROA), and asset quality (NPF). All four differentials are statistically significant at the 1% level and remain robust to the inclusion of bank-size and country-level controls. The magnitudes are economically substantial: a 30.47 percentage point CIR advantage and a 28.27 percentage point NPM advantage are unlikely to reflect measurement artefacts.

For Uzbekistan, where Law LRU-1126 has recently opened the legal space for Islamic windows in commercial banks, the findings provide empirical justification for adopting the window model as the principal entry pathway into Shariah-compliant banking. The performance premium documented here suggests that the rapid global proliferation of Islamic windows over the past decade reflects genuine efficiency advantages rather than mere regulatory convenience, and that emerging Islamic finance jurisdictions can reasonably expect comparable benefits from the same organizational architecture.

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