



Determinant of Islamic Bank Stability and Risk-Taking Behavior in ASEAN

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This study examines the determinants of stability and risk-taking in ASEAN Islamic banks by focusing on both internal bank-specific factors and external conditions. Using a panel of 33 Islamic banks from five ASEAN countries over the period 2015–2022, this study employs a two-step system Generalized Method of Moments (GMM) estimator to address endogeneity and dynamic effects. Bank stability is measured using the Z-score, while risk-taking behavior is proxied by loan loss provisions. Internal factors include profitability, credit risk, efficiency, capitalization, liquidity, and bank size, while external factors comprise market concentration and macroeconomic indicators. The empirical results reveal three key findings. First, bank stability is primarily driven by bank-specific characteristics, with credit risk, efficiency, capitalization, bank size, and market concentration exerting significant effects, while macroeconomic variables remain insignificant. Second, risk-taking behavior exhibits strong persistence and is significantly influenced by both internal factors and macroeconomic conditions, particularly economic growth and inflation. Third, higher market concentration is associated with lower bank stability and greater risk-taking, supporting the competition–fragility hypothesis in the context of ASEAN Islamic banking. These findings provide important policy implications for regulators, Islamic banks, and deposit insurance authorities in the ASEAN region, emphasizing the need for strengthened microprudential supervision, risk-based regulatory frameworks, and enhanced internal governance to ensure sustainable financial stability within dual banking systems.

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INTRODUCTION

The financial industry is widely recognized as one of the most critical yet vulnerable sectors of the economy. Banks play a central role in channeling funds to productive economic activities and fostering economic growth (Pasaribu & Mindosa, 2021; Smolo, 2022). At the same time, the banking sector is a major source of systemic risk, as evidenced by the Asian financial crisis of 1998 and the global financial crisis of 2008 (Asutay et al., 2020). Consequently, banking systems across countries are subject to extensive regulatory frameworks aimed at safeguarding financial stability.

Financial instability has been shown to disrupt the real economy through bank failures, loss of public confidence, and increased recovery costs (Ghenimi et al., 2017; Indra, 2019; Olmo et al., 2021). Within imperfect financial markets, protecting depositors from bank failure risks becomes essential (Smolo, 2022). Banks are inherently exposed to multiple financial risks, including liquidity, credit, interest rate, and operational risks (Cecchetti & Schoenholtz, 2011). Identifying the sources of banking fragility is therefore a key policy concern.

Banks hold a particularly strategic role in ASEAN economies. Following the Asian financial crisis, ASEAN countries implemented extensive restructuring measures, such as privatization, mergers and acquisitions, deregulation, and financial liberalization, to strengthen banking resilience (Sahul Hamid, 2017). These reforms significantly altered the market structure of the regional banking industry. Moreover, the implementation of the ASEAN Banking Integration Framework (ABIF) aims to enhance regional banking integration, potentially intensifying competition and encouraging further consolidation (Asian Development Bank, 2020). While increased concentration may improve efficiency, it also raises concerns regarding monopolistic power and its implications for financial stability (Hamid & Yunus, 2020).

Financial stability remains a core objective of banking regulation, given the interconnectedness of banks with households, firms, and other financial institutions (Ahamed & Mallick, 2017; Amendola et al., 2021). Banking stability generally refers to a condition in which crises are absent and financial intermediation functions effectively, thereby sustaining public confidence (Kharabsheh & Gharaibeh, 2022; Yitayaw et al., 2023). Early identification of vulnerable banks is crucial, as it enables timely and cost-effective regulatory

interventions (Abascal & González, 2023; Nguyen, 2022).

Over the past three decades, the Islamic financial sector has expanded rapidly, partly driven by the global financial crisis and heightened economic uncertainty. Global Islamic banking assets increased from USD 1.7 trillion in 2016 to USD 2.8 trillion in 2021 and are projected to reach USD 4 trillion by 2026 (Islamic Finance Development Report, 2022; REFINITTIV, 2022). Southeast Asia has emerged as one of the largest Islamic finance markets globally (IFDI, 2022). These developments have intensified scholarly interest in the comparative stability of Islamic and conventional banks (Abdul Wahab et al., 2017; Bilgin et al., 2021; Saif-Alyousfi, 2021; Abbas & Ali, 2022).

Islamic banking is often argued to be more stable and resilient due to its prohibition of interest and emphasis on profit-and-loss sharing (Hamdi et al., 2019; Khan, 1997). Risk-sharing mechanisms embedded in Islamic financial contracts, such as Mudarabah, Musharakah, and Murabahah, are believed to enhance liquidity and shock-absorbing capacity (Čihák & Hesse, 2010; Loghod, 2010). Several studies document greater resilience of Islamic banks during financial crises (Arif et al., 2021; Issa, 2022; Tekdogan & Atasoy, 2021). However, empirical evidence remains mixed. While some studies highlight the stabilizing role of Islamic banks, particularly smaller institutions (Abedifar et al., 2013; Alqahtani & Mayes, 2018; Pappas et al., 2017), others find no significant stability advantage or even greater resilience among conventional banks (Alandejani et al., 2017; Aysan & Ozturk, 2018; Korbi & Bougatef, 2017). Moreover, similarities in risk-taking behavior between Islamic and conventional banks raise questions regarding the effectiveness of the profit-and-loss sharing mechanism in reducing risk exposure (Abdul-Wahab, 2017).

Despite the growing literature on bank stability, empirical evidence on Islamic bank stability and risk-taking behavior in the ASEAN region remains limited. Existing findings are often inconsistent due to differences in institutional settings, measurement approaches, and sample periods. Islamic banks operate under distinct principles, namely, interest prohibition and profit-and-loss sharing, which may lead to heterogeneous responses to competition, monetary policy shocks, and macroeconomic conditions (Hamid & Yunus, 2020; Warninda et al., 2019). Furthermore, substantial variation in governance structures across ASEAN countries may influence bank behavior and the effectiveness of the bank-lending channel. These gaps

motivate a comprehensive investigation of the determinants of Islamic bank stability and risk-taking behavior within the ASEAN context.

This study aims to examine the influence of internal and external factors on Islamic bank stability and risk-taking behavior in ASEAN countries over the period 2015–2022. Bank stability is proxied by the Z-score derived from return on assets (ROA), while risk-taking behavior is measured using loan loss provisions (LLP). Internal bank-specific factors include profitability, asset quality, efficiency, capitalization, liquidity, and bank size. External factors comprise market concentration, measured by the Herfindahl–Hirschman Index (HHI), and macroeconomic indicators such as economic growth and inflation. By jointly analyzing stability and risk-taking using these measures, this study contributes to a deeper understanding of Islamic banking performance in the ASEAN region.

LITERATURE REVIEW

Islamic Bank Risks

Islamic banks operate under Shariah principles that prohibit interest (*riba*), excessive uncertainty (*gharar*), and gambling (*maysir*), which are viewed as unfair and disconnected from real economic activities (Antonio et al., 2012; Hamdi et al., 2019; Kettell, 2011; Shanmugam & Zahari, 2009). To comply with these principles, Islamic banks employ Shariah-compliant financing contracts, including *mudharaba*, *musharaka*, *murabaha*, *salam*, *istishna'a*, and *ijara*. Broadly, Islamic financing can be categorized into Profit and Loss Sharing (PLS) and non-PLS contracts (Risfandy et al., 2019).

Non-PLS contracts, such as *murabaha*, *salam*, *istishna'a*, and *ijara*, allow banks to earn predetermined returns through mark-up or rental income while remaining largely insulated from the operational performance of the client's business (Kettell, 2011; Alqahtani & Mayes, 2018; Mawardi et al., 2023). As a result, non-PLS financing offers relatively stable income streams and lower exposure to business risk. In contrast, PLS contracts (*mudharaba* and *musharaka*) expose Islamic banks to higher levels of risk. Under *mudharaba*, banks act as capital providers (*shohibul-maal*) and bear financial losses unless mismanagement can be proven, while *musharaka* entails shared losses proportional to capital contributions (Mukhibad et al., 2023). This risk-sharing structure makes Islamic banks more vulnerable to business failure and operational inefficiencies,

potentially resulting in higher risk exposure compared to conventional banks (Ariffin et al., 2009).

PLS financing is also subject to information asymmetry and moral hazard. Banks rely heavily on customers' financial reporting to determine profit allocation, creating incentives for underreporting profits (Mukhibad et al., 2023). Moreover, borrowers may prefer financing high-risk projects under PLS arrangements, shifting downside risk to banks (Farihana & Rahman, 2021). Despite banks' screening efforts, customers often possess superior information regarding project risk, intensifying information asymmetry and moral hazard concerns (Mahmood & Aziz Ur Rahman, 2017; Muda & Ismail, 2010; Warninda et al., 2019).

Financial Stability

Financial stability is a multidimensional concept that reflects the ability of the financial system to allocate resources efficiently, manage risks, and maintain operational continuity in the presence of shocks (Deutsche Bundesbank, 2003; Schinasi, 2008). Allen and Wood (2006) conceptualize financial stability as periods characterized by the absence of crises not justified by economic fundamentals, during which financial intermediation functions smoothly and confidence in financial institutions remains high.

From a regulatory perspective, the European Central Bank (2015) defines financial stability as the capacity of the financial system, including institutions, markets, and infrastructures, to absorb shocks without major disruptions to financial intermediation. At the bank level, stability refers to the ability to withstand unexpected financial disturbances while operating profitably and efficiently (Mukrimaa et al., 2017).

Early views treated financial stability as an inherent characteristic of financial systems. However, increasing financial integration has heightened exposure to external shocks, necessitating a broader framework that incorporates resilience and shock-absorption capacity (Ascarya, 2015; Raouf & Ahmed, 2022; Tan et al., 2023). Consequently, contemporary assessments of banking stability emphasize both normal functioning and the capacity to endure macroeconomic and financial turbulence.

Market Structure and Banking Stability

The relationship between banking market structure and financial stability is explained through two competing hypotheses: the concentration–stability hypothesis and the competition–stability hypothesis. The concentration–stability view argues that reduced

competition enhances stability, as banks with greater market power earn higher profits that serve as buffers against shocks (Beck, 2008). This argument aligns with the franchise value hypothesis, which posits that banks with higher expected future profits are more cautious in risk-taking to preserve their franchise value (De Jonghe & Vennet, 2008; Jiménez et al., 2010).

Conversely, the competition–stability hypothesis suggests that higher concentration undermines stability. Concentrated markets may incentivize banks to charge higher lending rates, leading to adverse selection and moral hazard, whereby low-risk borrowers exit the market and banks' portfolios become riskier (Louhichi et al., 2020; Stiglitz & Weiss, 1981). Empirical evidence supporting this view is documented by Čihák and Hesse (2010), Anginer et al. (2014), and Tabak et al. (2013).

Within a dual banking system, Smolo (2022) finds that Islamic banks tend to be less competitive than conventional banks. Beck et al. (2013) further show that conventional banks operating in countries with a significant Islamic banking presence are more cost-efficient but less stable than Islamic banks. Market structure is commonly measured using market share and the Herfindahl–Hirschman Index (HHI), which assigns greater weight to larger banks and indicates higher concentration as HHI values increase (O'Connell, 2023; Sahul Hamid, 2017).

Previous Studies

The role of banking stability has gained increasing attention due to its importance in sustaining economic growth and international financial integration. Understanding Islamic banking stability is particularly important as Islamic banks grow in size and interconnectedness with conventional banks, while facing limited availability of hedging instruments (Solé, 2007). The unique contractual structures, governance arrangements, and liquidity characteristics of Islamic banks necessitate tailored supervisory approaches (Farahbaksh & Enoch, 1998).

Some studies argue that Islamic banks are inherently riskier due to borrower self-selection under profit-and-loss sharing arrangements (Kuran, 1995). Boyd and De Nicolò (2005) suggest that lower lending rates reduce moral hazard by improving repayment incentives. However, Islamic banks' exposure to variable returns and non-guaranteed investment deposits may heighten incentives for risk-taking and moral hazard behavior.

Čihák and Hesse (2010) provide early cross-country evidence that small Islamic banks are more stable than small conventional banks, whereas large conventional banks tend to exhibit greater stability due to superior credit risk management. Pappas et al. (2017) find that Islamic banks face a lower probability of failure, conditional on bank-specific, macroeconomic, and market structure factors. Similarly, Baele et al. (2014) document significantly lower default rates for Islamic loans in Pakistan, particularly during Ramadan.

In contrast, Mollah et al. (2017) show that Islamic banks may assume greater risks and achieve higher performance, while Shariah supervisory boards do not necessarily curb excessive risk-taking. Khasawneh (2016) finds that Islamic banks are more profitable but less stable than conventional banks. Saif-Alyousfi and Saha (2021) report that Islamic banks in GCC countries exhibit stronger capitalization, liquidity, and asset quality, and that higher market concentration is associated with lower risk and higher stability, while excess reserves increase risk and reduce profitability.

Overall, existing studies yield mixed findings due to differences in institutional settings, measurement approaches, and time horizons. This study extends the literature by examining the determinants of Islamic bank stability and risk-taking behavior in selected ASEAN countries, offering new evidence on how Islamic banks respond to economic volatility within a dynamic macroeconomic environment.

RESEARCH METHODS

Research Design

This study investigates the impact of internal and external factors on Islamic bank stability and risk-taking behavior using a dynamic panel regression framework. Prior studies commonly employ pooled OLS, fixed effects, or random effects estimators to analyze bank stability and risk (Vo et al., 2021; Saif-Alyousfi, 2021; Yahaya et al., 2020). However, such approaches are prone to bias due to unobserved heterogeneity, endogeneity, persistence in bank performance, and autocorrelation.

To address these econometric challenges, this study employs the Generalized Method of Moments (GMM) estimator developed by Arellano and Bover (1995), consistent with Saif-Alyousfi (2019, 2020) and Saif-Alyousfi et al. (2021). The GMM approach effectively mitigates endogeneity by using internal instruments, including lagged values of the dependent and explanatory variables, while also controlling for

unobserved heterogeneity and dynamic panel bias (Nickell, 1981).

Compared to OLS and fixed-effects estimators, GMM is more efficient in handling heteroskedasticity, autocorrelation, and omitted variable bias (Hall, 2005; Saif-Alyousfi, 2019). In particular, the System-GMM estimator proposed by Arellano and Bover (1995) and extended by Blundell and Bond (1998) combines equations in first differences and levels, thereby improving efficiency and consistency when the time dimension is short and the dependent variable exhibits high persistence.

Instrument validity is assessed using the Sargan test of over-identifying restrictions, where an insignificant p-value indicates valid instruments. Serial correlation in the differenced residuals is examined using the Arellano–Bond test, with the absence of second-order autocorrelation (AR(2)) confirming model consistency.

Data

The empirical analysis is based on a panel dataset comprising 33 Islamic banks operating in five ASEAN countries over the period 2015–2022. These countries share broadly comparable economic, political, and cultural characteristics. Bank-level data are collected from annual reports obtained from official bank websites, while macroeconomic variables are sourced from the World Development Indicators published by the World Bank. Annual observations are used to ensure consistency across banks and countries.

Definition of Variables

Dependent Variables

This study employs two dependent variables to capture bank stability and risk-taking behavior.

Bank stability is measured using the Z-score, which reflects the distance from insolvency and is widely used in banking literature (Alshubiri, 2017; Beck, 2008; Olmo et al., 2021; Pasaribu & Mindosa, 2021; Rinaldi & Prasetyo, 2019; Suljić Nikolaj et al., 2022; Yitayaw et al., 2023). A higher Z-score indicates greater stability, while values close to or below zero signal heightened insolvency risk (Boyd & De Nicolò, 2005). The Z-score is calculated as follows:

$$ZScore_{it} = \frac{ROA_{it} + ETA_{it}}{\sigma ROA_{it}}$$

where ROA_{it} is return on assets, ETA_{it} is the equity-to-asset ratio, and σROA_{it} is the standard deviation of ROA.

Bank risk-taking behavior is proxied by the loan loss provision ratio (LLP), which captures expected credit losses and reflects banks' risk exposure (Zheng et al., 2019). Higher LLP values indicate greater risk-taking propensity and anticipated deterioration in loan portfolio quality. The LLP measure is defined as:

$$LLP_{it} = \frac{LLP_{it}}{Total\ Loans_{it}}$$

Independent Variables

Following the banking stability literature, this study incorporates both internal (bank-specific) and external (macroeconomic) determinants. Internal factors include lagged dependent variables, profitability, asset quality, efficiency, capitalization, liquidity, and bank size. External factors comprise market concentration and macroeconomic conditions. Table 1 summarizes variable definitions, proxies, and data sources.

Model Specification

Dynamic panel models are widely applied in banking studies to capture persistence in stability and risk-taking behavior. Bank stability and risk exhibit strong temporal dependence, reflecting adjustment costs, regulatory constraints, and risk management practices (Dahir et al., 2018; Mittal & Garg, 2021; Pham et al., 2021). Accordingly, this study specifies two dynamic models with lagged dependent variables to account for persistence effects.

The empirical models are specified as follows:

$$ZScore_{it} = \alpha_0 + \delta ZScore_{it-1} + \sum_{k=1}^6 \beta_k Bank_{kit} + \sum_{m=1}^3 \gamma_m Macro_{mit} + u_{it}$$

$$LLP_{it} = \alpha_0 + \delta LLP_{it-1} + \sum_{k=1}^6 \beta_k Bank_{kit} + \sum_{m=1}^3 \gamma_m Macro_{mit} + u_{it}$$

where $ZScore_{it}$ and LLP_{it} denote bank stability and risk-taking behavior, respectively; δ captures the speed

of adjustment toward long-run equilibrium; and $u_{it} = \mu_i + v_{it}$ consists of unobserved bank-specific effects and an idiosyncratic error term. The coefficient δ lies

between 0 and 1, indicating persistence in stability and risk-taking behavior across ASEAN banking systems.

Table 1. Definition of Variables

Variables	Proxy	Description	Sources
Bank-Specific Variable (Internal Factor)			
Profitability	ROA	Net profits over average total assets (%)	Baselga-pascual et al., (2015); Sahul Hamid (2017); Louati & Boujelbene (2020); Muizzuddin et al., (2021);
Asset Quality	NPL/NPF	NPL/NPF to total loans (%)	Ozili (2018); Saif-Alyousfi & Saha (2021); Maria Antony & G (2023); Moudud-Ul-Huq et al., (2023);
Efficiency	CIR	Total expenses over total generated revenues (%)	Baselga-pascual et al., (2015); Sahul Hamid (2017); Otero et al. (2019); Naili & Lahrichi (2020); Saif-Alyousfi & Saha (2021);
Capitalization	ETA	Equity/total assets (%)	Kharabsheh (2019); Gupta & Mahakud (2020); Abbas & Ali (2022); Maria Antony & G., (2023)
Liquidity Ratio	LR	Liquid Assets/Total Customer Deposit Average (%)	Abbas & Masood (2020); Abbas & Ali (2022); Kharabsheh & Gharaibeh (2022); Yitayaw et al., (2023)
Bank Size	Ln Total Asset	Natural log of total assets	Ozili (2018); Muizzuddin et al., (2021); Abbas & Ali (2022); Maria Antony & G (2023)
Macroeconomics Variable (External Factor)			
HHI	Herfindahl–Hirschman index	A country-level indicator that measures the amount of competition in the banking industry	Baselga-pascual et al., (2015); Mollah & Hassan (2016); Sahul Hamid (2017); Saif-Alyousfi & Saha (2021);
GDP	GDP Growth	Annual GDP growth rate (%)	Muizzuddin et al., (2021); Saif-Alyousfi & Saha (2021); Mukhibad et al., (2023)
INF	Inflation	Consumer price index (%)	Noman et al., (2018); Danisman & Demirel; (2019); Saif-Alyousfi & Saha (2021); Abbas & Ali (2022); Khattak & Khan (2023)

RESULT & DISCUSSION

Descriptive Statistics

Table 2 reports the descriptive statistics of bank-specific and macroeconomic variables employed in the Islamic banks model across ASEAN countries. Bank stability is proxied by the Z-score, while risk-taking behavior is measured using the loan loss provision (LLP).

The mean Z-score of Islamic banks is 22.62, indicating a relatively high level of stability over the observation period. This value is substantially above zero, suggesting that Islamic banks in ASEAN exhibit strong buffers against insolvency risk, consistent with the interpretation proposed by Boyd et al. (2005). However, the relatively large standard deviation (21.28)

implies considerable heterogeneity in stability levels across banks and countries.

The average LLP is 2.40, reflecting a relatively conservative provisioning policy among Islamic banks in ASEAN. This indicates that banks tend to maintain adequate reserves to absorb potential credit losses. Regarding market structure, the mean Herfindahl–Hirschman Index (HHI) of 0.16 suggests a moderately concentrated banking market, implying neither perfect competition nor excessive monopoly power across the sampled countries.

Macroeconomic conditions are represented by GDP growth and inflation. The average GDP growth rate is 3.77%, while inflation averages 2.48%, reflecting generally stable macroeconomic environments in ASEAN during the study period.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ZScore	264	22.6157	21.27587	-1.857832	159.8319
LLP	264	2.401611	4.627471	0.010306	45.38109
ROA	264	1.479741	3.173747	-20.13000	13.58000
NPF	264	1.78605	1.613304	0.000000	10.28000
CIR	264	73.5247	83.54486	3.223720	588.8685
ETA	264	13.59696	12.89445	0.616786	88.89336
LR	264	25.08204	51.86994	0.000000	312.4968
SIZE	264	19.07313	3.272888	13.40289	26.44596
HHI	264	0.163687	0.224445	0.076959	0.999802
GDP	264	3.770896	3.384774	-9.518295	8.694343
INF	264	2.479953	1.735639	-1.260506	6.363121

Correlation Matrix

Table 3 presents the correlation matrix among the explanatory variables. The correlation coefficients are generally low to moderate, with no pairwise correlation exceeding commonly accepted thresholds.

This indicates that multicollinearity is unlikely to pose a concern in the estimation process.

The absence of strong correlations among bank-specific variables, market structure indicators, and macroeconomic controls supports the robustness of the subsequent system GMM estimations.

Table 3. Correlation Matrix

	Zscore	LLP	ROA	NPF	CIR	ETA	LR	SIZE	HHI	GDP	INF
Zscore	1,000										
LLP	-0,173	1,000									
ROA	0,001	-0,225	1,000								
NPF	0,018	0,017	-0,295	1,000							
CIR	-0,333	0,274	-0,377	0,009	1,000						
ETA	0,232	0,126	-0,045	-0,078	0,245	1,000					
LR	-0,050	-0,087	0,198	-0,055	-0,127	-0,114	1,000				
SIZE	0,119	-0,132	0,104	0,237	-0,473	-0,290	-0,162	1,000			
HHI	0,288	-0,122	-0,080	0,330	-0,479	-0,110	0,012	0,354	1,000		
GDP	-0,055	0,015	0,051	-0,111	0,127	0,090	-0,085	-0,156	-0,246	1,000	
INF	-0,180	0,091	-0,029	-0,150	0,414	0,143	-0,203	-0,273	-0,374	0,511	1,000

Two-Step System GMM Results

Table 4 reports the results of the two-step system GMM estimation for bank stability (Z-score model) and bank risk-taking (LLP model).

The lagged dependent variable is positive and statistically significant in the LLP model, indicating persistence in bank risk-taking behavior. In contrast, the lagged Z-score does not exhibit statistical significance, suggesting weaker dynamic persistence in bank stability.

Most bank-specific variables—including non-performing financing (NPF), cost inefficiency (CIR), equity-to-assets ratio (ETA), liquidity ratio (LR), and

bank size (SIZE)—are statistically significant across both models. Market concentration (HHI) exhibits a negative and weakly significant effect on bank stability, while it shows a positive effect on bank risk-taking. Macroeconomic variables affect primarily the risk-taking model, with GDP growth reducing risk-taking and inflation increasing it.

Diagnostic tests confirm the validity of the GMM estimation. The Sargan test fails to reject the null hypothesis of valid instruments, while the AR(2) test confirms the absence of second-order serial correlation, indicating well-specified moment conditions (Roodman, 2009).

Table 4. Two-Step System GMM Results

Variable	Zscore Model			LLP Model		
	Coefficient	z	P-value	Coefficient	z	P-value
Lagged	0.003	0.79	0.430	0.349***	108.01	0.000
ROA	-0.065	-0.37	0.715	-0.143***	-7.35	0.000
NPF	0.612***	11.51	0.000	0.239***	5.30	0.000
CIR	0.468***	6.69	0.000	0.006***	7.36	0.000
ETA	1.481***	32.95	0.000	0.119***	3.48	0.000
LR	0.004	0.46	0.645	0.154***	7.37	0.000
SIZE	3.256***	7.76	0.000	0.200***	6.86	0.000
HHI	-7.906*	-1.78	0.074	1.101*	1.96	0.051
GDP	0.006	0.35	0.725	-0.156***	-35.65	0.000
INF	-0.117	-1.25	0.210	0.270***	16.23	0.000
Constant	-65.093	-9.27	0.000	-3.688	-7.86	0.000
Obs.	264			264		
Sargan test	25.179		0.5088	27.261		1.000
AR(2) test		0.597	0.5499		-0.308	0.7575

Discussion

This section interprets the empirical findings by explaining why the observed relationships occur and what they imply, with explicit comparison to GCC studies, dual banking literature, and ASEAN-specific characteristics.

The significant and positive coefficient of the lagged LLP indicates strong persistence in risk-taking behavior among Islamic banks in ASEAN. This suggests that past credit risk decisions continue to influence current provisioning behavior, reflecting structural and institutional rigidities in risk management practices. Similar persistence has been documented in GCC Islamic banking studies, where risk exposure tends to adjust slowly due to profit-and-loss sharing contracts and asset-backed financing structures (Ghenimi et al., 2017; Khemais, 2019).

In contrast, the insignificance of the lagged Z-score suggests that bank stability in ASEAN Islamic banks is more sensitive to contemporaneous bank-specific and macroeconomic factors rather than historical stability levels. This differs from several GCC findings, where stability tends to be more persistent due to stronger capitalization and regulatory homogeneity.

The negative relationship between ROA and LLP confirms that higher credit risk reduces bank profitability. This finding aligns with evidence from both GCC and dual banking systems, where increased provisioning, monitoring costs, and risk mitigation expenses erode returns (Athanasoglou et al., 2008; Dietrich & Wanzenried, 2014; Yanikkaya et al., 2018; Ekinici & Poyraz, 2019; Gadzo et al., 2019; Saleh et al., 2020; Masdjojo et al., 2023).

The positive and statistically significant impact of NPF on both bank stability and risk-taking reflects the dual nature of Islamic banking intermediation in

ASEAN. In the short term, higher financing activity may enhance income and measured stability. However, once non-performing financing exceeds optimal thresholds, banks become increasingly vulnerable to credit and liquidity shocks. This pattern is consistent with findings from both ASEAN and GCC Islamic banking studies (Adusei, 2015; Ghenimi et al., 2017; Khemais, 2019).

The positive association between efficiency (CIR) and both stability and risk-taking suggests that more operationally active banks may temporarily enhance stability through higher revenue generation, while simultaneously expanding risk exposure. This result mirrors evidence from GCC Islamic banks, where cost efficiency often accompanies aggressive balance-sheet expansion.

The equity-to-assets ratio (ETA) exhibits a strong positive effect on both stability and risk-taking, indicating that better-capitalized banks possess greater risk-absorption capacity. This finding is consistent with Juabin (2019) and supports the argument that stronger capitalization enhances resilience in dual banking environments, where Islamic banks face competitive pressures from conventional counterparts.

Liquidity (LR) positively affects bank risk-taking, suggesting that liquid banks may feel encouraged to expand financing activities. While this supports stability during shocks, excessive liquidity holdings may reduce profitability and introduce agency problems, as noted by Iannotta et al. (2007).

The positive effect of bank size on stability reflects economies of scale and diversification benefits, consistent with findings by Nguyen (2021), Altunbas et al. (2007), and García-Herrero et al. (2009). However, size also increases risk-taking, supporting the “too-big-to-fail” argument widely discussed in dual banking literature (Demirgüç-Kunt & Huizinga, 2010; Herring & Carmassi, 2009; Stern & Feldman, 2004).

Market concentration (HHI) negatively affects bank stability while increasing risk-taking. This finding supports the competition–fragility hypothesis, suggesting that reduced competition weakens market discipline and encourages riskier behavior. While some GCC studies document a stabilizing role of concentration, the ASEAN context, characterized by diverse regulatory frameworks and strong conventional bank dominance, appears to amplify fragility effects.

GDP growth significantly reduces bank risk-taking, indicating that Islamic banks operating in stronger economic environments face lower default risk and improved asset quality. Inflation, on the other hand,

increases risk-taking, reflecting distorted pricing signals and higher uncertainty.

These macroeconomic effects are particularly relevant in ASEAN, where Islamic banks operate within dual banking systems, face heterogeneous regulatory quality, and are more exposed to macroeconomic volatility compared to GCC countries. Consequently, macroeconomic stability plays a more pronounced role in shaping Islamic bank risk behavior in ASEAN than in oil-exporting GCC economies.

Overall, the findings highlight that Islamic bank stability and risk-taking in ASEAN are shaped by a complex interaction between internal bank characteristics, market structure, and macroeconomic conditions. Compared to GCC Islamic banks, ASEAN Islamic banks appear more sensitive to competition and macroeconomic fluctuations, reflecting the unique institutional features of dual banking systems in emerging economies.

CONCLUSION

This study investigates the determinants of bank stability and risk-taking behavior in the ASEAN Islamic banking industry using a dynamic panel two-step system GMM approach over the period 2015–2022. Based on the empirical results, three main findings emerge. First, bank stability in ASEAN Islamic banks is primarily driven by bank-specific factors, rather than macroeconomic conditions. Variables such as credit risk, operational efficiency, capitalization, bank size, and market concentration significantly affect bank stability, while lagged stability and macroeconomic indicators do not exhibit a significant impact. This finding suggests that stability in Islamic banks within dual banking systems is largely determined by internal balance-sheet conditions and managerial decisions.

Second, bank risk-taking behavior exhibits strong dynamic persistence and is influenced by both internal characteristics and macroeconomic conditions. The lagged value of risk-taking positively affects current risk behavior, indicating structural rigidity in risk management practices. In addition, credit risk, efficiency, liquidity, bank size, and market concentration significantly increase risk-taking, while profitability reduces it. Macroeconomic factors, specifically GDP growth and inflation, also play a significant role in shaping risk-taking behavior, highlighting the sensitivity of Islamic banks in ASEAN to economic fluctuations.

Third, market structure plays a crucial and asymmetric role in shaping stability and risk-taking. Higher market concentration reduces bank stability

while increasing risk-taking, supporting the competition–fragility hypothesis within the ASEAN Islamic banking context. This finding indicates that Islamic banks operating in moderately concentrated and competitive dual banking systems may face heightened incentives to assume greater risk in order to preserve market share and profitability.

Policy Implications

The findings offer several important policy implications for regulators, financial safety-net institutions, and Islamic banks in the ASEAN region. For ASEAN banking regulators, the results underscore the importance of microprudential supervision focused on bank-specific risk factors. Regulatory frameworks should emphasize credit risk management, capital adequacy, and operational efficiency rather than relying solely on macroeconomic stability. Given the significant role of market concentration, competition policies should be carefully designed to prevent excessive risk-taking arising from either overly concentrated or excessively competitive market structures within dual banking systems.

For Islamic banks, the findings highlight the need to strengthen internal risk governance and profitability-driven sustainability. Islamic banks should improve credit screening, provisioning policies, and efficiency-enhancing strategies to balance growth and stability. The persistence of risk-taking behavior suggests that banks must adopt forward-looking risk management frameworks that limit the accumulation of excessive risk during expansionary periods.

Limitations and Future Research

Despite its contributions, this study has several limitations that open avenues for future research. First, the analysis focuses on a relatively limited sample of Islamic banks across five ASEAN countries due to data availability. Future studies could expand the sample by incorporating additional countries or extending the observation period to capture longer-term structural changes.

Second, bank stability and risk-taking are proxied using the Z-score and loan loss provisions, respectively. While widely used in the literature, future research may employ alternative or composite measures of stability and risk to provide a more comprehensive assessment.

Third, this study does not explicitly compare Islamic and conventional banks within the same regulatory environment. Future research could adopt a

comparative dual banking framework to examine whether the determinants of stability and risk-taking differ systematically between Islamic and conventional banks in ASEAN economies. Finally, future studies may explore the role of institutional quality, regulatory effectiveness, and governance mechanisms in moderating the relationship between competition, risk-taking, and stability in Islamic banking systems.

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