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The Impact of Market Power and Market Concentration in Shaping the Stability of Islamic Banking in Indonesia

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ABSTRACT

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Introduction/Main Objectives: The increasingly concentrated market structure in Indonesia's Islamic banking industry following the 2021 merger of Bank Syariah Indonesia (BSI) raises critical questions regarding the relationship between market structure and bank financial stability. **Novelty:** This study examines market concentration, measured by the Herfindahl–Hirschman Index (HHI), and individual bank market power, measured by the Lerner Index, in relation to the stability of Islamic banking in Indonesia over the 2019–2024 period. **Research Methods:** Using an unbalanced panel dataset of Islamic banking institutions in Indonesia, this study employs panel regression analysis to examine the relationships between HHI, the Lerner Index, and banking stability, measured by the Z-score. The appropriate panel estimation model is determined through model selection tests. **Finding/Results:** The results show that market concentration has a positive but statistically insignificant relationship with the Z-score, whereas market power has a negative but statistically insignificant relationship with the Z-score. Thus, neither variable provides statistically significant evidence of an association with Islamic banking stability under the estimated model. **Conclusion:** The findings provide inconclusive evidence regarding the relationship between market structure and Islamic banking stability in Indonesia. They highlight the importance of distinguishing between industry-level market concentration and bank-level market power, while interpreting the results in light of measurement choices, sample composition, and the limited time variation in market concentration.

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1. Introduction

Indonesia's Islamic banking industry has undergone a substantial structural transformation in recent years. As of June 2023, Islamic banking accounted for approximately 7.3% of total national banking assets, with 13 Islamic Commercial Banks (BUS) and 20 Islamic Business Units (UUS) operating in the industry (Otoritas Jasa Keuangan [OJK], 2023). In February 2021, three state-owned Islamic banks—Bank Syariah Mandiri, BNI Syariah, and BRI Syariah—were merged to form Bank Syariah Indonesia (BSI), representing a major consolidation in Indonesia's Islamic banking industry (Utami et al., 2022). More broadly, financial consolidation presents both opportunities and risks, making its implications for competition and financial stability an important issue for banking policy (Mishkin, 1999). The merger substantially altered the distribution of assets across Islamic banking institutions and was associated with a decline in market competition as measured by concentration indicators (Utami et al., 2022). Subsequent research has also highlighted the increasing dominance of large Islamic banks and the changing concentration structure of the industry following the BSI merger (Zaini & Kusuma, 2024). Concerns about banking concentration have also been examined in other banking systems, including discussions of whether the banking industry has become increasingly concentrated (Federal Reserve Bank of Philadelphia, 2023). Changes in Islamic banks' market shares following spin-offs, conversions, and mergers provide additional context for understanding the structural evolution of Indonesia's Islamic banking industry (Mubarok et al., 2025). These developments raise an important question: whether changes in industry structure are accompanied by changes in individual bank market power and financial stability.

The relationship between banking competition, market concentration, market power, and financial stability remains theoretically and empirically contested. Two competing perspectives are commonly discussed. The competition–fragility view argues that stronger competition may reduce banks'

market power, profitability, and franchise value, potentially increasing incentives for risk-taking and weakening stability. In contrast, the competition–stability view suggests that stronger competition can improve stability by encouraging more efficient lending decisions and reducing incentives associated with excessive borrower risk-taking. Recent empirical studies continue to find evidence supporting both perspectives, suggesting that the relationship depends on the institutional and market context (Azmi et al., 2024; Saputro & Safuan, 2024).

Importantly, market concentration and market power represent different dimensions of the competitive environment. The Herfindahl–Hirschman Index (HHI) measures the concentration of market shares at the industry level, whereas the Lerner Index measures the degree of market power exercised by an individual bank through the markup of price over marginal cost. Therefore, a more concentrated banking industry does not necessarily imply that every individual bank possesses greater market power. Recent evidence from Indonesian Islamic banking similarly demonstrates that concentration and bank-level competition can provide different information about the competition–stability relationship (Widarjono et al., 2025). Examining HHI and the Lerner Index together, therefore, allows the relationship between industry structure, bank-level market power, and financial stability to be assessed more distinctly.

In the Indonesian Islamic banking context, the relationship between market concentration, market power, and stability is particularly relevant following the 2021 BSI merger. The merger substantially increased the concentration of the Islamic banking industry, as documented by changes in concentration ratios and the Herfindahl–Hirschman Index (HHI) (Utami et al., 2022; Zaini & Kusuma, 2024). From an industrial-organisation perspective, greater concentration may alter competitive conditions by increasing the relative importance of large banks. However, concentration alone does not establish that individual banks possess greater market power, because market structure and firm-

level pricing power represent distinct dimensions of competition.

The implications of greater concentration for bank stability are therefore theoretically ambiguous. Greater concentration may support stability if larger banks benefit from stronger franchise value and greater capacity to absorb losses, consistent with the concentration–stability perspective. Conversely, greater market dominance may weaken competitive discipline and increase incentives for risk-taking, consistent with the concentration–fragility perspective. Empirical evidence from Indonesian Islamic banking remains mixed. Santoso et al. (2023) reported a positive relationship between industry concentration and the stability of Islamic Commercial Banks, whereas more recent research has continued to show that the relationship between competition, concentration, and bank risk depends on the measures and institutional context employed (Widarjono et al., 2025). Consequently, the structural transformation of Indonesian Islamic banking during 2019–2024 provides an important context for examining whether changes in industry concentration and bank-level market power are associated with financial stability.

Previous empirical studies provide mixed evidence regarding the relationship between banking competition, concentration, and financial stability. The concentration–stability perspective suggests that greater concentration or market power may enhance bank stability by allowing banks to maintain higher franchise value and profitability, whereas the competition–stability perspective emphasizes the potential risk-reducing effects of stronger competition. International evidence does not establish a uniform relationship. For example, Beck et al. (2006) reported that more concentrated banking systems were associated with greater financial stability, while Albaity et al. (2019) found that lower competition was associated with lower bankruptcy risk and higher profitability among banks in MENA countries, with stronger effects observed for Islamic banks. More recent evidence, however, continues to report heterogeneous relationships

between competition and stability across banking systems and measurement approaches (Azmi et al., 2024; Widarjono et al., 2025).

Evidence from Indonesia is also not conclusive. Santoso et al. (2023) found a positive relationship between industry concentration, measured by HHI and CR4, and the stability of Indonesian Islamic Commercial Banks during 2011–2020. However, the evidence was relatively sensitive to model specification and the study did not examine bank-level market power using the Lerner Index. Moreover, its observation period ended in 2020, immediately before the 2021 BSI merger. Consequently, the extent to which the relationship between industry concentration, individual bank market power, and stability holds during the subsequent structural transformation of Indonesian Islamic banking remains an empirical question.

In Indonesia, empirical evidence on the relationship between Islamic banking market structure, market power, and stability remains limited and heterogeneous, particularly across different observation periods and measures of competition. Santoso et al. (2023) examined the relationship between industry concentration and the stability of 14 Islamic Commercial Banks using HHI and CR4 over 2011–2020 and reported a positive association between concentration and stability. However, the study did not incorporate bank-level market power measured by the Lerner Index and its observation period ended before the 2021 BSI merger. More recent research by Widarjono et al. (2025) examined competition, concentration, and bank risk-taking using the adjusted Lerner Index and Z-score for Indonesian Islamic banks over 2015–2020. Their findings indicate that competition and concentration can have different relationships with bank stability, but their observation period also predates the BSI merger. In addition, studies focusing specifically on the BSI merger have examined changes in market concentration and market power, but have not directly addressed how these structural changes

relate to bank-level stability (Syamlan et al., 2023; Zaini & Kusuma, 2024).

Against this background, the present study extends the existing literature by examining the relationship among industry-level market concentration, bank-level market power, and bank stability during 2019–2024, a period spanning the COVID-19 shock and the structural transformation associated with the BSI merger. The study distinguishes market concentration, measured by the HHI, from bank-level market power, measured by the Lerner Index, and relates both measures to bank stability as proxied by the Z-score. By incorporating observations from both Islamic Commercial Banks (BUS) and Islamic Business Units (UUS), the study provides evidence on the broader Islamic banking market rather than focusing exclusively on full-fledged Islamic Commercial Banks.

However, other studies support competition–stability, where higher competition reduces bank risk. Boyd and De Nicoló (2005) argued that banks with high market power charge higher lending rates, which increase borrower risk-taking and ultimately credit risk for banks. Anginer et al. (2014) showed that tighter competition fosters risk diversification, improving overall financial stability. Evidence for Islamic banks is equally mixed. Alam, Hamid, and Tan (2019), studying 59 Islamic banks in 10 countries, found support for competition–stability: higher competition reduced Islamic banks’ risk-taking. They observed that Islamic banks in dual banking systems took lower risks under competitive pressure from both Islamic and conventional banks. By contrast, Khattak et al. (2021) in Indonesia reported that stronger competition negatively affected banking stability overall, with Islamic banks appearing particularly vulnerable. They argued that smaller scale and limited diversification opportunities may make Islamic banks more fragile in highly competitive environments. Similarly, Khattak, Alaeddin, and Abojeib (2022) found globally that greater competition significantly increased bank vulnerability to default, supporting competition–

fragility. Interestingly, they reported similar effects for both Islamic and conventional banks, suggesting that Islamic banks may not be fundamentally different in their competition–risk nexus. These divergent findings highlight the absence of consensus and reflect methodological, temporal, and contextual differences across studies. This lack of clarity underscores the need for further research.

Accordingly, this study aims to examine the relationship between market concentration, bank-level market power, and the stability of Islamic banking in Indonesia during 2019–2024. Specifically, the study investigates whether industry-level market concentration, measured by the Herfindahl–Hirschman Index (HHI), and individual bank market power, measured by the Lerner Index, are associated with bank stability as measured by the Z-score. The analysis uses an unbalanced panel dataset covering Islamic Commercial Banks (BUS) and Islamic Business Units (UUS), comprising 199 bank-year observations from 39 banking entities over the study period.

Theoretically, this study contributes to the literature on banking competition and stability in Islamic finance by distinguishing industry-level market concentration from bank-level market power. By examining industry structure and bank-level market power jointly, the study provides a more integrated perspective on the relationship between market structure, competitive behavior, and financial stability in Islamic banking. The findings provide evidence on whether the observed relationships between market concentration, market power, and stability are more consistent with the competition–fragility or competition–stability perspective in the Indonesian Islamic banking context. Practically, the findings provide empirical evidence that may inform regulators, including OJK and Bank Indonesia, and Islamic banking stakeholders in assessing the implications of market concentration and competition for financial stability. Overall, the study provides empirical evidence that can contribute to discussions on

competition, market structure, and prudential oversight in Indonesia's Islamic banking industry.

2. Literature Review

2.1. Theoretical Framework

The relationship between banking competition and financial stability remains theoretically contested. The competition–fragility perspective argues that stronger competition may reduce banks' market power, profitability, and franchise value, potentially encouraging greater risk-taking and weakening stability (Keeley, 1990). From this perspective, market power can support stability by preserving the value banks would lose if they failed. Conversely, the competition–stability perspective argues that greater competition can enhance stability. Boyd and De Nicoló (2005) explain that banks with greater market power may charge higher lending rates, encouraging borrowers to take greater risks and increasing credit risk. Stronger competition may therefore reduce financing costs and improve borrowers' repayment capacity. These competing perspectives suggest that the relationship between competition and stability is ambiguous and requires empirical examination.

Market concentration and market power represent different dimensions of banking competition. Market concentration describes the distribution of market shares across institutions, whereas market power reflects an individual bank's ability to price its products above marginal cost. Therefore, greater industry concentration does not necessarily imply greater market power for every bank. This distinction is relevant to Islamic banking, where Islamic and conventional institutions operate within a dual banking system. The relationship between competition and stability may vary across institutional settings and bank characteristics (Alam et al., 2019; Khattak et al., 2021).

This study measures industry-level market concentration using the Herfindahl–Hirschman Index (HHI), calculated as the sum of squared market shares. Higher HHI values indicate greater concentration, while lower values indicate a more

dispersed market structure. Market shares are calculated using the total assets of Islamic Commercial Banks (BUS) and Islamic Business Units (UUS). Individual-bank market power is measured using the Lerner Index, which captures the markup of price over marginal cost. A higher Lerner Index generally indicates greater market power, whereas a value closer to zero indicates more competitive pricing. Examining HHI and the Lerner Index jointly enables this study to distinguish industry structure from individual-bank pricing power.

Bank stability is measured using the Z-score as an accounting-based measure of bank stability. It integrates three key components: profitability (ROA), capitalization (Equity/Assets), and earnings volatility (σ ROA) and is calculated as (Hassan et al, 2021):

$$Z = \frac{\left(ROA + \frac{Equity}{Assets}\right)}{\sigma(ROA)}$$

A higher Z-score indicates a greater distance from insolvency and therefore a higher level of financial stability, while a lower Z-score indicates greater vulnerability to financial distress. The measure is widely used in empirical studies of banking stability, including research on Islamic banking (Boyd & Runkle, 1993; Cihak & Hesse, 2010; Phan et al., 2020). In the present study, the Z-score is used as the dependent variable to examine whether industry-level market concentration and bank-level market power are associated with differences in the stability of Islamic banking entities in Indonesia.

2.2. Empirical Review

International evidence indicates that the relative stability of Islamic and conventional banks varies across bank characteristics and institutional settings. Čihák and Hesse (2010) found that small Islamic banks tended to be more stable than small conventional banks, whereas the opposite pattern was observed among large banks. Beck et al. (2013) reported a few systematic differences in stability between Islamic and conventional banks after accounting for country characteristics. Similarly, Abedifar et al. (2013) found that Islamic banks were

not uniformly riskier than conventional banks, with differences partly related to bank size. These findings suggest that stability differences cannot be attributed solely to whether a bank operates according to Islamic or conventional principles.

Studies examining competition directly also report mixed results. Kabir and Worthington (2017) found evidence consistent with the competition–fragility perspective for Islamic and conventional banks, with greater market power associated with higher stability. In contrast, Alam et al. (2019) found that the relationship differed between their full sample and Islamic banks in dual-banking systems, suggesting that stronger competition could be associated with lower risk-taking among Islamic banks. Other findings vary by region: Albaity et al. (2019) reported a positive association between concentration and Islamic bank stability in the MENA region, whereas Risfandy et al. (2020) found no significant relationship between market concentration and Islamic bank stability in several Asian dual-banking countries. Research from the MENA region also examines the interaction between bank competition and financial stability, highlighting the importance of the regional and institutional context in this relationship (Louhichi et al., 2019). Overall, the international evidence does not support a uniform relationship between competition and financial stability. Evidence from euro area banks also highlights the relevance of market power and the lending channel in understanding bank stability under different monetary policy conditions (Altunbaş et al., 2023).

Evidence from Indonesia is similarly mixed. Santoso et al. (2023) examined Indonesian Islamic Commercial Banks over 2011–2020, using HHI and the four-bank concentration ratio (CR4) to measure concentration and the log of the Z-score to measure stability. Their baseline results showed positive relationships between concentration and stability, although the HHI coefficient became statistically insignificant after macroeconomic controls were included. Because their observation period ended in 2020, the study did not directly cover the period

following the 2021 merger that established Bank Syariah Indonesia (BSI).

Other Indonesian studies report different findings. Afandi et al. (2025), examining 2021–2023, found that a higher HHI was associated with lower Z-scores, suggesting that greater concentration was associated with weaker stability. Their study also considered competition using an efficiency-adjusted measure. Setiawan (2023), by contrast, found a positive relationship between competition and Islamic bank stability and examined bank size as a moderating factor. Khattak et al. (2021) reported that stronger competition was associated with lower banking stability in Indonesia, including among Islamic banks. These contrasting results indicate that the relationship between competition and stability remains unsettled in the Indonesian context.

Despite these contributions, further examination is warranted for three reasons. First, market concentration and individual-bank market power represent different dimensions of competition and should not be treated as interchangeable. Second, previous Indonesian studies differ in their samples, observation periods, stability measures, and competition proxies, making their findings difficult to compare directly. Third, the relationship between these two dimensions and bank stability remains insufficiently established for a period that includes the COVID-19 shock and the structural transformation associated with the BSI merger. Examining BUS and UUS together also provides a broader perspective on the Indonesian Islamic banking market than an analysis restricted to full-fledged Islamic Commercial Banks.

Accordingly, this study examines the relationships between industry-level market concentration, measured by HHI; individual-bank market power, measured by the Lerner Index; and financial stability, measured by the Z-score, over 2019–2024. By including BUS and UUS, the study extends the analysis beyond full-fledged Islamic Commercial Banks alone. The BSI merger provides relevant structural context for the observation

period, but the study does not treat the merger as an independently identified causal event.

2.3. Hypothesis Development

The theoretical and empirical literature provides competing predictions regarding the relationship between market concentration and financial stability. The concentration–stability perspective suggests that greater concentration may be associated with greater stability by supporting profitability and franchise value. Conversely, the competition–stability perspective suggests that a less concentrated market may promote stability through stronger competitive discipline. The mixed findings in previous studies do not establish an unambiguous directional relationship for Indonesian Islamic banking. Therefore, the first hypothesis is formulated as follows:

H1: Market concentration, measured by the HHI, is significantly associated with the financial stability of Islamic banking entities in Indonesia.

The relationship between individual-bank market power and stability is also theoretically ambiguous. Greater market power may support stability by preserving franchise value, but it may also permit higher financing rates and increase borrower risk. Empirical studies have reported different relationships across countries and bank types. Accordingly, the second hypothesis is:

H2: Individual-bank market power, measured by the Lerner Index, is significantly associated with the financial stability of Islamic banking entities in Indonesia.

2.4. Research Model

Based on the theoretical arguments and empirical evidence, this study estimates the following panel regression model:

$$Z_{it} = \beta_0 + \beta_1 HHI_{it} + \beta_2 Lerner_{it} + \varepsilon_{it}$$

Where,

Symbol	Definition
Z_{it}	Financial stability (Z-score) of banking entity i in year t
HHI_{it}	Industry-level market concentration in year t

$Lerner_{it}$	Market power of banking entity i in year t
β_0	Intercept
β_1	Coefficient of market concentration
β_2	Coefficient of bank-level market power
ε_{it}	Error term
i, t	Banking entity and year, respectively

3. Method, Data, and Analysis

This study employs a quantitative research design using secondary panel data to examine the association between market concentration, bank-level market power, and the stability of Islamic banking in Indonesia. Regression analysis is used to estimate the relationships between the explanatory variables and bank stability.

3.1. Unit of Analysis and Sample Structure

The unit of analysis is the banking entity operating within Indonesia’s Islamic banking sector during the 2019–2024 period. The sample includes Islamic Commercial Banks (BUS) and Islamic Business Units (UUS). Because the observation period spans the 2021 merger that established Bank Syariah Indonesia (BSI), the dataset records the predecessor banks as separate entities during the years in which they operated and BSI as a separate entity following the merger. Consequently, the number of distinct banking entities observed over the full study period may exceed the number of BUS and UUS operating in any single year. The study uses an unbalanced panel because the availability of observations varies across entities and years.

Variables and Proxies

The key variables are defined as follows (with formulae and interpretation):

3.1.1. Bank Stability (Z – Score)

The Z-score measures the probability of bank insolvency, calculated as:

$$Z = \frac{(ROA + CAR)}{\sigma(ROA)}$$

Where,

ROA	Return on Assets = Net Profit after Tax ÷ Total Assets
CAR	Capital Adequacy Ratio = Equity ÷ Total Assets

$\sigma(\text{ROA})$ Standard deviation of ROA (bank profitability volatility)

A higher Z-score indicates a greater distance from insolvency and therefore greater financial stability (Boyd & Runkle, 1993; Čihák & Hesse, 2010).

3.1.2. Market Concentration (Herfindahl–Hirschman Index)

Market concentration is measured using the Herfindahl–Hirschman Index (HHI), calculated annually as the sum of the squared market shares of banking entities operating in Indonesia’s Islamic banking sector:

$$HHI = \sum_{i=1}^N s_i^2$$

Where:

s_i Market share of bank i (as a percentage of total assets)

Higher HHI values indicate greater market concentration, whereas lower values indicate a more dispersed market structure. The concentration categories used in this study follow the classification cited from the U.S. Department of Justice (2024).

Interpretation:

HHI = 10,000 indicates a monopoly

HHI = < 1,000 indicates highly competitive

HHI = 1,000–1,800 indicates Moderate concentration

HHI = >1,800 indicates Highly concentrated

3.1.3. Market Power (Lerner Index)

Bank-level market power is measured using the Lerner Index, which captures the difference between a bank’s output price and marginal cost relative to its output price:

$$Lerner = \frac{P - MC}{P}$$

Since marginal cost is not directly observable, the following proxies are used:

Thus, the Lerner Index becomes:

$$P = \frac{\text{Operating Income}}{\text{Total Assets}}$$

$$AVC = \frac{\text{Operating Expenses}}{\text{Total Assets}}$$

Interpretation:

$$Lerner = \frac{P - AVC}{P}$$

Value near 1 → High market power (monopoly)

Value near 0 → Competitive market (Fu et al., 2014; Noman et al., 2017)

3.2. Regression Model

The relationship between market concentration, bank-level market power, and bank stability is estimated using the following panel regression model:

$$Zit = \beta_0 + \beta_1 HHit + \beta_2 Lernerit + \epsilon it$$

The model was estimated using three approaches: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Model selection was conducted using the Chow Test, Hausman Test, and Breusch–Pagan LM Test.

3.3. Analytical tools

Data processing and econometric analysis were conducted using Microsoft Excel and EViews. Descriptive statistics were used to summarise the characteristics of the variables. Diagnostic tests were conducted to examine residual normality, multicollinearity, and heteroskedasticity. The estimated model was evaluated based on its coefficient estimates, statistical significance, and coefficient of determination (R^2).

4. Results and Discussion

4.1. Descriptive Statistics

Table 1. Descriptive Statistics

Variable	Mean	Median	Min	Max	Std. Dev.
HHI	1548.75	1794.20	903.09	1980.28	465.67
Lerner	0.33	0.35	-1.16	0.73	0.27
Z-Score	13.86	10.36	0.10	179.67	15.93

Table 1 presents the descriptive statistics for market concentration, market power, and bank stability over the 2019–2024 period. The HHI has a mean of 1,548.75, ranging from 903.09 to 1,980.28, indicating variation in the level of market concentration across the observation period. The Lerner Index has a mean of 0.33, with values ranging

from -1.16 to 0.73, suggesting substantial variation in the estimated market power proxy across banking entities and years. Meanwhile, the Z-score has a mean of 13.86 and ranges from 0.10 to 179.67, with a standard deviation of 15.93. This wide dispersion indicates considerable heterogeneity in the measured stability of the sampled banking entities. Overall, the descriptive statistics show variation in industry concentration, bank-level market power, and financial stability, providing a basis for the subsequent correlation and panel regression analyses.

4.2. Panel Model Selection

Table 2. Panel Model Selection

Test	Statistic	Probability	Decision
Chow Test	F = 5.06	0.0000	FEM is preferable to Pooled
Hausman Test	Chi ² = 1.47	0.4791	REM is more appropriate
LM Test (Breusch–Pagan)	Chi ² = 24.97	0.0000	REM is preferable to Pooled

The Chow test rejects the pooled OLS specification ($p < 0.001$), indicating that cross-sectional effects should be considered. The Hausman test is statistically insignificant ($p = 0.4791$), providing no evidence against the Random Effects Model (REM) in favour of the Fixed Effects Model (FEM). The Breusch–Pagan Lagrange Multiplier test also rejects the pooled OLS specification (cross-section $p = 0.0007$). Taken together, these results support the use of REM for the subsequent panel regression analysis.

4.3. Panel Regression Results (REM)

Table 3. Panel Regression

Variable	coefficient	Std. Error	t-statistic	Prob.
Constant	13.23797	5.344492	2.476937	0.01
HHI	0.002980	0.001817	1.640489	0.10
Lerner	-8.115532	11.81889	-0.686657	0.49

Table 3 presents the Random Effects Model (REM) estimates using White diagonal standard errors. The coefficient of HHI is positive ($\beta = 0.002980$), suggesting a positive estimated association between market concentration and bank stability. However, this association is not statistically significant ($p = 0.1025$). The coefficient of the Lerner Index is negative ($\beta = -8.115532$), indicating a negative estimated association between the market-power proxy and bank stability, but the result is also statistically insignificant ($p = 0.4931$). Therefore, the regression does not provide sufficient statistical evidence to establish significant relationships between market concentration, the market-power proxy, and the Z-score at the 5% significance level. These findings should be interpreted as inconclusive evidence regarding the proposed relationships rather than proof that the relationships do not exist.

4.2. Discussion

The regression results reveal a positive coefficient for market concentration (HHI) and a negative coefficient for the Lerner Index. However, neither coefficient is statistically significant at the 5% level. The positive HHI coefficient is consistent with the concentration–stability perspective, commonly associated with the competition–fragility hypothesis, which suggests that greater market power may strengthen bank stability through higher franchise value. Conversely, the negative Lerner coefficient is directionally consistent with the competition–stability hypothesis, which argues that competitive pressure may encourage efficiency and prudent banking practices. Nevertheless, these coefficient directions should not be interpreted as empirical confirmation of either hypothesis because the estimated relationships are statistically insignificant.

The findings also illustrate why industry concentration and bank-level market power should be distinguished. HHI captures the distribution of assets across the Islamic banking industry, whereas the Lerner Index represents a bank-level pricing-power proxy. These measures, therefore, describe different dimensions of market structure and

conduct, and their coefficients need not have the same sign. In this study, the positive HHI coefficient and negative Lerner coefficient provide different directional signals, but neither establishes a statistically significant relationship with bank stability. The results consequently suggest an inconclusive relationship between market structure, market power, and Islamic bank stability in Indonesia during 2019–2024.

These findings can be considered alongside previous empirical research reporting different outcomes for the competition–stability nexus. For example, Santoso et al. (2023) reported positive relationships between concentration measures and the stability of Indonesian Islamic commercial banks. Kabir and Worthington (2017) also provide evidence relevant to the competition–fragility perspective in their comparative study of Islamic and conventional banks. In contrast, Boyd and De Nicoló (2005) argued that greater competition may strengthen stability by reducing lending rates and borrowers’ risk-taking incentives. These different theoretical and empirical perspectives indicate that the relationship between competition and bank stability may depend on the competition measure, sample composition, study period, stability indicator, and estimation strategy. The present findings add evidence from Indonesian Islamic commercial banks and Islamic business units over 2019–2024, while remaining inconclusive about the direction and statistical strength of the relationship. The specific findings and methodological differences reported in the cited studies should be verified against their original publications before the manuscript is finalized.

The Indonesian Islamic banking context provides a relevant background for interpreting these results. The 2021 merger that formed Bank Syariah Indonesia represented a major structural change in the industry and coincided with an increase in the measured HHI. However, the present regression does not establish that the merger caused changes in bank stability. Similarly, the principles and institutional arrangements of Islamic banking, including Sharia compliance and oversight by Sharia

Supervisory Boards, may be relevant contextual considerations, but their role in explaining the estimated relationships is not directly tested in this model. Prudential regulation and bank-specific conditions may also be relevant areas for further investigation; the current results, however, do not establish that these factors explain the insignificant coefficients.

Several limitations should be considered when interpreting the findings. First, the observation period covers six years, from 2019 to 2024, including the COVID-19 pandemic and the structural change associated with the 2021 merger. These events provide important context but are not separately identified as causal influences in the baseline model. Second, HHI varies at the industry-year level and therefore provides only six distinct annual values during the study period. This limits the amount of independent time variation available to estimate its relationship with bank stability. Third, the analysis uses the Z-score as its stability measure; alternative indicators could capture other dimensions of financial risk. Finally, the unbalanced panel and the composition of the sample should be clearly documented to establish the scope of the findings. Future research could extend the observation period, examine additional stability measures, and investigate whether bank-specific characteristics or macroeconomic conditions help explain the relationship between market structure and Islamic bank stability.

5. Conclusion

This study examines the relationships between market concentration, bank-level market power, and the stability of Islamic banking in Indonesia over the 2019–2024 period. The panel regression results show a positive coefficient for the Herfindahl–Hirschman Index (HHI) and a negative coefficient for the Lerner Index. However, neither coefficient is statistically significant at the 5% level. Therefore, the findings do not provide sufficient statistical evidence to establish significant relationships between market concentration, the market-power proxy, and Islamic bank stability during the study period.

The study contributes to the literature by examining industry-level market concentration and bank-level market power as distinct dimensions of competition in Indonesia's Islamic banking sector. The different coefficient directions highlight the complexity of the relationship between competition and stability, while the statistically insignificant estimates indicate that the results do not conclusively support either the competition–fragility or competition–stability perspective.

These findings should be interpreted in light of the study's limitations, particularly the six-year observation period, the limited annual variation in HHI, and the use of a single stability measure. Future research could extend the observation period, examine alternative stability indicators, and incorporate bank-specific and macroeconomic variables to investigate whether these factors help explain differences in Islamic bank stability. Further analysis could also explore whether the relationship between market structure and stability differs across banking entities and market conditions.

6. Implication

6.1. Theoretical Implications

This study contributes to the competition–stability literature by examining market concentration and bank-level market power separately in the context of Indonesian Islamic banking. The positive HHI coefficient and negative Lerner coefficient provide different directional signals regarding bank stability. However, because neither coefficient is statistically significant, the findings do not conclusively support either the competition–fragility or competition–stability perspective.

The results highlight the importance of distinguishing between industry-level market structure and bank-level pricing power when investigating financial stability. They also indicate that the relationships between these dimensions of competition and Islamic bank stability warrant further empirical investigation. Future theoretical and empirical work could examine whether bank-specific characteristics, institutional arrangements,

and macroeconomic conditions help explain differences in the competition–stability relationship. These factors, however, require direct empirical assessment before their roles can be established.

6.2. Policy Implications

The findings suggest that market concentration should not be treated as a sufficient indicator of Islamic banking stability. Although the estimated HHI coefficient is positive, its statistical insignificance means that this study does not establish that greater concentration improves stability. Accordingly, market consolidation should not be assumed to strengthen financial resilience automatically.

For policymakers and banking supervisors, including the Financial Services Authority (Otoritas Jasa Keuangan, OJK) and Bank Indonesia within their respective mandates, the findings underscore the importance of assessing market structure alongside broader prudential considerations. Decisions concerning consolidation and competition should be informed by evidence on institutional resilience, risk exposure, and the potential consequences for the banking sector. The present study does not directly evaluate specific regulatory measures, so the effectiveness of individual policy interventions remains an issue for further research. In addition to prudential supervision, competition-law considerations may also be relevant when assessing the implications of a dominant market position, particularly where potential abuse of dominance is a concern (Khutub, 2022).

7. Recommendations and Future Research

7.1. Recommendation

Although this study does not establish statistically significant relationships between market concentration, market power, and bank stability, several practical considerations remain relevant.

First, Islamic banks should continue to maintain sound risk management, financing quality, capital adequacy, and operational efficiency. These areas are important considerations in prudential banking practice, although their individual effects on stability

were not estimated in the present model. Previous research, including Fatoni and Sidiq (2019), may provide additional support for these recommendations, subject to verification of the original study's findings.

Second, regulators should assess market consolidation in conjunction with prudential requirements and the resilience of individual banking institutions. A higher concentration level should not, by itself, be interpreted as evidence of a more stable banking sector. Maintaining an appropriate balance between competition and prudential oversight is therefore a relevant policy consideration.

Third, Islamic banks may continue to explore operational innovation, digital services, and Sharia-compliant product diversification to improve service delivery and respond to changing market needs. However, the effects of these strategies on financial stability should be evaluated empirically rather than assumed from the results of this study.

7.2. Future Research

Future research could extend the observation period beyond 2019–2024 to capture longer-term changes in market structure and bank stability, including periods before and after major industry developments and economic shocks. A longer period would also provide more annual observations for examining the relationship between HHI and bank stability. Given that HHI varies at the industry-year level, future studies should carefully consider the implications of this limited time variation for model specification and statistical inference.

Further studies could expand the institutional coverage to include Islamic rural banks (BPRS), where comparable data are available, and compare Islamic commercial banks and Islamic business units with conventional banking institutions. Cross-country comparisons, particularly among ASEAN countries with different banking structures and regulatory environments, could also help establish whether the observed relationships vary across institutional settings.

In addition, future research could incorporate bank-specific variables, such as capital adequacy, financing quality, and operational efficiency, together with relevant macroeconomic indicators. Such extensions would allow researchers to assess whether these variables help explain differences in stability beyond the relationships examined in this study. Further investigation could also examine whether the relationship between competition and stability changes during periods of financial stress or following major regulatory and industry developments. Qualitative case studies or interviews with banking practitioners could complement quantitative analysis by exploring mechanisms that cannot be identified directly from the current regression model.

References

- Afandi, J., Habibah, M., Fikri, S., & Mabruroh, S. (2025). Competition and stability in Indonesian Sharia banking. *MALIA: Journal of Islamic Banking and Finance*, 9(1), 33–46.
- Alam, N., Hamid, B. A., & Tan, D. T. (2019). Does competition make banks riskier in dual banking system? *Borsa Istanbul Review*, 19(1), S34–S43. <https://doi.org/10.1016/j.bir.2018.09.002>
- Albaity, M., Mallek, R. S., & Noman, A. H. M. (2019). Competition and bank stability in the MENA region: The moderating effect of Islamic versus conventional banks. *Emerging Markets Review*, 38, 310–325. <https://doi.org/10.1016/j.ememar.2019.01.003>
- Altunbaş, Y., Avignone, G., Kok, C., & Pancaro, C. (2023). *Euro area banks' market power, lending channel and stability: The effects of negative policy rates* (ECB Working Paper No. 2790). European Central Bank.
- Anginer, D., Demirgüç-Kunt, A., & Zhu, M. (2014). How does competition affect bank systemic risk? *Journal of Financial Intermediation*, 23(1), 1–26. <https://doi.org/10.1016/j.jfi.2013.11.001>
- Antara, P. M., & Musa, R. (2020). Validating Islamic financial literacy instruments among mum

- generation: Rasch analysis approach. *International Journal of Business and Society*, 21(3), 1113–1121. <https://doi.org/10.33736/ijbs.3315.2020>
- Azmi, W., Anwer, Z., Ali, M., & Mohamad, S. (2024). Competition, stability, and institutional environment: The case of dual banking economies. *International Journal of Finance & Economics*, 29(1), 609–631. <https://doi.org/10.1002/ijfe.2700>
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2006). Bank concentration, competition, and crises: First results. *Journal of Banking & Finance*, 30(5), 1581–1603. <https://doi.org/10.1016/j.jbankfin.2005.05.010>
- Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2013). Islamic vs. conventional banking: Business model, efficiency and stability. *Journal of Banking & Finance*, 37(2), 433–447. <https://doi.org/10.1016/j.jbankfin.2012.08.021>
- Berger, A. N., Klapper, L. F., & Turk-Ariss, R. (2009). Bank competition and financial stability. *Journal of Financial Services Research*, 35(2), 99–118. <https://doi.org/10.1007/s10693-008-0050-7>
- Boyd, J. H., & De Nicoló, G. (2005). The theory of bank risk taking and competition revisited. *Journal of Finance*, 60(3), 1329–1343. <https://doi.org/10.1111/j.1540-6261.2005.00763.x>
- Boyd, J., De Nicoló, G., & Jalal, A. (2006). Bank risk-taking and competition revisited: New theory and new evidence. *IMF Working Paper*, WP/06/297.
- Čihák, M., & Hesse, H. (2010). Islamic banks and financial stability: An empirical analysis. *Journal of Financial Services Research*, 38(2–3), 95–113. <https://doi.org/10.1007/s10693-010-0089-0>
- Dinc, Y., Çetin, M., Bulut, M., & Jahangir, R. (2021). Islamic financial literacy scale: An amendment in the sphere of contemporary financial literacy. *ISRA International Journal of Islamic Finance*, 13(2), 251–263. <https://doi.org/10.1108/IJIF-07-2020-0156>
- Fatmawati, L. C. (2026). Determinants of ASEAN banking system stability; Panel regression analysis of Z-Score and NPL. *Sriwijaya International Journal of Dynamic Economics and Business*, 9(4), 351–372. <https://doi.org/10.29259/sijdeb.v9i4.351-372>
- Federal Reserve Bank of Philadelphia. (2023). Banking trends: Has the banking industry become too concentrated? *Economic Insights*, Q1 2023.
- Fu, X. M., Lin, Y. R., & Molyneux, P. (2014). Bank competition and financial stability in Asia Pacific. *Journal of Banking & Finance*, 38, 64–77. <https://doi.org/10.1016/j.jbankfin.2013.09.012>
- Hassan, M. K., Ijaz, M., & Khan, M. H. (2021). Bank competition–stability relations in Pakistan: A comparison between Islamic and conventional banks. *International Journal of Business and Society*, 22(2), 532–545. <https://doi.org/10.33736/ijbs.3733.2021>
- Kabir, M. N., & Worthington, A. C. (2017). The competition–stability/fragility nexus: A comparative analysis of Islamic and conventional banks. *International Review of Financial Analysis*, 50, 111–128. <https://doi.org/10.1016/j.irfa.2017.02.006>
- Keeley, M. C. (1990). Deposit insurance, risk, and market power in banking. *American Economic Review*, 80(5), 1183–1200.
- Khattak, M. A., Alaeddin, O., & Abojeib, M. (2022). Competition–stability relationship in dual banking systems: Evidence from efficiency-adjusted market power. *The Singapore Economic Review*, 67(1), 309–332. <https://doi.org/10.1142/S0217590820420096>
- Khattak, M. A., Ali, M., Hamid, B. A., & Islam, M. U. (2021). Competition, diversification, and stability in the Indonesian banking system. *Bulletin of Monetary Economics and Banking*,

- 24(0), 59–88.
<https://doi.org/10.21098/bemp.v24i0.1481>
- Khutub, M. (2022). Potential abuse of the dominant position of Indonesian Islamic banks in legal perspective business competition. *Az Zaqqa': Jurnal Hukum Bisnis Islam*, 14(1), 1–1.
<https://doi.org/10.14421/azzarqa.v14i1.2600>
- Louhichi, W., Ghenimi, A., & Omri, M. A. B. (2019). The interaction between bank competition and financial stability in MENA region. *Research in International Business and Finance*, 50, Article 101037.
<https://doi.org/10.1016/j.ribaf.2019.101037>
- McBrayer, G. A., & Yeager, T. J. (2018). *The Bank Competition Index* (Working Paper). Sam M. Walton College of Business, University of Arkansas.
- Mishkin, F. S. (1999). Financial consolidation: Dangers and opportunities. *Journal of Banking & Finance*, 23(2–4), 675–691.
[https://doi.org/10.1016/S0378-4266\(98\)00084-3](https://doi.org/10.1016/S0378-4266(98)00084-3)
- Mubarak, H., Mulatsih, S., & Beik, I. S. (2025). A dynamic study on the market share growth of Islamic banks in Indonesia post spin-off, conversion, and merger. *Journal of World Science*, 4(9), 1197–1207.
<https://doi.org/10.58344/jws.v4i9.1495>
- Noman, A. H. M., Gee, C. S., & Isa, C. R. (2017). Does competition improve financial stability of the banking sector in ASEAN countries? An empirical analysis. *PLoS ONE*, 12(5), Article e0176546.
<https://doi.org/10.1371/journal.pone.0176546>
- Oktaviana, U. K., & Miranti, T. (2025). Modeling technology and profitability as moderators of competition, efficiency, and risk in Islamic bank stability. *Journal of Islamic Economics Lariba*, 11(2), 1049–1078.
<https://doi.org/10.20885/jielariba.vol11.iss2.art15>
- Otoritas Jasa Keuangan. (2023). *Statistik perbankan syariah Juni 2023*.
<https://ojk.go.id/id/kanal/syariah/data-dan-statistik/statistik-perbankan-syariah/>
- Pamungkas, P., Pratiwi, D. I., & Bakkar, Y. (2022). The merger of Islamic banks and their impact on the stability of the country's economy. *Sebelas Maret Business Review*, 7(2), 57–65.
<https://doi.org/10.20961/smbr.v7i2.55845>
- Phan, D. H. B., Narayan, P. K., Rahman, R. E., & Hutabarat, A. R. (2020). Do Islamic banks experience lower systemic risk than conventional banks? *Pacific-Basin Finance Journal*, 62, Article 101348.
<https://doi.org/10.1016/j.pacfin.2020.101348>
- Risfandy, T., Tarazi, A., & Trinugroho, I. (2020). Competition in dual markets: Implications for banking system stability. *Global Finance Journal*, 52, Article 100579.
<https://doi.org/10.1016/j.gfj.2020.100579>
- Sanfíz, J. M. M., Casal, A. I., Mazahreh, Q. A. S., & Andión, M. C. L. (2025). Market structure and technical efficiency of banks in the MENA region. *SAGE Open*, 15(2).
<https://doi.org/10.1177/21582440251324792>
- Santoso, T., Firmansyah, E. A., Sapulette, M. S., & Setiawan, M. (2023). The impact of industry concentration on stability: The case of Indonesian Islamic commercial banks. *International Journal of Islamic Economics and Finance (IJIEF)*, 6(2), 201–224.
<https://doi.org/10.18196/ijief.v6i2.17892>
- Saputro, S. A., & Safuan, S. (2024). Pengaruh kompetisi perbankan terhadap stabilitas keuangan: Pengujian hipotesis competition-stability vs. competition-fragility. *Jurnal Ekonomi Indonesia*, 13(1), 43–67.
<https://doi.org/10.52813/jei.v13i1.519>
- Setiawan, M. (2023). Assessing the bank stability nexus: Islamic bank competition in the Indonesian financial landscape. *Indonesian Journal of Economics and Management*, 4(1), 194–202.

- Syاملan, Y. T., Wahyuni, S., & Sudiharto, L. (2023). Concentration level and market power of Islamic bank industry: Analysis of pre and post Bank Syariah Indonesia merger. *Journal of Islamic Economic and Business Research*, 3(2), 138–160.
<https://doi.org/10.18196/jiebr.v3i2.189>
- Utami, A. D., Risfandy, T., & Rahardjoputri, R. (2022). Islamic banks' merger: The case of Bank Syariah Indonesia. *International Journal of Monetary Economics and Finance*, 15(3), 201–212.
<https://doi.org/10.1504/IJMEF.2022.126904>
- Widarjono, A., Alam, M. M., Rafik, A., Afandi, A., & Sidiq, S. (2025). Nexus between competition, concentration and bank risk-taking in Indonesian Islamic banking. *International Journal of Islamic and Middle Eastern Finance and Management* 18(3), 672–690.
<https://doi.org/10.1108/imefm-02-2024-0099>
- Zaini, F., & Kusuma, A. S. (2024). Market dominance in Indonesia's Islamic banking: Critical analysis from an industrial organisation perspective. *Journal of Finance and Islamic Banking*, 7(1), 1–24. <https://doi.org/10.22515/jfib.v7i1.8827>