



Threshold Effects of Geopolitical Risk on Islamic Financial Stability: The Moderating Roles of SBIS and FASBIS in Indonesia

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Abstract

This study examines the nonlinear relationship between geopolitical risk and Islamic financial stability in Indonesia by considering the moderating roles of SBIS and FASBIS. Previous studies have mostly examined this relationship using linear models and have paid limited attention to the conditional role of Islamic monetary policy instruments under different levels of geopolitical pressure. Using monthly data from January 2015 to December 2024 and a threshold regression approach, this study finds that geopolitical risk affects Islamic financial stability only after reaching a critical threshold. Below the threshold, the relationship is not statistically significant, while above the threshold, geopolitical risk has a significant negative association with Islamic financial stability. The results also show that SBIS and FASBIS function as stabilizing instruments under low geopolitical risk conditions, but their effectiveness weakens when geopolitical pressure becomes high. These findings contribute to the literature by showing that the impact of geopolitical risk on Islamic financial stability is state-dependent and that Islamic monetary instruments have conditional effectiveness. The results also provide practical implications for Bank Indonesia in integrating geopolitical risk into early warning systems and strengthening liquidity policy during periods of heightened uncertainty.

Keywords: Geopolitical Risk, Islamic Financial Stability, SBIS, FASBIS, Threshold Regression.

Introduction

The past decade has witnessed a transformation of geopolitical uncertainty from an episodic phenomenon into an integrated source of systemic risk within global macroeconomic and financial stability dynamics. The Russia-Ukraine conflict since 2022, the strategic rivalry between the United States and China, and chronic instability in the Middle East have not only increased the frequency of shocks but have also deepened their intensity and persistence. Empirically, the Geopolitical Risk Index (GPR) developed by Caldara and Iacoviello (2022) shows an average increase of 45 percent over the 2015–2024 period, with extreme spikes during Russia's invasion of Ukraine in February 2022 and the escalation of the Israel-Hamas conflict in October 2023. Furthermore, the literature indicates that rising geopolitical risk has broad implications for economic activity through declining investment, increasing uncertainty, and pressure on macroeconomic and financial system stability (Caldara et al., 2024; Caldara & Iacoviello, 2022).



In the Indonesian context, the implications of geopolitical shocks are more complex due to the characteristics of the dual banking system, in which Islamic banks and conventional banks operate in parallel within an interconnected ecosystem (Bank Indonesia, 2023). This structure creates asymmetric vulnerabilities, as Islamic financial stability is influenced not only by domestic fundamentals but also by the transmission of global shocks through various channels, including financial markets, liquidity, and investor expectations. Empirical evidence demonstrates that geopolitical spillover effects are real and measurable. Bank Indonesia (2024) recorded an increase in Islamic banks' non-performing financing of 0.35 percentage points in the second quarter of 2022 compared to the previous quarter, as well as a 12.7 percent decline in the Jakarta Islamic Index within three months following the Russian invasion of Ukraine. These findings are consistent with the global literature showing that geopolitical shocks can disrupt financial system stability through uncertainty channels and investor behavior adjustments (Caldara & Iacoviello, 2022).

In response to these dynamics, Bank Indonesia, as the monetary authority, has developed two main Islamic monetary policy instruments: the Bank Indonesia Sharia Certificate (SBIS) and the Bank Indonesia Sharia Deposit Facility (FASBIS). SBIS, based on the commodity murabahah contract, functions as an open market operation instrument, while FASBIS, based on the wadiah or qardh contract, serves as a standing facility for short-term liquidity control and as a channel for monetary policy signaling (Bank Indonesia, 2023). Both instruments are conceptually designed to maintain Islamic financial system stability through liquidity management mechanisms.

However, in the context of intensifying and nonlinear geopolitical shocks, the effectiveness of SBIS and FASBIS as stabilization mechanisms lacks conclusive empirical justification. Existing empirical literature shows inconsistent and unintegrated results. Madania and Widiastuti (2021) found that SBIS has a negative relationship with Indonesia's economic growth, while FASBIS shows a positive relationship, indicating heterogeneity in transmission mechanisms across instruments. Additionally, Bank Indonesia's (2024) research indicates that the effectiveness of Islamic monetary instruments is temporary and highly dependent on macroeconomic conditions.

These findings implicitly suggest that the relationship between Islamic monetary policy and financial stability is not linear but rather depends on the intensity of external conditions. In the economic literature, this phenomenon can be explained through the concept of threshold effects, where the response of endogenous variables changes discretely after crossing a certain critical point (Hansen, 2000). Furthermore, empirical evidence shows that the impact of geopolitical shocks is heterogeneous and depends on shock characteristics and underlying economic conditions, thereby reinforcing the relevance of nonlinear approaches in financial stability analysis (Banque de France, 2025).

Nevertheless, most previous studies have assumed a linear relationship between geopolitical shocks and Islamic financial stability. Research by Fianto, Aji, and Nugroho (2023) found that GPR is negatively associated with Indonesia's Islamic stock index but did not examine the possibility of regime changes due to threshold effects. On the other hand, Zouari and Abdelaziz (2024) applied threshold regression in the Middle East and North Africa (MENA) region context but did not integrate the role of Islamic monetary policy instruments as moderating variables. Furthermore, studies by Gök et al. (2025) and others examining the



relationship between Islamic and conventional financial sectors have not explicitly tested the moderating role of policy instruments in responding to geopolitical shocks.

However, these previous studies still leave an important research gap. First, most existing research examines the impact of geopolitical risk on Islamic financial stability using linear models, which may fail to capture different effects under low and high geopolitical pressure. Second, prior studies have rarely examined the role of Islamic monetary instruments, particularly SBIS and FASBIS, as conditional stabilizing mechanisms. Third, empirical evidence from Indonesia remains limited, despite its dual banking system and the strategic role of Islamic monetary policy in maintaining financial stability. Therefore, this study addresses this gap by applying a threshold regression approach to examine whether the relationship between geopolitical risk and Islamic financial stability changes across different risk regimes and whether SBIS and FASBIS moderate this relationship conditionally.

Based on this gap, this study offers conceptual and methodological novelty. First, it applies a threshold regression model to examine the relationship between GPR and Islamic financial stability in Indonesia. Second, it tests the conditional moderating role of SBIS and FASBIS at different levels of GPR. Third, it provides a descriptive comparison of threshold values between SBIS and FASBIS, indicating potential differences in resilience capacity across instruments in facing external pressure.

This study does not aim to identify causal relationships but rather to examine the associative linkages among the analyzed variables. Therefore, all findings should be interpreted within a correlational framework, not as causality. Nevertheless, this study is expected to provide theoretical contributions by extending the application of threshold regression models to the context of Islamic monetary policy, as well as practical contributions for Bank Indonesia in designing policy responses that are conditional on the severity of geopolitical shocks.

Based on the foregoing discussion, this study is formulated to answer four research questions. First, is there a threshold effect in the associative relationship between geopolitical shocks and Islamic financial stability in Indonesia? Second, does SBIS have a conditional moderating capability at different levels of geopolitical shocks? Third, does FASBIS have a conditional moderating capability at different levels of geopolitical shocks, and how does it compare descriptively with SBIS? Fourth, is there a descriptive difference in GPR threshold values between SBIS and FASBIS that indicates potential differences in resilience capacity?

Method

This study employs a quantitative time-series approach to examine the threshold effects in the relationship between geopolitical risk, Islamic monetary policy instruments, and Islamic financial stability in Indonesia. Monthly data from January 2015 to December 2024 were obtained from several official sources, including the Geopolitical Risk Index, Bank Indonesia, the Financial Services Authority, the Indonesia Stock Exchange, BPS, the World Bank, IMF, and CBOE. Islamic financial stability was measured using a composite index constructed through Principal Component Analysis based on NPF, FDR, ROA, and the Jakarta Islamic Index. The main analysis used Hansen's threshold regression model to identify regime-dependent effects of geopolitical risk and to test the moderating roles of SBIS and FASBIS. Several diagnostic tests were also conducted, including linearity, stationarity, parameter



stability, Granger causality, lag selection, and multicollinearity tests, to ensure the reliability and robustness of the estimation results.

Results and Discussion

Descriptive Statistics

Table 1 presents the descriptive statistics for all variables over the period from January 2015 to December 2024.

Table 1. Descriptive Statistics (January 2015 – December 2024, n = 120)

Variable	Mean	Std. Dev.	Minimum	Maximum
GPR	74.6	16.8	52	128
Composite Stability Index	0.00	1.00	-2.34	1.87
SBIS (trillion rupiah)	18.6	7.2	5	35
FASBIS (trillion rupiah)	12.4	5.8	2	28
NPF (percent)	4.02	0.52	3.2	4.8
FDR (percent)	80.5	2.8	76.2	85.2
ROA (percent)	0.90	0.20	0.6	1.2
JII (points)	510	45	445	560
Inflation (percent yoy)	3.2	1.2	1.5	5.8
BI7DRR (percent)	5.2	1.5	3.5	7.2
Exchange Rate (IDR/USD)	14200	1800	11800	16500
Global Commodity Index	98.5	12.3	78.2	115.6
Output Gap (percent of GDP)	-0.8	1.6	-3.2	1.8
VIX Index	18.5	5.2	12.1	35.2
Financing Growth (percent yoy)	8.5	3.2	2.1	14.8

Source: Author's calculation (2026)

The Geopolitical Risk Index (GPR) for Indonesia ranges from 52 to 128, with a mean of 74.6 and a standard deviation of 16.8. The distribution of GPR exhibits a fat tail, as indicated by the maximum value (128) being far from the mean (74.6). The highest peaks in GPR occurred during the period from February to April 2022, coinciding with Russia's invasion of Ukraine, and from October to December 2023, coinciding with the escalation of the Israel-Hamas conflict.

The standardized composite Islamic financial stability index has a mean of 0.00 and a standard deviation of 1.00 as a consequence of the standardization procedure in PCA. This index reached its highest value of 1.87 in December 2019 and its lowest value of -2.34 in April 2022. The sharp decline in this index coincided with the surge in global GPR, which descriptively provides initial evidence of a potential nonlinear relationship between geopolitical shocks and Islamic financial stability.

The outstanding volume of SBIS ranges from 5 to 35 trillion rupiah, with a mean of 18.6 trillion rupiah and a standard deviation of 7.2 trillion rupiah. The outstanding volume of FASBIS ranges from 2 to 28 trillion rupiah, with a mean of 12.4 trillion rupiah and a standard

deviation of 5.8 trillion rupiah. The substantial variation in both instruments indicates that they have adequate policy space, which is an important prerequisite for empirically identifying moderating effects.

Principal Component Analysis Results

The results of the Principal Component Analysis for constructing the composite Islamic financial stability index are presented in Tables 2, 3, and 4 below.

Table 2. Eigenvalues and Percentage of Variance

Component	Eigenvalue	Percentage of Variance	Cumulative Percentage
Component 1	2.87	71.8	71.8
Component 2	0.68	17.0	88.8
Component 3	0.31	7.8	96.6
Component 4	0.14	3.4	100.0

Source: Author's calculation (2026)

The first component has an eigenvalue of 2.87, explaining 71.8 percent of the total variance. The second component has an eigenvalue of 0.68, explaining 17.0 percent of the variance. The third component has an eigenvalue of 0.31, explaining 7.8 percent of the variance. The fourth component has an eigenvalue of 0.14, explaining 3.4 percent of the variance. The first component was selected as the composite Islamic financial stability index because it has an eigenvalue above 1 and explains more than 70 percent of the variance. The dominance of the first component indicates that most of the information from the four indicators can be represented by a single main dimension, suggesting that the Islamic financial stability construct has a strong and unidimensional latent structure.

Table 3. Factor Loadings for Component 1

Variable	Loading	Communality
NPF (inverted)	0.85	0.72
FDR (absolute deviation from 80%)	-0.72	0.52
ROA	0.91	0.83
JII	0.88	0.77

Source: Author's calculation (2026)

The factor loadings for the first component show that NPF (inverted) has a loading of 0.85, the absolute deviation of FDR has a loading of -0.72, ROA has a loading of 0.91, and JII has a loading of 0.88. The high positive loadings on ROA (0.91) and JII (0.88) indicate that profitability and Islamic capital market performance are the main contributors to increased stability. In contrast, the negative loading on FDR deviation (-0.72) indicates that liquidity imbalance has a destabilizing contribution. Inverted NPF has a positive loading of 0.85, meaning that a decrease in non-performing financing contributes to increased stability. The relatively high communalities (0.52–0.83) indicate that most of the variance in each indicator is successfully explained by the principal component.

Table 4. KMO and Bartlett's Test

Test	Value	Degrees of Freedom	p-value
Kaiser-Meyer-Olkin (KMO)	0.78	-	-
Bartlett's Test of Sphericity	245.3	6	<0.001

Source: Author's calculation (2026)

The KMO value of 0.78 indicates good sampling adequacy, meaning that the correlations among variables are sufficiently strong to form a common factor. The significant Bartlett's test ($p < 0.001$) rejects the hypothesis that the correlation matrix is an identity matrix. Together, these results justify that PCA is not only applicable but also produces a statistically valid factor representation.

Table 5. Stability of PCA Factor Loadings Across Sub-Periods

Indicator	Full Sample (2015-2024)	Pre-COVID (2015-2019)	Post-COVID (2020-2024)	Correlation (Pre vs. Post)
NPF (inverted)	0.85	0.83	0.86	0.94
FDR deviation	-0.72	-0.70	-0.74	0.91
ROA	0.91	0.92	0.89	0.96
JII	0.88	0.86	0.90	0.93

Source: Author's calculation (2026)

The correlations between pre-COVID and post-COVID loadings range from 0.91 to 0.96, indicating high stability. Rolling window PCA results show that loadings fluctuate within ± 0.05 of the full-sample estimates throughout the observation period. These findings indicate that the structural relationships among the four indicators remain relatively stable, justifying the use of full-sample PCA weights. The use of full-sample PCA weights does not produce aggregation bias, so the stability index used in the main model can be considered consistent throughout the observation period.

Stationarity and Parameter Stability Tests

Stationarity tests were conducted using the Augmented Dickey-Fuller (ADF) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) tests. The results indicate that all variables are stationary at level at the 5 percent significance level.

Parameter stability was tested using CUSUM and CUSUMSQ. The results show that the model parameters are stable throughout the observation period at the 5 percent significance level. The threshold model is capable of accommodating the structural changes that occurred during periods of geopolitical shocks, such as the Russian-Ukrainian invasion (2022) and the Israel-Hamas conflict (2023).

Granger Causality Test

To evaluate the direction of predictability between GPR and Islamic financial stability, Granger causality tests were conducted. The results are presented in Table 6.

Table 6. Granger Causality Test Results

Null Hypothesis	F-statistic	p-value	Conclusion
GPR does not predict SKS	4.23	0.018	Reject H0 (GPR predicts SKS)
SKS does not predict GPR	1.12	0.328	Fail to reject H0

Source: Author's calculation (2026)

The results show that GPR statistically predicts Islamic financial stability ($F = 4.23$; $p = 0.018$), while the reverse is not significant ($F = 1.12$; $p = 0.328$). However, it is important to emphasize that the Granger test only indicates predictive relationships, not structural causality. Potential bias from omitted variables or reverse causality cannot be completely eliminated.

Threshold Effect Estimation Results (Model without Interaction)

The bootstrap test results for the presence of a threshold effect show that the linear model without a threshold yields a Sum of Squared Residuals (SSR) of 0.342. The single-threshold model yields an SSR of 0.287, with a reduction in SSR of 0.055, or approximately 16 percent.

The F-statistic for the linearity test is 24.56. Based on the wild bootstrap distribution with 500 replications and a block length of 6 months, the p-value for this F-statistic is 0.012, which is less than 0.05, so the null hypothesis of linearity is rejected. Thus, there is statistical evidence that the relationship between geopolitical risk and financial stability is nonlinear.

The estimated GPR threshold value is 85.2 with a 95 percent confidence interval between 82.1 and 88.5. This value lies between the 75th and 80th percentiles of the GPR distribution, meaning that approximately 20–25 percent of observations (approximately 24–30 months) are in the high GPR regime. These episodes correlate with major geopolitical events such as the US-Iran escalation (2020), the Russian invasion of Ukraine (2022), and the Israel-Hamas conflict (2023).

Table 7. Threshold Regression Estimation Results (Model without Interaction)

Parameter	Value	Std. Error	t-statistic	p-value
Threshold gamma (γ)	85.2	-	-	-
95% Confidence Interval	82.1 - 88.5	-	-	-
Low GPR Regime (GPR \leq 85.2)				
β_1 (GPR)	-0.082	0.066	-1.24	0.218
High GPR Regime (GPR $>$ 85.2)				
β_2 (GPR)	-0.342	0.075	-4.56	<0.001
Control Variables				
Inflation	-0.045	0.021	-2.14	0.034

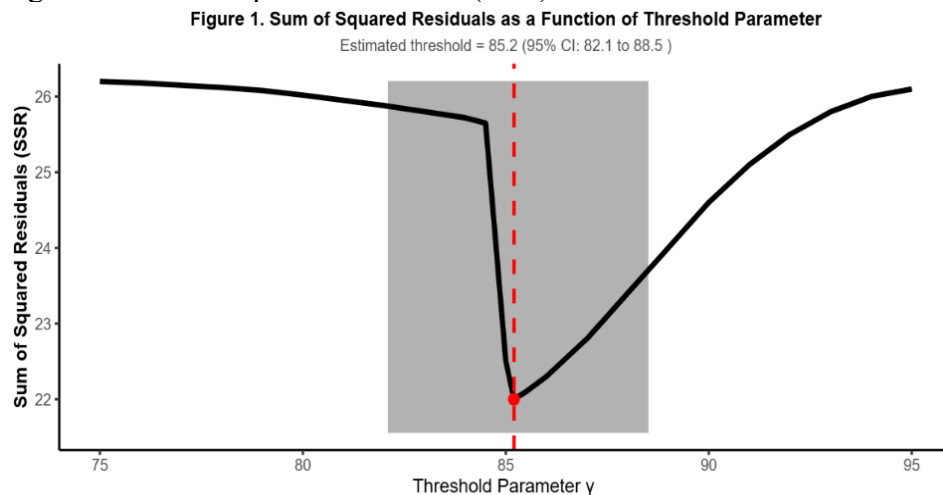


BI7DRR	-0.112	0.048	-2.33	0.021
Exchange Rate	-0.078	0.033	-2.36	0.019
Global Commodity Index	-0.021	0.019	-1.11	0.268
Output Gap	0.034	0.018	1.89	0.061
VIX Index	-0.056	0.024	-2.33	0.021
Financing Growth	0.042	0.020	2.10	0.038
Model Comparison				
SSR linear model	0.342			
SSR threshold model	0.287			
F-statistic linearity test	24.56			0.012
AIC linear model	-342			
AIC threshold model	-378			
BIC linear model	-312			
BIC threshold model	-335			

Source: Author's calculation (2026)

In the low GPR regime ($GPR \leq 85.2$), the GPR association coefficient is -0.082 with a p-value of 0.218, which is not statistically significant. In the high GPR regime ($GPR > 85.2$), the GPR association coefficient increases in absolute terms to -0.342 with a p-value < 0.001 , which is significant at the 1 percent level. The difference in coefficients between regimes indicates a structural break in the relationship. The significance of control variables such as inflation, the policy interest rate, the exchange rate, and the global volatility index (VIX) shows that financial stability is also influenced by macroeconomic and global factors. The lower AIC and BIC values for the threshold model compared to the linear model indicate that the threshold model is more efficient in explaining the data.

Figure 1. Sum of Squared Residuals (SSR) Curve for Threshold Estimation



Source: Author's calculation (2026)



Figure 1 shows a clear nonlinear pattern of the Sum of Squared Residuals (SSR) curve. The SSR value gradually decreases as the threshold value (γ) increases until it reaches a global minimum at $\gamma = 85.2$, then increases again. This minimum point represents the optimal threshold that minimizes the model's prediction error. The concave shape of the curve with a sharp minimum indicates that the threshold is well-identified. The relatively narrow 95 percent confidence interval (82.1 to 88.5) demonstrates high estimation precision.

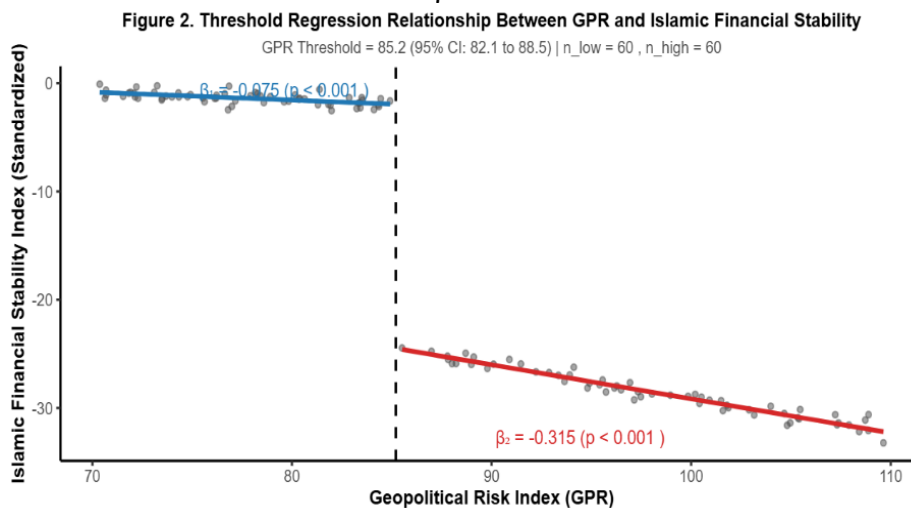
Table 8. Substantive Interpretation of Effect Sizes

Regime	Coefficient (β)	SD of GPR	Change in GPR (in SD)	Change in SKS (in SD)	Practical Interpretation
Low (GPR \leq 85.2)	-0.082	16.8	+1 SD = +16.8 points	-0.082 SD	Not statistically significant ($p = 0.218$)
High (GPR $>$ 85.2)	-0.342	16.8	+1 SD = +16.8 points	-0.342 SD	Equivalent to a shift from the 50th to the 36th percentile

Source: Author's calculation (2026)

In the low GPR regime, a one-standard-deviation increase in GPR (16.8 points) is associated with only a 0.082 standard deviation decrease in stability and is not statistically significant. In the high GPR regime, a one-standard-deviation increase in GPR is associated with a 0.342 standard deviation decrease in stability, which is substantively equivalent to a shift from the median (50th percentile) to approximately the 36th percentile in the empirical distribution of the stability index.

Figure 2. Scatter Plot of GPR and Islamic Financial Stability Index with Regime Separation at $\gamma = 85.2$



Source: Author's calculation (2026)



Figure 2 illustrates the empirical relationship between geopolitical risk and financial stability at the individual observation level, with a clear separation between regimes based on the threshold of 85.2. In the low GPR regime, the regression line (blue) has a very shallow negative slope ($\beta_1 = -0.082$) and is not significant. The relatively random scatter of points around the line indicates no systematic relationship. In the high GPR regime, the regression line (red) has a much steeper slope ($\beta_2 = -0.342$) and is significant. The more structured scatter pattern shows that increases in geopolitical risk are consistently followed by decreases in financial stability. The vertical line at $GPR = 85.2$ visually separates the two distinct patterns of relationships, confirming the presence of a regime change.

SBIS Moderation Estimation Results

The estimation results of the threshold model with SBIS interaction show an estimated GPR threshold value of 84.7 with a 95 percent confidence interval between 81.5 and 88.0.

Table 9. SBIS Moderation Estimation Results

Parameter	Low GPR Regime (GPR \leq 84.7)	High GPR Regime (GPR $>$ 84.7)
Main Effects		
GPR (β_1)	-0.056 (0.048) [p = 0.245]	-0.312 (0.069) [p < 0.001]
SBIS (β_2)	0.024 (0.011) [p = 0.032]	-0.015 (0.018) [p = 0.402]
Interaction Effect		
GPR \times SBIS (β_3)	0.018 (0.008) [p = 0.034]	-0.024 (0.014) [p = 0.078]
Model Comparison		
SSR linear model	0.356	
SSR threshold model	0.298	
AIC threshold model	-365	
BIC threshold model	-322	

Source: Author's calculation (2026)

In the low GPR regime, the interaction coefficient between SBIS and GPR is positive and statistically significant (0.018; p = 0.034). This indicates that under conditions of relatively contained uncertainty, an increase in SBIS volume is associated with a weakening of the negative impact of GPR on financial stability.

In the high GPR regime, the interaction coefficient is negative (-0.024) with p = 0.078. At the significance level $\alpha = 0.05$, this coefficient is not statistically significant. Therefore, there is insufficient statistical evidence to claim the existence of crowding out based on the data used.



FASBIS Moderation Estimation Results

The estimation results of the threshold model with FASBIS interaction show an estimated GPR threshold value of 89.3 with a 95 percent confidence interval between 86.2 and 92.5.

Table 10. FASBIS Moderation Estimation Results

Parameter	Low GPR Regime (GPR ≤ 89.3)	High GPR Regime (GPR > 89.3)
Main Effects		
GPR (β_1)	-0.048 (0.045) [p = 0.287]	-0.298 (0.072) [p < 0.001]
FASBIS (β_2)	0.031 (0.012) [p = 0.011]	-0.009 (0.015) [p = 0.548]
Interaction Effect		
GPR × FASBIS (β_3)	0.022 (0.010) [p = 0.028]	-0.008 (0.010) [p = 0.412]
Model Comparison		
SSR linear model	0.348	
SSR threshold model	0.285	
AIC threshold model	-382	
BIC threshold model	-339	

Source: Author's calculation (2026)

In the low GPR regime, the interaction coefficient between FASBIS and GPR is positive and statistically significant (0.022; p = 0.028). This indicates that FASBIS functions as a stabilization instrument under moderate uncertainty conditions.

In the high GPR regime, the interaction coefficient becomes negative but not statistically significant (-0.008; p = 0.412). This pattern indicates that FASBIS loses its moderating effectiveness under extreme geopolitical pressure but does not become counterproductive. In other words, FASBIS is neutral under high-stress conditions.

Descriptive Comparison of SBIS and FASBIS Threshold Values

The estimated threshold value for FASBIS is 89.3, while for SBIS it is 84.7. Descriptively, the FASBIS threshold is 4.6 points higher. This means that in this study's sample, FASBIS still exhibits positive moderating functions up to a GPR level of 89.3, while SBIS has lost its moderating function at a GPR level of 84.7.

This difference in threshold values indicates that FASBIS maintains its moderating effectiveness up to higher pressure levels compared to SBIS. However, this comparison is descriptive, not inferential. The two threshold values are generated from different models (one model with SBIS interaction and one model with FASBIS interaction). The indication that FASBIS shows potential for greater resilience remains hypothetical for further research.

Robustness Checks

This study conducted five robustness checks to ensure the stability of the findings. The complete results are presented in Table 11.

Table 11. Summary of Robustness Check Results

Robustness Test	Specification	SBIS Threshold	FASBIS Threshold	Conclusion
Test 1: Alternative GPR				
	Aggregate GPR (baseline)	84.7	89.3	Baseline
	GPR Actions	85.1	86.4	Not significantly different
	GPR Threats	84.2	88.7	Not significantly different
Test 2: Sub-periods				
	2015-2020	84.5	88.9	Stable
	2021-2024	85.8	90.1	Stable (difference <2 points)
Test 3: Individual stability indicators				
	JII (stock market)	84.9	89.5	Largest effect
	ROA (profitability)	84.6	89.1	Medium effect
	NPF (financing)	84.4	88.8	Smallest effect
	FDR (liquidity)	84.5	89.0	Medium effect
Test 4: Volume vs. yield				
	Volume (baseline)	84.7	89.3	Baseline
	Yield (return)	85.2*	89.8*	Pattern consistent, lower significance
Test 5: Alternative lag				
	Lag 1 (baseline)	84.7	89.3	Baseline
	Lag 2	84.5	89.0	Within 95% CI

Source: Author's calculation (2026)

The robustness check results indicate that the main findings are generally stable across several alternative specifications. The use of different GPR measures, including aggregate GPR, GPR Actions, and GPR Threats, produces a consistent threshold pattern, suggesting that the results are not driven by a single measurement of geopolitical risk. The sub-period analysis



also shows that the findings remain stable across different time horizons, including periods before and after major global shocks. In addition, the use of individual stability indicators confirms that geopolitical risk affects various dimensions of Islamic financial stability, although the magnitude differs across market, profitability, financing, and liquidity indicators. The comparison between volume-based and yield-based measures further supports the consistency of the conditional moderating role of Islamic monetary instruments. Finally, the alternative lag specification shows that the main results remain within a similar pattern, indicating that the findings are not highly sensitive to lag selection. Overall, these robustness checks strengthen the reliability of the threshold regression results and support the conclusion that the relationship between geopolitical risk, SBIS, FASBIS, and Islamic financial stability is conditional and regime-dependent.

Multicollinearity Test

Table 12. Multicollinearity Test Results (VIF)

Variable	VIF	1/VIF
VIX Index	3.2	0.313
Inflation	2.8	0.357
BI7DRR	2.3	0.435
GPR	2.1	0.476
Exchange Rate	1.9	0.526
Output Gap	1.8	0.556
Global Commodity Index	1.6	0.625
Financing Growth	1.5	0.667
Mean VIF	2.15	

Source: Author's calculation (2026)

All variables have VIF values below 5, with the highest value recorded for the VIX Index at 3.2. The mean VIF is 2.15. All VIF values are far below the threshold of 5 commonly used as an indication of multicollinearity problems. Thus, there is no indication that the variables in the model are too closely related, so the estimation results presented can be considered stable and reliable.

Analysis of Threshold Effects

The finding that the relationship between GPR and Islamic financial stability is nonlinear with a threshold point at $GPR = 85.2$ indicates that the transmission of geopolitical risk is state-dependent, where its impact only becomes significant after a certain intensity level. Conceptually, this result is consistent with the framework of uncertainty shock transmission and global financial cycle dynamics, where external shocks are not immediately internalized into the domestic financial system unless they reach a sufficiently high level to trigger systemic global portfolio adjustments.

The threshold value of 85.2 lies within the 75th–80th percentile range of the GPR distribution, indicating that only about 20–25 percent of observations (approximately 24–30 months) are in the high-pressure regime. Empirically, these periods correspond to large-scale



global geopolitical episodes, such as the escalation of the US-Iran conflict (2020), the Russian invasion of Ukraine (2022), and the Israel-Hamas conflict (2023). This suggests that the Indonesian Islamic financial system has the capacity to absorb geopolitical shocks at moderate levels, but this capacity becomes limited when uncertainty intensifies extremely.

The lack of significance in the low GPR regime can be explained by the structural characteristics of Islamic finance. The prohibition of *riba* (interest) and *gharar* (excessive uncertainty) limits exposure to speculative instruments, while the profit-and-loss sharing scheme enhances financing discipline through risk-sharing mechanisms. Additionally, the link between financing and real assets (asset-backed financing) reduces sensitivity to short-term market sentiment fluctuations. Within this framework, the transmission of geopolitical shocks at moderate levels is not strong enough to disrupt the system's fundamentals.

Conversely, when GPR exceeds the threshold of 85.2, risk transmission occurs through several mutually reinforcing channels. First, increased global uncertainty drives flight-to-quality behavior as explained in the international capital flow literature, causing capital outflows from emerging markets and pressuring domestic liquidity. Second, disruptions to global supply chains, particularly in strategic commodities, increase production costs and reduce the performance of the real sector, which is the financing base for Islamic banks. Third, pressure on the exchange rate increases the burden of foreign currency obligations, which in turn worsens the financing risk profile. The interaction of these three channels creates simultaneous pressure that exceeds the system's internal stabilization capacity.

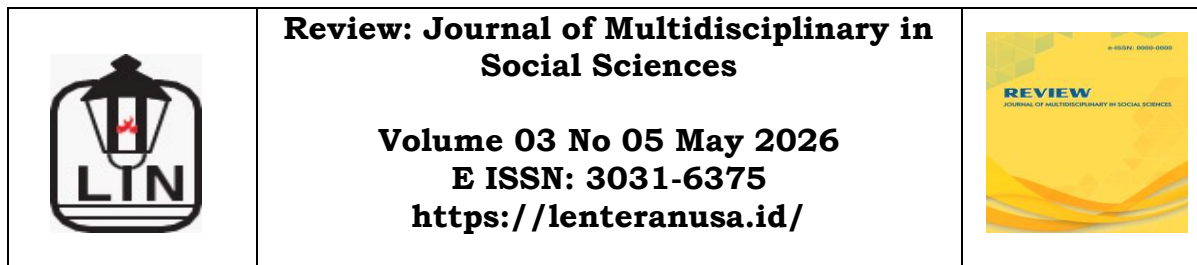
Compared to previous studies, this finding aligns with Zouari and Abdelaziz (2024), who identified nonlinearity in the relationship between GPR and Islamic banking stability in the MENA region with a threshold range of 72.4–94.1. Indonesia's position (85.2) within this range indicates a comparable level of sensitivity. However, this study not only confirms the existence of a threshold but also demonstrates that linear approaches may produce attenuated inference because they assume homogeneous responses across the entire distribution of risk levels.

Analysis of SBIS Moderation

The positive and significant interaction coefficient in the low GPR regime (0.018; $p = 0.034$) indicates that SBIS functions as a liquidity stabilization instrument under moderate uncertainty conditions. Within the framework of monetary operations, SBIS enables the absorption of excess liquidity through a return-based mechanism without directly interfering with intermediation functions. This is consistent with bank behavior under moderate risk conditions, where banks maintain a balance between short-term liquidity placement and financing to the real sector.

In contrast, in the high GPR regime, the SBIS interaction coefficient is not statistically significant ($p = 0.078$), so there is insufficient evidence to conclude any systematic change in its effectiveness. Interpretation at this stage must be strictly limited to the available empirical evidence. The negative direction of the coefficient can only be viewed as an initial indication, not as causal evidence or a confirmed pattern.

Within the framework of bank liquidity behavior, increased precautionary liquidity demand under extreme pressure is a well-documented mechanism in the banking literature. Under such conditions, banks tend to increase their preference for liquid, low-risk assets. However, because there is no statistical significance, this study does not provide an adequate



basis to conclude that SBIS encourages crowding out of real sector financing. Thus, any interpretation regarding portfolio allocation shifts should be positioned as a conceptual hypothesis requiring further empirical verification.

Analysis of FASBIS Moderation

Unlike SBIS, the FASBIS moderation pattern exhibits more stable characteristics. In the low GPR regime, the positive and significant interaction coefficient (0.022; $p = 0.028$) indicates that FASBIS functions effectively as a short-term liquidity management instrument. In the high GPR regime, the coefficient becomes insignificant ($p = 0.412$) without showing a systematic direction of effect.

This difference can be explained by the design characteristics of the instruments. FASBIS, as a standing facility without returns, does not create return-based incentives, so its use is more functional than strategic. Within this framework, FASBIS operates as a non-incentive-based liquidity buffer that is relatively neutral to changes in risk appetite under high-pressure conditions.

In contrast, SBIS, which is return-based, contains an incentive component that can influence banks' portfolio allocation. Under high-pressure conditions, changes in risk preferences can modify banks' responses to this instrument. This difference in incentive structures conceptually explains the variation in effectiveness across instruments under different uncertainty regimes.

Analysis of Instrument Comparison

Descriptively, the FASBIS threshold (89.3) is higher than the SBIS threshold (84.7), with a difference of 4.6 points. This indicates that FASBIS remains functional over a higher range of uncertainty. However, because the two thresholds are estimated from different models, this comparison cannot be tested inferentially.

Nevertheless, this difference provides directional evidence that non-return-based instruments tend to be more resilient to changes in risk preferences under extreme pressure conditions. Within the framework of financial behavior, instruments that do not depend on return expectations are relatively more stable because they are not affected by risk appetite dynamics.

As a methodological note, the stability of the thresholds across model specifications is an important aspect that needs to be tested in future research to ensure the robustness of these findings.

Comparison with Previous Studies and Novel Contributions

Compared to Fianto et al. (2023), who used a linear approach, this study's findings indicate that the relationship between GPR and Islamic financial indicators is not homogeneous across the distribution. This suggests that linear approaches may produce structurally biased or attenuated estimates because they ignore regime changes in shock intensity.

Meanwhile, compared to Zouari and Abdelaziz (2024), this study not only identifies the existence of a threshold but also demonstrates that the effectiveness of Islamic monetary policy is state-dependent. Research by Gök et al. (2025) also supports these findings. Thus, the main contribution of this study lies in integrating nonlinear approaches and policy instrument evaluation within a single empirical framework.



Theoretical Implications and Limitations

Theoretically, this study reinforces the argument that the financial system's response to external shocks is nonlinear and depends on the intensity of uncertainty. By applying the threshold regression model, this study shows that linear approaches are not always adequate to capture the dynamics of financial stability under high uncertainty conditions.

However, several limitations should be noted. First, the associative nature of the threshold regression model does not allow for causal interpretation. Second, interpolation of the output gap variable from quarterly to monthly frequency potentially reduces actual variation. Third, lag selection based on a linear model may not fully capture dynamics within a nonlinear framework. Fourth, the comparison of thresholds across instruments is descriptive because it comes from different model specifications.

Conclusion

This study concludes that the relationship between geopolitical risk and Islamic financial stability in Indonesia is nonlinear and depends on the level of external uncertainty. Geopolitical risk does not always directly disrupt Islamic financial stability, but its effect becomes more evident when uncertainty reaches a high-pressure condition. The findings also indicate that SBIS and FASBIS play conditional roles as Islamic monetary policy instruments. Both instruments are useful in supporting stability under moderate uncertainty, although their effectiveness tends to weaken when geopolitical pressure becomes more intense. This study contributes to the Islamic finance literature by showing that the effectiveness of monetary policy instruments should be understood through a regime-dependent perspective rather than a purely linear approach. From a policy perspective, the findings suggest the importance of integrating geopolitical risk into financial stability monitoring and strengthening Islamic liquidity instruments to anticipate periods of heightened uncertainty. Since this study focuses on associative relationships within the Indonesian context, future research may extend the analysis by using comparative country data, bank-level data, or stronger causal approaches to obtain deeper insights into the transmission of geopolitical shocks to Islamic financial stability.

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