

OWNERSHIP STRUCTURE AS A RESILIENCE MODERATOR: PHASE-DEPENDENT ASYMMETRIC DRAWDOWN DYNAMICS IN BLUE-CHIP VERSUS BROAD-MARKET INDICES DURING A GEOPOLITICAL CRISIS



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ABSTRACT

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Background: Geopolitical armed-conflict events generate severe multi-phase disruptions in emerging market equity markets. When concentrated foreign institutional ownership characterises the blue-chip segment, a structural outflow paradox may invert the classical flight-to-quality prediction, rendering fundamentally stronger equities the preferred vehicle for programmatic capital exit.

Purpose: This study investigates whether concentrated foreign ownership in LQ45 generates a systematic flight-to-quality inversion across three phases of the 2026 Iran-Israel-US geopolitical crisis on the Indonesia Stock Exchange.

Design/methodology/approach: Maximum Drawdown and Cumulative Return are calculated from daily closing prices ($n = 24$ trading days) for LQ45 and the Jakarta Composite Index across three crisis clusters: K1 Initial Panic, K2 Energy Crisis, and K3 Resolution and Recovery, employing multi-cluster phase analysis to reject the temporal homogeneity assumption of single-window event studies.

Findings/Result: LQ45 underperforms IHSG on Cumulative Return across all clusters, with the differential widening from 0,89 to 2,27 percentage points. The K1-to-K2 Maximum Drawdown reversal confirms that foreign rebalancing concentrates selling pressure on the most liquid segment. The K3 asymmetry (IHSG: +2,02%; LQ45: -0,25%) reflects the advantage of a domestically anchored investor base in capturing de-escalation signals.

Conclusion: These findings introduce the Phase-Dependent Asymmetric Resilience Model (PDARM) as a conditional framework for predicting flight-to-quality inversion in ownership-heterogeneous emerging markets, with implications for portfolio allocation and market stabilisation.

Originality/value (State of the art): This study is the first intra-exchange, multi-phase characterisation of the 2026 Middle East crisis on the Indonesia Stock Exchange, showing that ownership-driven resilience asymmetry is measurable within a single exchange under identical shock conditions.

Keywords:

geopolitical risk,
capital outflow,
market resilience,
emerging markets,
Indonesia Stock
Exchange

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INTRODUCTION

Geopolitical crises originating from the Middle East have repeatedly demonstrated their capacity as the most systemically destructive triggers of volatility in global capital markets. Unlike conventional economic risks that transmit their effects through gradual fundamental channels, geopolitical risk (GPR) operates through two simultaneous transmission mechanisms. Caldara

and Iacoviello (2022) formalise GPR measurement through a news-based index and establish a critical empirical distinction between geopolitical acts (GPR-A), comprising actual armed conflict, and geopolitical threats (GPR-T), comprising diplomatic tensions, demonstrating that GPR-A episodes generate materially larger and more persistent equity market effects. The first transmission pathway is the energy supply shock channel: Hamilton (2009) establishes that

geopolitically driven oil price disruptions propagate through cost-push inflation, reduced consumer purchasing power, and corporate uncertainty well beyond the energy sector, while Kilian and Park (2009) isolate the precautionary demand shock component as the primary equity return depressor. The second is the psychological panic channel: Berkman, Jacobsen, and Lee (2011), analysing 447 international political crises spanning 1918 to 2006, demonstrate that time-varying rare disaster risk exerts a large negative impact on global equity returns with temporal precedence over fundamental channels, meaning markets reprice assets before the physical consequences of conflict become economically measurable. These two channels are structurally parallel but temporally differentiated: the panic channel dominates in the immediate aftermath of the triggering event, while the energy channel progressively asserts dominance as supply disruption data accumulates.

The coordinated US-Israeli airstrikes on Iran on 28 February 2026, subsequently followed by the effective closure of the Strait of Hormuz by Iran's Islamic Revolutionary Guard Corps, materialised a scenario previously confined to hypothetical stress-testing frameworks. Brent crude prices surged to USD 80-83 per barrel in early March before stabilising above USD 103 per barrel throughout the month (Federal Reserve Bank of Dallas, 2026). For Indonesia's capital market, as a net oil importer, Basher and Sadorsky (2006) have shown that oil price shocks co-move negatively with domestic equity valuations through fiscal deterioration, current account widening, and Rupiah depreciation. Salisu, Ogbonna, Lasisi, and Olaniran (2022), employing a GARCH-MIDAS framework across 20 emerging markets, further confirm that Indonesia exhibits above-average sensitivity to geopolitically driven oil price volatility. These compounding pressures were empirically confirmed: the LQ45 Index recorded a cumulative decline of -8,35%, while the Jakarta Composite Index (IHSG) depreciated by -7,07% over the period from 2 March to 10 April 2026, with both indices reaching a common trough on 7 April before staging a significant rebound following the announcement of a two-week ceasefire (CNBC, 2026; Al Jazeera, 2026).

This divergence presents a theoretically significant anomaly. The classical flight-to-quality (FtQ) hypothesis posits that during periods of crisis, rational investors migrate toward assets with the strongest fundamentals

and highest liquidity, including large-capitalisation blue-chip equities (Caballero and Krishnamurthy, 2008). Longstaff (2004) confirms the strength of the safe-haven demand mechanism by documenting that flight-to-liquidity premia can exceed 15% of bond value during acute stress episodes. Under this premise, the LQ45 Index, comprising the 45 most liquid and largest-capitalisation stocks listed on the Indonesia Stock Exchange (IDX), should exhibit superior resilience relative to IHSG. However, Beber, Brandt, and Kavajecz (2009), examining Euro-area bond markets, empirically disentangle flight-to-quality from flight-to-liquidity, finding that capital movements during heightened uncertainty are driven almost exclusively by liquidity characteristics rather than credit quality, a distinction consequential for emerging market analysis. Baur and McDermott (2010) further demonstrate that the FtQ mechanism operates differently across market tiers, while Das, Kannadhasan, and Bhattacharyya (2019), examining 24 emerging markets, find that GPR-to-equity transmission is mediated by structural market characteristics rather than operating universally. The conditionality of FtQ becomes most consequential when the blue-chip segment carries the highest foreign ownership concentration: the fundamentally stronger segment absorbs greater selling pressure precisely because its superior liquidity makes it the preferred vehicle for programmatic institutional exit, constituting the central theoretical paradox motivating this study.

The structural inversion of the FtQ mechanism is most coherently explained through the push-pull framework of capital flow determinants. Fratzscher (2012), using high-frequency portfolio flow data across 50 economies, demonstrates that global push factors dominated capital outflows during the 2008 global financial crisis, rendering exit decisions largely independent of domestic fundamental quality. Koepke (2019), synthesising 34 empirical studies, confirms that push factors matter most precisely for portfolio equity flows, the flow category most directly relevant to foreign participation in blue-chip segments. Forbes and Warnock (2012) establish that extreme capital flow episodes are triggered primarily by global risk factors including VIX, confirming the globally synchronised character of outflows. At the micro level, Jotikasthira, Lundblad, and Ramadorai (2012) document that developed-market funds facing redemption outflows are compelled to liquidate their most marketable emerging market positions, concentrating selling pressure on the highest-liquidity stocks. This liquidity paradox

is structurally specific to emerging markets with concentrated foreign blue-chip ownership: the superior liquidity that attracts foreign investors during normal conditions simultaneously makes these securities the preferred exit vehicle during global deleveraging. Rhee and Wang (2009), examining the IDX specifically, find that concentrated foreign institutional ownership in blue-chip Indonesian stocks is associated with wider bid-ask spreads and higher price sensitivity to foreign fund flows, providing direct empirical evidence that this fire-sale mechanism operates precisely in the LQ45 segment. Bekaert, Ehrmann, Fratzscher, and Mehl (2014) further corroborate that contagion during the 2008 crisis was amplified in emerging market segments with stronger pre-crisis foreign investor presence.

The re-entry of foreign institutional capital during recovery is equally asymmetric. Chari, Dilts Stedman, and Lundblad (2021) document empirically that emerging market outflows during global risk-off episodes are systematically larger and more sustained than corresponding inflows during recovery, as re-entry requires confirmation of durable de-escalation unconstrained by institutional risk frameworks that domestic investors do not face. Hoque and Zaidi (2020), examining GPR effects across fragile five economies including Indonesia, find heterogeneous and time-varying GPR sensitivity shaped by the degree of financial openness and the concentration of foreign portfolio participation. Bounou and Yatie (2022), using the Russia-Ukraine invasion as a natural experiment, confirm that global GPR-A events trigger capital flight specifically from emerging market equities rather than from equity as an asset class. Smales (2021) documents volatility spillovers from GPR events through oil price volatility to equity markets, while Bouras, Christou, Gupta, and Suleman (2019) confirm, using a panel GARCH model across 18 emerging economies, that global GPR dominates country-specific GPR in driving emerging market volatility through synchronised cross-border portfolio rebalancing. Zaremba, Cakici, Demir, and Long (2022) further establish that GPR deterioration generates heterogeneous cross-sectional return premia across emerging market segments, indicating that aggregate index-level responses coexist with constituent-level dispersions driven by ownership and liquidity characteristics. Boubaker, Goodell, Pandey, and Kumari (2022), examining the Ukraine invasion across global equity markets, confirm that wars generate heterogeneous impacts consistent with market structure and investor composition. Collectively, this

body of evidence establishes that the Indonesian capital market, with its concentrated foreign blue-chip ownership architecture, is structurally positioned to exhibit the inversion of the classical FtQ hierarchy during a severe GPR-A event.

The extant literature leaves three critical gaps unresolved. First, the absence of systematic intra-exchange comparisons: the majority of studies treat the market as a single aggregate entity or conduct cross-country comparisons without decomposing resilience divergence between market segments within the same exchange. Second, the problem of temporal homogeneity: conventional event study approaches employing a single event window treat the entire crisis period as one undifferentiated episode, whereas the dominant narrative of a crisis evolves progressively across materially distinct phases with different implications for each segment. Third, the novelty of the event itself: the 2026 Iran-Israel-US conflict constitutes a natural experiment that remains undocumented in the academic literature, leaving no empirical reference point for the IDX context specifically.

Against this background, this study develops the Phase-Dependent Asymmetric Resilience Model (PDARM) as a conditional framework for explaining the differential response of equity indices to geopolitical shocks. The framework posits that a GPR-A event simultaneously activates the energy supply shock channel and the psychological panic channel, with their relative dominance evolving across three distinct phases. The investor base composition functions as a moderating variable: indices with concentrated foreign institutional ownership, such as LQ45, are more exposed to programmatic capital outflows driven by global risk management constraints, while domestically anchored indices, such as IHSG, are relatively insulated from such external mandates. In K1, both channels activate simultaneously generating broad-based pressure with limited differentiation; in K2, the energy channel asserts dominance as foreign institutional rebalancing intensifies, producing disproportionate decline in LQ45; in K3, declining uncertainty partially restores risk appetite but foreign capital re-entry remains lagged, generating asymmetric recovery favouring the domestically anchored index. This study is guided by three explicit research questions. RQ1: How do the Maximum Drawdown profiles of LQ45 and IHSG compare across each of the three analytically distinct crisis phases, and in which phase does the resilience

differential reach its maximum magnitude? RQ2: Does the direction of the resilience differential reverse across crisis phases, consistent with the PDARM-predicted shift from the panic channel to the structured capital outflow channel? RQ3: During the resolution and recovery phase, does IHSG record a materially higher Cumulative Return than LQ45, providing empirical support for the structural recovery advantage of a domestically anchored investor base?

METHODS

This study adopts a quantitative descriptive research design, the objective of which is to measure, map, and comparatively characterise the magnitude of equity index decline and recovery across three analytically distinct crisis phases. The descriptive quantitative tradition is well-established in geopolitical shock analysis applied to emerging market capital markets, where the primary analytical task is accurate characterisation of price dynamics under conditions of external stress (Berkman et al., 2011; Caldara and Iacoviello, 2022). The deliberate exclusion of inferential statistical tests rests on two epistemological grounds. First, the observation count per cluster falls materially below the minimum threshold required for parametric normality assumptions. Second, the research objective is the construction of an interpretive narrative supported by absolute magnitude comparisons, in which context descriptive metrics calculated directly from observed prices carry stronger epistemological validity.

The study examines two equity indices traded on the IDX: the LQ45 Index (ticker: .JKLQ45), comprising the 45 largest-capitalisation and most liquid stocks characterised by dominant foreign institutional ownership; and the Jakarta Composite Index or IHSG (ticker: .JKSE), representing the aggregate performance of all stocks listed on the IDX and reflecting the full investor spectrum. The observation period spans 40 calendar days (24 active trading days) from 2 March to 10 April 2026. The start date of 2 March 2026, rather than 28 February 2026 (the date of the military strikes), is methodologically justified by the fact that the strikes occurred on a Saturday when the IDX was closed; 2 March 2026 therefore constitutes the first trading session in which the Indonesian capital market could fully process the shock information. The end date of 10 April 2026 coincides with the commencement of the US-Iran peace negotiations in Islamabad,

which empirically marks the conclusion of the acute uncertainty phase. Daily closing price data for both indices are sourced from Refinitiv Eikon via the Price History service. All data processing, metric calculation, and visualisation procedures are executed in R version 4.2.0 using the dplyr, ggplot2, patchwork, and writexl packages.

Operational Definitions and Variable Measurement

Market resilience is operationalised through two complementary metrics. Maximum Drawdown (MDD) is adopted as the primary metric operationalising absorption capacity. Chekhlov, Uryasev, and Zabarankin (2005) establish the theoretical foundation of drawdown-based risk measurement by introducing the Conditional Drawdown-at-Risk family, of which MDD constitutes the limiting upper bound, demonstrating that its optimisation provides a coherent alternative to Value-at-Risk in portfolio risk management. Goldberg and Mahmoud (2017) strengthen this case by proving that Conditional Expected Drawdown is substantially more sensitive to serial correlation in return sequences than either VaR or Expected Shortfall, making it a superior detector of sustained market stress. Mendes and Lavrado (2017), validating MDD-based estimation across eight international stock indices, confirm greater accuracy and responsiveness to volatility regime transitions relative to VaR. Zabarankin, Pavlikov, and Uryasev (2014) further integrate drawdown measures into the Capital Asset Pricing Model framework, establishing that drawdown risk premiums are consistent with equilibrium asset pricing under risk aversion. MDD is calculated as:

$$MDD = \frac{P_{low} - P_{high}}{P_{high}} \times 100\% \quad (1)$$

Cumulative Return is adopted as the complementary metric operationalising recovery capacity. While MDD captures the worst-case drawdown within a phase regardless of any subsequent rebound, Cumulative Return measures the net index position from the first to the last trading day, thereby incorporating within-phase recovery. The combination of both metrics across three analytically distinct clusters produces six paired observations per index whose patterns distinguish not merely whether one index outperforms another, but the specific mechanism, absorption or recovery, through which the performance differential is expressed. Cumulative Return is calculated as:

$$\text{CumRet} = \text{CumRet} = (\text{Plast} - \text{Pfirst}) / \text{Pfirst} \times 100\% \quad (2)$$

For visual comparability, daily closing prices of both indices are normalised to an indexed price series with Base = 100 on 2 March 2026, calculated as: $\text{Index}(t) = [P(t) / P(t_0)] \times 100$. This normalisation enables direct graphical comparison between LQ45 (trading range 700-800) and IHSG (trading range 7.000-8.000) on a single coordinate plane. Table 1 summarises the operational definitions, formulae, units, and interpretive conventions for both metrics.

Multi-Cluster Phase Analysis

A primary methodological contribution of this study is the application of multi-cluster phase analysis: the disaggregation of the total observation period into three analytically distinct sub-periods, each representing a fundamentally different dominant crisis narrative. This approach explicitly rejects the assumption of market response homogeneity across the crisis timeline, a common epistemological limitation of conventional single-window event study designs. The theoretical justification for phase disaggregation is grounded in the dual-channel transmission framework articulated in the Introduction: because the energy supply shock channel and the psychological panic channel operate at different speeds and affect different market segments with different intensities, the resilience differential between LQ45 and IHSG is theoretically expected to vary across crisis phases rather than remaining constant. Cluster boundaries are determined by verifiable historical anchor events that empirically mark genuine transitions in the dominant crisis mechanism, cross-referenced with the IDX trading calendar to ensure that every trading day is assigned to exactly one cluster without gaps or overlaps. Table 2 presents the cluster definitions, durations, and historical-empirical justifications.

The analytical procedure is executed in four sequential stages. Stage 1 involves data alignment and preprocessing: daily closing prices for LQ45 and IHSG are aligned on the trading date dimension using an inner join, producing a clean dataset of 24 matched observations. Stage 2 comprises per-cluster metric calculation for each cluster-index combination using Equations (1) and (2). Stage 3 involves cross-cluster comparative tabulation with the resilience differential delta calculated as LQ45 minus IHSG in percentage points, where positive delta MDD indicates LQ45 experienced a smaller drawdown (more resilient) and negative indicates a deeper drawdown. Stage 4 comprises visualisation and narrative interpretation with reference to the PDARM framework.

Four methodological limitations are acknowledged. First, the analysis employs daily closing prices exclusively, meaning intraday price shocks are not captured. Second, the non-inferential descriptive design does not permit statistical significance testing, implying findings cannot be statistically generalised to other crisis episodes. Third, the analysis does not incorporate macroeconomic control variables that may co-vary with index movements. Fourth, while cluster boundaries are anchored to verifiable historical events, alternative boundary specifications produced by formal structural break detection methods such as the Bai-Perron test may yield modestly different cluster compositions. These limitations collectively define a clear methodological extension agenda incorporating GARCH-based conditional volatility modelling, formal structural break detection, and multivariate regression frameworks.

Table 1. Operational definitions of market resilience metrics

Variable	Role	Formula	Unit	Interpretation
Maximum Drawdown (MDD)	Primary resilience proxy — absorption capacity	$MDD = (P_{low} - P_{high}) / P_{high} \times 100\%$	% (negative)	Values closer to zero indicate greater resilience; deeper negative values indicate larger drawdown within the cluster
Cumulative Return (CumRet)	Complementary proxy — recovery capacity	$CumRet = (Plast - Pfirst) / Pfirst \times 100\%$	% (+/-)	Positive = index strengthened net of intra-cluster recovery; negative = index weakened across the cluster

Note. Source: Authors, based on Chekhlov et al. (2005) and Magdon-Ismail et al. (2004). P = closing price; subscripts denote intra-cluster position.

RESULTS

Aggregate Overview of the Observation Period

Over the full observation period (2 March to 10 April 2026), spanning 24 active trading days across three analytical clusters, both indices recorded substantial cumulative declines from their respective opening levels. The LQ45 Index opened the period at 812,493 and closed at 744,617, representing a cumulative weakening of -8,35% from the starting level. The IHSG moved from an opening level of 8,016,833 to a closing level of 7,449,977, recording a cumulative decline of -7,07% over the same period. In aggregate, IHSG demonstrated superior cumulative resilience

relative to LQ45 across the full observation window, with a differential of 1,28 percentage points (pp) favouring IHSG. Both indices reached a common trough on 7 April 2026, where LQ45 touched 701,663 (indexed value: 86,36) and IHSG reached 6,971,027 (indexed value: 86,96), before staging a dramatic rebound on the following session coinciding with the ceasefire announcement. Figure 1 presents the indexed price movement of both indices across the three cluster phases, revealing a pattern of non-linear divergence that varies materially across phases. Table 3 presents the complete descriptive statistics of both indices across all three clusters, providing the full empirical basis for the metric calculations reported subsequently.

Table 2. Cluster definitions, durations, and historical-empirical justifications

Code	Cluster Name	Period	Trading Days	Historical and Empirical Justification
K1	Initial Panic	2–6 Mar 2026	5	First trading sessions following Operation Epic Fury (28 Feb). Market processes instantaneous panic and initial capital flight. Hezbollah entered the conflict on 2 March, amplifying uncertainty. Psychological panic channel dominates; energy channel not yet quantifiable.
K2	Fundamental & Energy Crisis	9–17 Mar 2026	7	Strait of Hormuz effectively closed (~4 Mar); Brent crude averaged USD 103/bbl (+USD 32 vs. February); UN Security Council resolution (11 Mar). Structured capital flight replaces broad-based panic. Energy channel asserts primary dominance.
K3	Resolution & Recovery	25 Mar–10 Apr 2026	12	Pakistan delivers 15-point US proposal to Iran (25 Mar); Islamabad summit (29 Mar); two-week ceasefire agreed 7–8 Apr. Dramatic rebound on 8 Apr coincides with ceasefire announcement. Asymmetric recovery dynamics between domestic and foreign investor re-entry.

Note. Source: Authors, based on Federal Reserve Bank of Dallas (2026); CNBC (2026); Al Jazeera (2026).

Table 3. Descriptive Statistics of LQ45 and IHSG Prices per Analytical Cluster, March-April 2026

Cluster	Index	Opening Price	Closing Price	Peak	Peak Date	Trough	Trough Date
K1 Initial Panic (2–6 Mar)	LQ45	812,493	776,047	812,493	02-Mar	772,449	04-Mar
	IHSG	8,016,833	7,585,687	8,016,833	02-Mar	7,577,064	04-Mar
K2 Energy Crisis (9–17 Mar)	LQ45	750,575	722,411	759,944	10-Mar	713,721	16-Mar
	IHSG	7,337,369	7,106,839	7,440,913	10-Mar	7,022,288	16-Mar
K3 Resolution & Recovery (25 Mar–10 Apr)	LQ45	746,454	744,617	746,454	25-Mar	701,663	07-Apr
	IHSG	7,302,121	7,449,977	7,449,977	10-Apr	6,971,027	07-Apr

Note. Source: Indonesia Stock Exchange via Refinitiv Eikon; processed by authors (2026). All values represent daily closing prices.

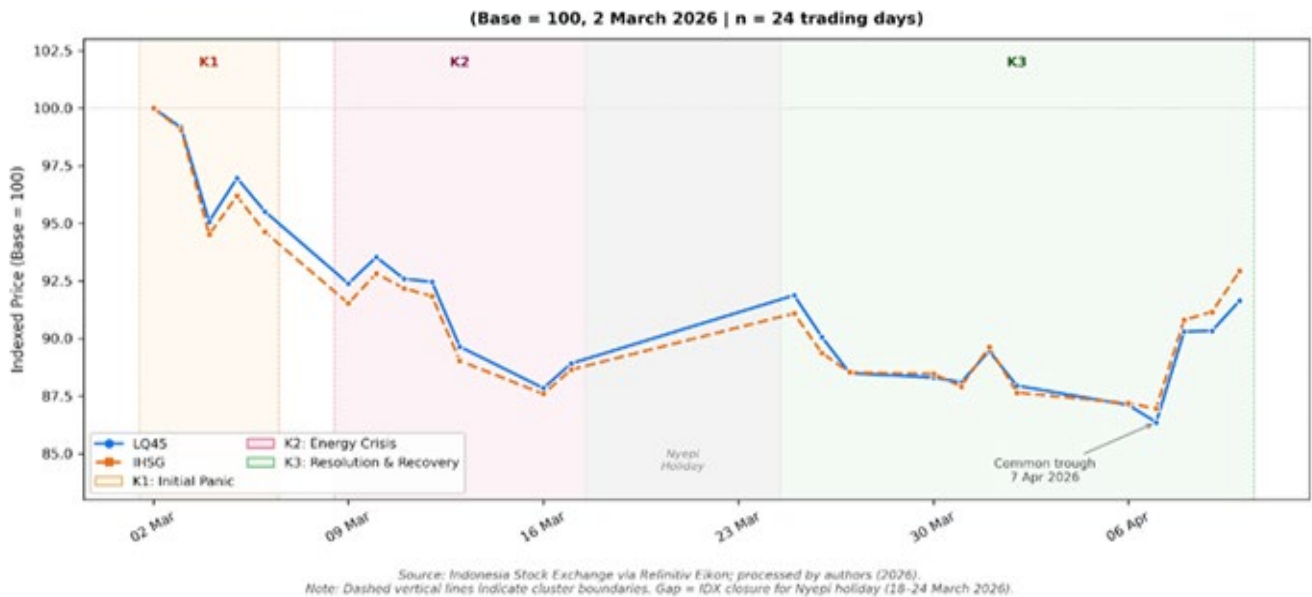


Figure 1. Indexed Price Movement of LQ45 and IHSG Across Three Crisis Clusters (Base = 100, 2 March 2026)

Cluster 1: Initial Panic (2-6 March 2026)

Cluster 1 encompasses the five trading days immediately following the weekend airstrikes, constituting the first sessions in which the Indonesian capital market processed the geopolitical shock. This phase is characterised by simultaneous and broadly symmetric panic selling across both indices, consistent with the PDARM prediction that the psychological panic channel dominates during the immediate post-event window before the energy channel becomes quantifiable. On the Maximum Drawdown dimension, LQ45 recorded an MDD of -4,93%, with its peak at 812,493 (2 March) and trough at 772,449 (4 March), while IHSG recorded a deeper MDD of -5,49%, with its peak at 8.016,833 (2 March) and trough at 7.577,064 (4 March). The MDD differential of +0,56 pp favouring LQ45 indicates that the blue-chip index exhibited relatively more controlled drawdown during this initial panic phase, a pattern consistent with Beber, Brandt, and Kavajecz (2009) who document that flight-to-liquidity dynamics drive initial crisis-period capital movements: markets move toward the most liquid instruments first, and LQ45's higher liquidity provides a momentary cushion before the fire-sale mechanism converts that same liquidity into a vulnerability.

The Cumulative Return dimension corroborates this finding. LQ45 recorded a cumulative return of -4,49%, while IHSG depreciated by -5,38%, yielding a differential of +0,89 pp favouring LQ45. It is noteworthy that on the third day of the cluster (5 March), both

indices staged a temporary rebound (LQ45: +1,99%; IHSG: +1,76%) before correcting again on 6 March, reflecting the volatile and uncertain information environment of the initial panic phase. The K1 result is therefore better characterised as a flight-to-liquidity effect than as classical FtQ: the absorption advantage materialises momentarily before the structural outflow paradox asserts itself in K2.

Cluster 2: Fundamental and Energy Crisis (9-17 March 2026)

Cluster 2 spans seven trading days, beginning on the first Monday following the conclusion of Cluster 1. This phase is characterised by the escalation of the crisis into fundamental economic consequences: the effective closure of Middle Eastern maritime commercial lanes and the surge in global crude oil prices to an average of USD 103 per barrel, triggering concerns about imported inflation and supply chain disruption. Consistent with the PDARM framework's prediction that the energy channel asserts primary dominance in K2 as macroeconomic deterioration accumulates and foreign institutional rebalancing intensifies, the critical analytical observation is a directional reversal in the relative resilience position. LQ45 recorded an MDD of -6,08% (peak: 759,944 on 10 March; trough: 713,721 on 16 March), materially deeper than IHSG's MDD of -5,63% (peak: 7.440,913 on 10 March; trough: 7.022,288 on 16 March). The MDD differential of -0,46 pp unfavourable to LQ45 constitutes the empirical signature of the structural outflow paradox, confirming

Fratzscher's (2012) and Koepke's (2019) prediction that push-factor-driven institutional outflows are largely insensitive to domestic fundamental quality.

The Cumulative Return dimension confirms this reversal. LQ45 recorded a net decline of -3,75%, while IHSG declined by -3,14%, yielding a differential of -0,61 pp unfavourable to LQ45. The session of 16 March is particularly noteworthy: LQ45 declined by -2,01% against IHSG's -1,61%, the first trading session in the observation period where LQ45 recorded a materially larger single-session decline than IHSG, directly consistent with the Jotikasthira, Lundblad, and Ramadorai (2012) fire-sale mechanism concentrating selling pressure on the most liquid blue-chip segment during programmatic institutional deleveraging.

Cluster 3: Resolution and Recovery (25 March-10 April 2026)

Cluster 3 encompasses 12 trading days (25 March to 10 April 2026), commencing after the Nyepi holiday break. This phase is characterised by the emergence of diplomatic de-escalation signals including Pakistan's delivery of the 15-point US proposal to Iran (25 March), the Islamabad summit (29 March), and the two-week ceasefire agreed on 7-8 April. On the MDD dimension, LQ45 records an MDD of -6,00% (peak: 746,454 on 25 March; trough: 701,663 on 7 April), smaller than IHSG's MDD of -6,43% (peak: 7.449,977 on 10 April; trough: 6.971,027 on 7 April), with a differential of +0,43 pp again favouring LQ45. The notable feature of IHSG's K3 MDD is that its peak occurs on the last day of the observation period (10 April), reflecting the continued upward momentum of the recovery rather than a pre-decline high.

The most analytically significant finding of the study emerges from the Cumulative Return dimension of Cluster 3. LQ45 records a near-zero cumulative return of -0,25% (746,454 to 744,617), meaning the index closes the cluster virtually at its opening level despite the dramatic 8 April rebound. IHSG, by contrast, records a positive cumulative return of +2,02% (7.302,121 to 7.449,977), the only positive value across all six cluster-index observations. The Cumulative Return differential of -2,27 pp is the largest differential recorded across the three clusters and represents the empirical manifestation of the recovery asymmetry predicted by

the PDARM framework. Consistent with Chari, Dilts Stedman, and Lundblad (2021), the outflow during the risk-off phase was rapid and programmatic while the re-entry during recovery requires confirmation of durable de-escalation; IHSG's domestic investor base, unconstrained by such institutional re-entry requirements, converts the de-escalation signal into equity purchases more immediately. This finding complements Rahman and Al Mamun (2021), who document superior recovery resilience in Asia-Pacific markets with higher domestic investor representation during the COVID-19 pandemic, confirming that the domestically anchored investor base advantage in recovery phases extends across different crisis types. As Figure 3 demonstrates, the IHSG bar in K3 is the only bar across all six observations to penetrate the positive return zone.

Cross-Cluster Comparative Analysis

Table 4 summarises the MDD and Cumulative Return values and their cross-cluster differentials in comparative format, enabling systematic reading of both the directional and magnitude patterns across the six cluster-index observations.

Two analytically distinct patterns emerge from the cross-cluster data. First, on the MDD-based resilience dimension, LQ45 demonstrates superior absorption capacity in two of three clusters (K1: +0,56 pp; K3: +0,43 pp), while IHSG is more resilient in K2 (-0,46 pp) (Figure 2). The MDD pattern exhibits a directional reversal between K1 and K2, the core empirical prediction of the PDARM framework reflecting the transition from flight-to-liquidity to structured capital flight. Second, on the Cumulative Return dimension, IHSG outperforms LQ45 across all three clusters without exception, with the differential increasing monotonically from K1 (0,89 pp) through K2 (0,61 pp) to K3 (2,27 pp) (Figure 3). The divergence between the MDD and Cumulative Return patterns, particularly in K3 where LQ45 exhibits a smaller MDD yet a substantially lower Cumulative Return, is the defining empirical feature of the study. It demonstrates that LQ45's absorption capacity advantage in K3 does not translate into recovery performance, precisely because the asymmetric re-entry dynamics of foreign institutional capital constrain LQ45's ability to capitalise on the de-escalation signal that IHSG captures more completely.

Table 4. Cross-Cluster comparison of maximum drawdown (MDD) and cumulative return: LQ45 vs. IHSG

Cluster	Maximum Drawdown (MDD)			Cumulative Return			MDD Direction
	LQ45	IHSG	Delta (pp)	LQ45	IHSG	Delta (pp)	
K1: Initial Panic (2-6 Mar)	-4.93%	-5.49%	+0.56	-4.49%	-5.38%	+0.89	LQ45 more resilient
K2: Energy Crisis (9-17 Mar)	-6.08%	-5.63%	-0.46	-3.75%	-3.14%	-0.61	IHSG more resilient
K3: Resolution and Recovery (25 Mar-10 Apr)	-6.00%	-6.43%	+0.43	-0.25%	+2.02%	-2.27	Divergent: LQ45 MDD; IHSG CumRet

Note. Source: Indonesia Stock Exchange via Refinitiv Eikon; processed by authors (2026). Delta = LQ45 value minus IHSG value in percentage points (pp). For MDD: positive delta = LQ45 more resilient (smaller drawdown); negative delta = IHSG more resilient. For Cumulative Return: positive delta = LQ45 higher return; negative delta = IHSG higher return.

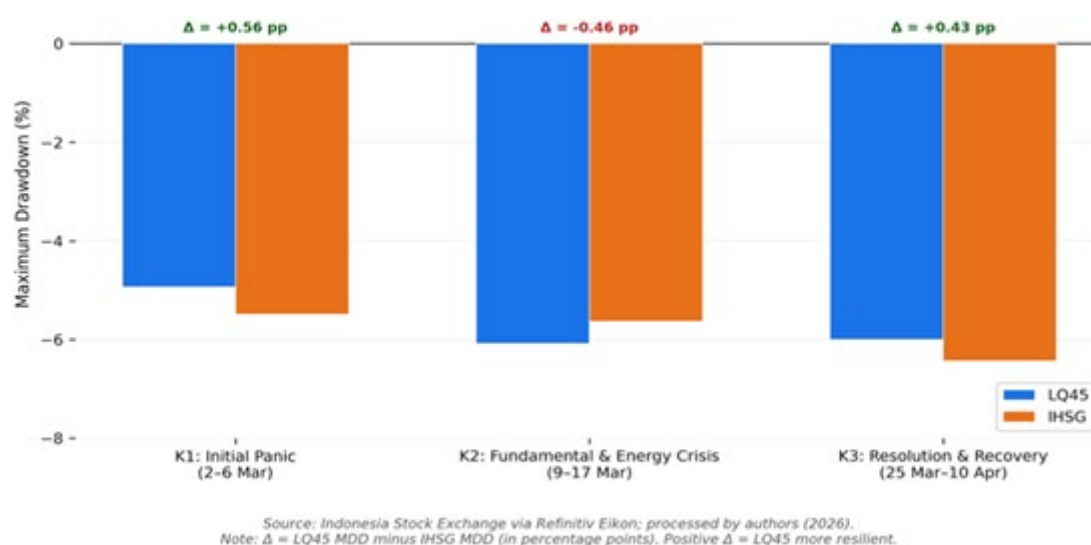


Figure 2. Maximum Drawdown (MDD) Comparison: LQ45 vs. IHSG per Cluster

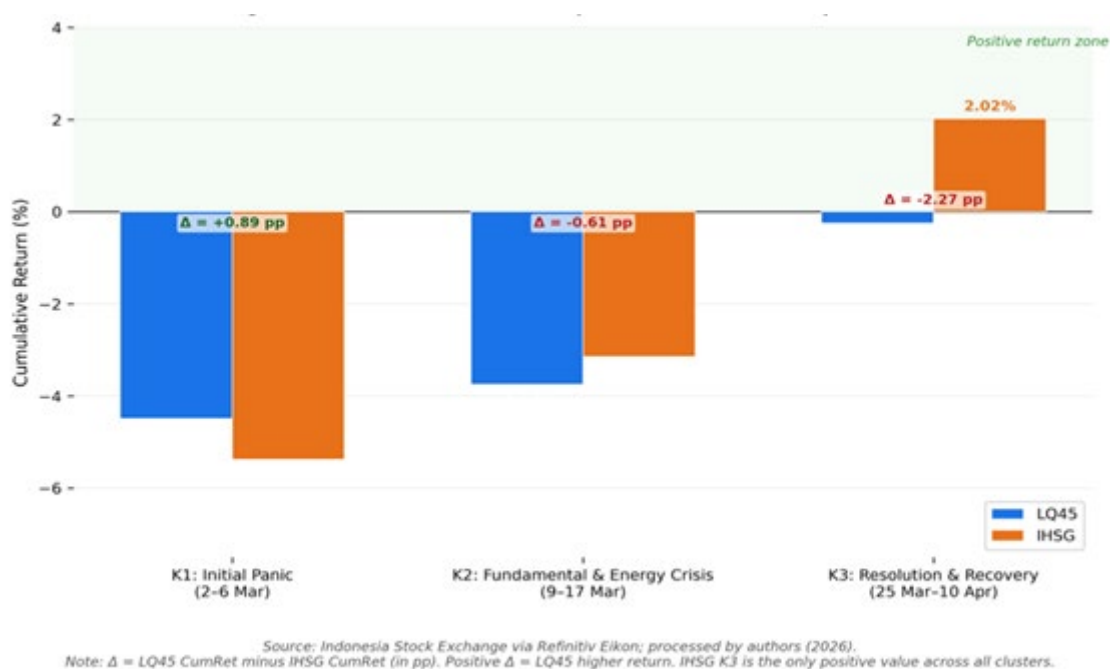


Figure 3. Cumulative Return Comparison: LQ45 vs. IHSG per Cluster

The three research questions are answered affirmatively. RQ1: MDD differentials vary substantially across clusters, with the maximum magnitude occurring in K3 (delta CumRet = 2,27 pp). RQ2: The direction of the MDD differential reverses between K1 (+0,56 pp favouring LQ45) and K2 (-0,46 pp favouring IHSG), consistent with the PDARM-predicted transition from broad-based panic to structured capital flight. RQ3: IHSG records a materially higher Cumulative Return than LQ45 in K3 (+2,02% vs. -0,25%, delta = 2,27 pp), providing empirical support for the structural recovery advantage of a domestically anchored investor base. Contrasted with prior cross-country studies including Boubaker et al. (2022) and Boungou and Yatie (2022), which document aggregate emerging market underperformance relative to developed markets during GPR-A events, this study demonstrates that the FtQ inversion operates not only at the cross-country level but within a single exchange, manifesting as intra-market segment divergence driven by the same ownership heterogeneity mechanism. The evidence therefore supports a phase-conditional and dimension-specific partial inversion: FtQ holds on the absorption dimension in the panic and resolution phases but is overridden by the structural outflow paradox on the recovery dimension in all three phases.

The broader theoretical implication is the empirical specification of the conditions under which the classical FtQ mechanism undergoes structural inversion. The inversion is conditional on three factors: the shock being GPR-A in character and global in scope, activating programmatic institutional rebalancing; the blue-chip segment carrying sufficiently concentrated foreign institutional ownership to convert global risk-off pressure into segment-specific selling mandates; and the crisis being of sufficient duration for the panic channel to give way to the structured capital flight channel. These three conditionality boundaries extend the literature on FtQ conditionality (Beber et al., 2009; Das et al., 2019) by identifying the specific structural configuration that generates structural rather than incidental FtQ inversion, constituting the principal theoretical contribution of the study (Caldara and Iacoviello, 2022; Smales, 2021; Bouras et al., 2019). The K1-to-K2 directional reversal further constitutes methodological evidence in support of multi-cluster phase analysis as a superior design for crises of sufficient duration to exhibit narrative evolution, extending the critique of temporal homogeneity assumptions documented by Berkman, Jacobsen, and Lee (2011) and

consistent with the event decomposition approaches employed in more recent high-frequency studies of GPR transmission (Salisu et al., 2022; Zaremba et al., 2022).

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study demonstrates that the classical flight-to-quality mechanism does not operate uniformly in an emerging market bourse during a severe geopolitical crisis. When the blue-chip segment carries concentrated foreign institutional ownership, the structural outflow paradox inverts the expected resilience hierarchy: LQ45 underperforms IHSG on the Cumulative Return dimension across all three crisis phases, with the differential widening from 0,89 pp during the initial panic to 2,27 pp during the resolution phase. The K1-to-K2 reversal in the MDD differential, invisible to any single-window design, confirms that temporal homogeneity assumptions in conventional event study approaches obscure the phase transition at which the psychological panic channel cedes dominance to programmatic institutional outflow. The K3 recovery asymmetry, generated from an identical trough date, isolates recovery dynamics as the decisive differentiating factor and confirms that a domestically anchored investor base provides a structural recovery advantage over a foreign-ownership-concentrated blue-chip segment during diplomatic de-escalation.

The Phase-Dependent Asymmetric Resilience Model synthesises these results into a conditional proposition: FtQ inversion materialises when a GPR-A shock activates programmatic foreign rebalancing mandates in a blue-chip segment whose superior liquidity converts from a normal-conditions asset into a crisis-period liability. The 2026 data confirm all three conditionality boundaries specified by the framework. In any emerging market bourse sharing this ownership architecture, the resolution phase of a geopolitical crisis offers predictably asymmetric recovery-capture properties favouring the broad-market index over the foreign-ownership-concentrated blue-chip index. For portfolio managers operating across the LQ45-IHSG universe, this cycle provides a theoretically grounded basis for phase-conditional tactical rebalancing, with a shift toward broader IHSG exposure during the resolution phase offering materially superior recovery-

capture properties. For regulators, the K2 evidence of selling pressure concentration on the most liquid segment provides an empirical calibration basis for designing more precisely targeted market stabilisation mechanisms during global GPR-A episodes.

Recommendations

Future research should extend this framework along three dimensions. First, replication across comparable GPR-A episodes to formally test the conditionality boundaries and assess whether the magnitude of the resilience differential scales with crisis severity. Second, incorporation of daily foreign flow data, exchange rate movements, and government bond yield spreads to decompose price differentials into GPR-attributable and macroeconomic components through a multivariate regression framework. Third, application of structural break detection methods such as the Bai-Perron test to replace researcher-defined cluster boundaries with objective, data-driven phase identification, enabling more precise localisation of the panic-to-outflow channel transition that drives the K1-to-K2 reversal documented in this study.

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