

## STOCK MARKET REACTIONS TO U.S. RECIPROCAL TARIFFS: AN EVENT STUDY ACROSS BRICS AND PARTNER ECONOMIES



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### Abstract

Trade-policy announcements provide a natural experiment to examine how global policy uncertainty is transmitted into emerging equity markets. This study investigates the market reaction surrounding the U.S. reciprocal tariff announcement in early April 2025 by assessing three adjustment channels risk (volatility), price (abnormal returns), and trading activity (abnormal volume) across BRICS and selected partner markets. Using an event-study design, volatility is measured via standard deviation and tested using an F-test for differences in variance, while abnormal returns and abnormal volume are evaluated through OLS dummy regressions comparing event and post-event periods against the pre-event baseline. The results reveal heterogeneous and asymmetric responses across markets: some indices exhibit a pronounced shift in volatility and return dynamics, while trading activity responses are weaker or delayed. The findings highlight that trade-policy shocks are transmitted asymmetrically across emerging markets, with risk and price channels reacting faster than trading activity, challenging the assumption of uniform market adjustment under global policy uncertainty. These insights extend the literature on policy-induced financial spillovers by emphasizing a multi-channel adjustment mechanism and offer practical implications for portfolio risk management and market surveillance during periods of heightened policy uncertainty.

**Keywords:** Reciprocal Tariffs, Event Study, Stock Market Volatility, Abnormal Return, Abnormal Trading Volume

## INTRODUCTION

In today's global economy, international trade is a central driver of growth, yet it also creates friction when countries perceive tariff treatment as unfair. One policy response is the reciprocal tariff, defined as an import tax set at the same level as tariffs imposed by a trading partner (Ulina Sihombing et al., 2024). While intended to restore perceived fairness, reciprocal tariffs often signal escalating trade conflict and can heighten uncertainty in financial markets. Empirical evidence suggests that tariff-related announcements and policy uncertainty can trigger significant volatility spikes across asset classes, reflecting rapid repricing of risk under deteriorating trade expectations (Özdurak & Yantur, 2025).

Trade tensions intensified again in 2025 when U.S. President Donald Trump announced reciprocal tariff measures affecting multiple countries, including several BRICS members. The policy was framed as a response to persistent U.S. trade deficits and perceived asymmetries in market access (Bastanifar et al., 2025). On 2 April 2025, the U.S. announced a baseline tariff of 10% on all imports and additional country-specific tariffs on nations with large trade surpluses with the United States. Importantly, the economic impact of such a policy shock is not confined to goods and services flows. It can transmit rapidly into global equity markets through revisions in expected cash flows, shifts in discount rates and risk premia, and changes in investor sentiment channels that may not adjust at the same speed or intensity. Recent sector-level evidence from Indonesia further suggests that tariff shocks transmit unevenly within emerging markets: technology-linked sectors experience sharper drawdowns and slower recoveries, consistent with a trade-expectation transmission channel that disproportionately penalizes industries reliant on imported inputs and external demand (Rafik, 2025).

However, the existing literature on trade-policy shocks remains dominated by major bilateral episodes most notably the U.S.–China trade war and often emphasizes a single market dimension (typically returns) as the primary indicator of market reaction. For instance, Alessandria et al. (2024) show that expectations about the persistence of tariffs can change over time, increasing perceived policy uncertainty and deepening trade and financial adjustments. Yet two limitations remain salient. First, evidence is still limited on how a discrete reciprocal tariff announcement in 2025 affects a broader set of emerging markets, particularly within a BRICS-centered framework. Second and more importantly from a conceptual standpoint prior research tends to implicitly assume that market adjustment to policy shocks is relatively uniform and that different market dimensions (risk, pricing, and trading activity) respond in a broadly symmetric manner. This study goes beyond documenting market reactions by examining whether trade-policy shocks are absorbed symmetrically across different market dimensions, thereby addressing a conceptual gap on multi-channel adjustment under global policy uncertainty.

This gap matters because emerging equity markets are increasingly interconnected through trade linkages, cross-border capital flows, and global risk-on/risk-off cycles, making them structurally exposed to abrupt external policy shifts. Accordingly, this study contributes to the literature by extending reciprocal-tariff analysis beyond the U.S.–China setting and focusing on BRICS countries and partner markets surrounding the 2 April 2025 announcement. Using an event-study design, the study jointly examines three key market outcomes volatility, abnormal returns, and abnormal trading volume to provide a more

comprehensive picture of how trade-policy shocks propagate across markets. Volatility is assessed through variance comparisons between pre- and post-event periods, while abnormal returns and abnormal volume are estimated via OLS dummy regressions that distinguish immediate event-window effects from post-event adjustments. This integrated design allows the analysis to test not only whether markets react, but also how and through which channels the shock is transmitted.

Based on this motivation, the study investigates: (1) whether the 2025 U.S. reciprocal tariff announcement generates market tension that disrupts stock market stability in BRICS and partner markets; (2) whether the response pattern differs from the evidence predominantly centered on U.S.–China dynamics; and (3) whether volatility shocks translate into significant changes in returns and trading activity following the announcement. By highlighting potentially asymmetric responses across risk, price, and trading channels, the study offers a sharper conceptual account of market adjustment under trade-policy uncertainty and provides practical relevance for investors and risk managers navigating policy-driven global shocks.

## REVIEW OF LITERATURE

Stock price volatility is a key indicator in financial markets because it reflects the level of uncertainty or risk in asset price movements over a given period. Classical market theory argues that in an efficient market (Efficient Market Hypothesis/EMH), all new information public or private is quickly incorporated into stock prices (Fama, 1970a). In reality, however, markets do not always respond fully rationally, as investor psychology and economic policy uncertainty can shape how information is interpreted and priced (Barberis & Thaler, 2002; Shleifer & Summers, 1990).

When a large external event occurs such as a trade tariff announcement by a major economy like the United States the market receives an information shock that can trigger a sharp rise in volatility. Behavioral finance suggests that investors may overreact to new information, leading to abnormal volatility, meaning volatility that is substantially higher than normal conditions (De Bondt & Thaler, 1985; Shleifer & Summers, 1990).

Economic policy uncertainty (EPU) also plays an important role in driving market fluctuations. When government policy becomes difficult to predict such as in the case of suddenly announced reciprocal tariffs market participants face greater ambiguity about future economic conditions. This uncertainty tends to increase volatility because investors lack a clear baseline for expectations (Scott R. Baker, Nicholas Bloom, 2016).

Trump's 2025 tariff policy is not the first episode of tariff-driven market stress. During the earlier Trump administration, especially in the 2018–2019 U.S.–China trade war, repeated tariff announcements and implementations were shown to generate strong stock market reactions. Using an event-study approach, Egger & Zhu (2019) find that equity markets responded significantly to multiple trade-war policy announcements, indicating that tariffs were perceived as policy shocks that immediately affected asset valuations. The literature further highlights that the trade war unfolded in several tariff waves and created persistent uncertainty, meaning the shock was not limited to a single announcement date but evolved into a broader regime of trade-related risk. Consistent with this view, Alessandria et al. (2024) show that the trade war was initially expected to be temporary, but market expectations regarding its duration became longer after 2020, making tariff risk more

persistent. Therefore, the 2025 reciprocal tariff announcement can be understood as a continuation episode that may reignite volatility, particularly in markets that are sensitive to global trade policy uncertainty.

In the BRICS context, high exposure to global trade flows makes these equity markets especially responsive to policy shifts by major economies such as the United States. Singh et al. (2024) document volatility spillovers across BRICS markets following large-scale events such as trade wars and economic sanctions. This implies that U.S. tariff policy may not only affect individual countries but can also trigger a chain reaction that increases market volatility across BRICS as a group.

**H1:** There is a significant difference in stock price volatility in BRICS countries and their partners before and after the announcement of the U.S. reciprocal tariff policy.

Stock market returns represent the gains (or losses) earned by investors over a given period and are highly sensitive to the arrival of new information. Under the Efficient Market Hypothesis (EMH), stock prices are expected to quickly incorporate all available information, whether public or private (Fama, 1970). Therefore, sudden changes in returns following a major event are often interpreted as market reactions to newly revealed information.

However, the EMH has been challenged by behavioral finance, which argues that market participants do not always respond rationally. In many cases, overreaction or underreaction to news can cause stock returns to deviate from their long-term fundamental values (Barberis & Thaler, 2002; De Bondt & Thaler, 1985). This perspective is particularly relevant for sudden and controversial trade policy announcements such as U.S. reciprocal tariffs because they can trigger emotional and speculative responses from global investors.

Economic policy uncertainty (EPU) further strengthens the link between policy shocks and market returns. Uncertainty surrounding trade policy, including international tariffs, tends to worsen expectations about the global economic outlook and increases the risk premium demanded by investors. Scott R. Baker, Nicholas Bloom (2016) show that higher EPU is associated with lower stock returns, as investors require greater compensation for heightened future risks.

Empirically, Singh et al. (2024) find that returns in BRICS markets are strongly influenced by policy actions in major economies. In tariff-related episodes, several BRICS indices experience significant declines as investors anticipate negative effects on exports, growth prospects, and macroeconomic stability. This is consistent with prior event-study evidence. Gong et al. (2022) report that abnormal returns often emerge during the event window surrounding U.S. tariff announcements, with daily returns frequently falling sharply around the announcement dates especially when the policy is perceived as harmful to the targeted economies.

**H2:** There are significant abnormal returns that tend to be negative in the stock indices of BRICS countries and their partners following the announcement of the U.S. reciprocal tariff policy.

Stock trading volume is an important indicator for assessing market reactions to new information. In classical finance, trading volume reflects information driven activity and the level of investor participation in a market. Under the Mixture of Distributions Hypothesis (MDH), trading volume and market volatility originate from the same underlying information process. This implies that when meaningful information enters the market, both prices and

volume tend to respond simultaneously (Karpoff, 1987a).

In the context of policy announcements such as trade tariffs market participants face increased uncertainty, which can stimulate buying and selling activity as investors revise expectations and reposition their portfolios (Scott R. Baker, Nicholas Bloom, 2016a). This is highly relevant in event-study research, where trading volume is often used as a non-price indicator of market response, commonly measured through abnormal trading volume.

Evidence from prior studies supports this mechanism. Bajzik (2021), in a meta-analysis of more than 40 studies, finds that trading volume changes significantly following major announcements with systemic market implications. The findings also suggest that volume does not rise only after positive news; it can increase sharply in response to negative signals or heightened uncertainty, including unilateral tariff announcements. Similarly, Ozdemir (2020) reports a dynamic relationship between volatility and volume, showing that during crises or major policy events, volume often surges due to large-scale portfolio adjustments by investors reacting to policy risk. This behavior is frequently associated with a “flight to liquidity,” where investors seek safer or more liquid assets, which is reflected in increased trading activity.

For BRICS markets, high dependence on international trade makes their stock exchanges particularly sensitive to tariff policies issued by major economies such as the United States. Singh et al. (2024) show that global events like trade wars can generate spillovers across BRICS markets not only in volatility but also in trading volume, strengthening the argument that volume may shift significantly following external policy shocks.

**H3:** There are significant abnormal trading volume changes that increase in the stock indices of BRICS countries and their partners following the announcement of the U.S. reciprocal tariff policy.

## RESEARCH METHOD

This study applies a quantitative event-study approach to examine how the U.S. reciprocal tariff announcement in 2025 affected stock market behavior in BRICS countries and their partner markets. A quantitative design is used because the analysis relies on numerical data daily stock prices, trading volumes, and returns which are evaluated using statistical and econometric methods. The sample is selected through purposive sampling to capture markets with meaningful economic linkages to U.S. trade policy and to represent diverse capital market conditions globally. Using an event window framework, the study assesses whether the tariff announcement generated measurable market reactions by comparing changes in key indicators volatility, trading activity, and returns before and after the event.

### Population and Sample

The sample of this study consists of the primary stock indices of each BRICS country and its partner economies, which represent overall stock market performance in each respective country. The indices used to proxy national stock market prices are as follows:

Brazil	: IBOVESPA Index (IBOV)
Rusia	: RTS Index (IRTS),
India	: Nifty 500
China	: Shanghai Composite Index (SSEC)
Afrika Selatan	: FTSE/JSE All Share Index (JALSH)
Mesir	: EGX 30 Index
Indonesia	: IDX Composite (JKSE)
Malaysia	: FTSE Malaysia KLCI
Nigeria	: NSE All Share
Thailand	: FTSE SET All-Share (FTFSTHA)
Vietnam	: VN Index.

### Type and Method of Data Collection

The data used in this study include daily opening and closing prices of stock market indices, daily trading volume, and the announcement date of the U.S. reciprocal tariff policy. Price and volume data are employed to compute volatility and stock market returns for each country over the specified observation period.

Data on index price movements and trading volume for each country's composite index are obtained from Investing.com. Meanwhile, information regarding the tariff announcement date and the sequence of tariff-related events is obtained from the official U.S. Congress website (Congress.gov).

In this study, the observed event occurs during 2 April 2025 to 9 April 2025, which is treated as the primary event window. To capture market reactions comprehensively, the observation period is divided into three phases: (1) the Pre-Event Period, consisting of 40 trading days prior to the implementation of Donald Trump's reciprocal tariff policy, which is used to represent normal market conditions, calculate pre-event returns, and serve as the basis for estimating expected (normal) returns; (2) the Event Window, spanning 2 April 2025 to 9 April 2025, during which the main event the imposition of reciprocal tariffs by Donald Trump takes place, and stock price changes and abnormal returns are examined to identify immediate market reactions; and (3) the Post-Event Period, consisting of 40 trading days after the implementation of the reciprocal tariff policy, which is used to assess whether the effects of the event are temporary or persist in influencing stock price movements and market volatility.

Volatility is assessed using the standard deviation of daily index returns. Standard deviation serves as an intuitive proxy for market risk because it summarizes how widely returns fluctuate over a given period. In an event setting, a noticeable increase in standard deviation after an announcement indicates that uncertainty has risen and price movements have become more dispersed consistent with investors rapidly reassessing risk and revising expectations. This study therefore computes and compares standard deviations across the relevant time segments (e.g., pre-event versus post-event) to identify whether the policy

shock is followed by a shift into a higher-volatility regime, as commonly applied in event-based market analysis (Rustamov, 2024).

Return and trading-volume patterns are evaluated using the Constant Mean Return Model (CMRM) as a benchmark for “normal” market conditions. Under CMRM, the normal level of a variable is assumed to be constant and is approximated by its average during the pre-event (estimation) period. The event impact is then captured as the deviation of the observed value during the event-related period from this pre-event average.

To ensure cross-country comparability and mitigate scale effects arising from differences in market size and trading intensity, trading volume is analyzed in logarithmic form and evaluated relative to its pre-event mean following the Constant Mean Return Model framework. Although trading volume is known to exhibit heteroskedasticity and persistence, the CMRM approach is suitable in an event-study context where the primary objective is to identify deviations from a stable baseline around a clearly defined policy shock. This approach has been widely applied in prior event-based studies examining non-price market reactions, particularly when the focus lies on relative changes rather than long-run dynamics.

In this study, the same logic is applied consistently to both market returns and trading volume. For returns, the model compares actual returns during the event window and the post-event period against the average return in the pre-event period to reveal whether price behavior deviates from its normal baseline. For trading volume, the model compares actual trading volume during the same periods against average pre-event volume to identify abnormal shifts in market activity and participation, which may reflect portfolio rebalancing, liquidity demand, or delayed behavioral responses.

By combining standard deviation and CMRM-based deviations in one narrative, the analysis provides a clear and accessible description of market adjustment across multiple channels. Standard deviation highlights changes in the risk environment, while CMRM captures whether the shock leads to abnormal price movements and abnormal trading intensity relative to normal conditions. Together, these measures allow the study to characterize whether the reciprocal tariff announcement primarily triggers uncertainty (volatility), price repricing (returns), trading reallocation (volume), or a combination of these responses, thereby offering a more comprehensive picture of how trade-policy shocks are transmitted in emerging equity markets.

The difference in stock price volatility before and after the announcement of the reciprocal tariff policy is tested using the F-Test Two-Sample for Variances with the assistance of Microsoft Excel. This approach follows Sajid et al. (2023), who examine the significance of changes in stock risk (measured by the standard deviation of returns) before and after the issuance of Global Depository Receipts (GDRs) by applying a variance-based F-test. The F-test is selected for three main reasons. First, the core hypothesis in this study concerns a regime shift in market risk, whether the dispersion of returns (variance) increases or decreases after a policy shock so a direct test on equality of variances provides an interpretable and theory-consistent measure of volatility change. Second, in an event-study setting with clearly defined pre- and post-event windows, the F-test offers a transparent and replicable way to evaluate whether the volatility observed after the announcement represents a statistically meaningful departure from the market’s baseline risk condition, rather than a random fluctuation. Third, given the cross-country and multi-index scope of the analysis, the F-test provides a standardized and easily comparable inferential procedure across markets,

allowing the study to assess heterogeneity in volatility responses under a consistent decision rule.

To test the study hypotheses and evaluate the market impact of the reciprocal tariff announcement, this research employs an event study framework using single-step Ordinary Least Squares (OLS) regressions with dummy variables. Unlike the traditional market model approach which typically estimates parameters (e.g., beta) in an initial step and then computes abnormal returns in a subsequent step this study adopts a one-step OLS specification that directly isolates the event effect through event-period dummy variables. This approach is adapted from Ang & Wang (2023).

For the return model, the coefficients on the event-period dummies capture the mean difference in daily returns between the event (and post-event) periods and the pre-event period, which is interpreted as the abnormal return attributable to the tariff announcement. We estimate a single-step OLS event-study regression.

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$$Return_{i,t} = \beta_0 + \beta_1 Event Window_t + \beta_2 Post Event_t + \epsilon_t$$

$Return_{i,t}$  denotes the daily return of stock index  $i$  on day  $t$  (state the exact return definition: log/simple).  $Event Window_t$  equals 1 for trading days within the event window around the reciprocal tariff announcement date and 0 otherwise, while  $Post Event_t$  equals 1 for trading days in the post-event period and 0 otherwise. The pre-event period serves as the baseline category.  $\beta_1$  captures abnormal returns during the event window relative to the pre-event baseline, and  $\beta_2$  captures abnormal returns in the post-event period relative to the same baseline.

The same logic is applied to trading volume to detect abnormal trading activity; however, because volume is also influenced by “normal” market patterns and contemporaneous price movement, the volume regression is designed to net out these typical drivers (e.g., systematic variation in activity and the effect of daily price volatility. To examine abnormal trading activity, we estimate:

$$Y_t = \beta_0 + \beta_1 Event Window_t + \beta_2 Post Event_t + \beta_3 ReturnIndex_{i,t} + \epsilon_t$$

Where  $Y_t$  is the (state the exact definition: normalized trading volume and  $\ln(\text{Volume})$ ) on day  $t$ . The event dummies are defined analogously.  $ReturnIndex_{i,t}$  is included to control for contemporaneous price movements that mechanically co-move with trading volume. Hence,  $\beta_1$  and  $\beta_2$  measure abnormal trading volume during the event and post-event periods after netting out typical return-related variation.

## RESULTS AND DISCUSSION

### Volatility Analysis

Stock price volatility reflects the instability or fluctuation of market returns over a given period; higher volatility implies greater uncertainty and risk for investors. In this study, volatility is measured as the standard deviation of daily returns across three observation

periods (pre-event, event, and post-event). Overall, the eleven stock indices show a clear volatility spike during the event period relative to pre-event levels, indicating that Donald Trump’s reciprocal tariff announcement triggered heightened uncertainty and emotional reactions in global equity markets.

**Table 1 Volatility Estimation Results Using the Standard Deviation**

No	Index	<i>Event</i>		
		<i>Pre-event</i>	<i>Window</i>	<i>Post-Event</i>
1	JKSE (Indonesia)	1.79%	5.25%	1.07%
2	SSEC (China)	0.72%	4.19%	0.47%
3	JALSH (Afrika Selatan)	0.86%	3.13%	0.86%
4	EGX 30 (Mesir)	0.61%	1.48%	1.14%
5	SET All Share (Thailand)	1.11%	2.87%	1.04%
6	NSE All Share (Nigeria)	0.45%	0.56%	0.51%
7	IRTS (Rusia)	2.46%	2.29%	1.99%
8	Nifty 500 (India)	0.94%	1.99%	1.03%
9	IBOV (Brazil)	1.01%	2.27%	0.83%
10	KLSE (Malaysia)	0.82%	1.72%	1.02%
11	VNI (Vietnam)	0.46%	2.47%	1.50%

The volatility patterns across markets reveal substantial heterogeneity in the way the reciprocal tariff announcement was absorbed. Several markets experience a sharp but transitory surge in volatility, followed by a rapid return toward pre-event conditions, suggesting that the policy shock was quickly reassessed and incorporated into risk expectations. This pattern is particularly evident in markets with relatively deep investor bases and stronger information-processing capacity, where heightened uncertainty during the announcement window did not translate into persistent risk revaluation.

In contrast, other markets exhibit more persistent post-event volatility, indicating slower adjustment and prolonged sensitivity to trade-policy uncertainty. In these cases, the tariff announcement appears to have altered the perceived risk environment beyond the immediate event window, consistent with spillover effects that extend into subsequent trading periods. Such persistence suggests that investors required additional time to reassess the economic implications of the policy, particularly in markets that are more exposed to external trade conditions or that possess more limited market depth.

A third group of markets displays relatively muted volatility responses throughout the observation period. The limited reaction in these markets implies that domestic risk factors and local economic conditions may dominate external policy shocks, thereby dampening the transmission of tariff-induced uncertainty. Overall, the diversity of volatility trajectories underscores that trade-policy announcements do not generate uniform risk responses across emerging markets, but instead interact with country-specific characteristics such as trade exposure, investor composition, and market depth to produce asymmetric volatility adjustments.

To assess whether the volatility changes observed in the descriptive analysis are

statistically meaningful, this study applies an F-test (two-sample for variances) to compare the variance of daily returns between the pre-event and post-event periods for each stock index. This test determines whether the observed increase or decrease in volatility reflects a significant response to the U.S. reciprocal tariff announcement, rather than normal market fluctuations.

**Table 2 Volatility Significance Test Results: F-Test Two-Sample for Variances**

<i>Negara</i>	<i>Event window</i>	Mean	Variance	F	P(F<=f) one-tail	F Critical one-tail
JKSE (Indonesia)	Pre event	-0.0019	0.0003	1.1263	0.3561	1.7045
	Post event	0.0027	0.0003			
SSEC (China)	Pre event	0.0009	0.0001	3.3574***	0.0001	1.7045
	Post event	0.0003	0.0002			
JALSH (Afrika Selatan)	Pre Event	0.0008	0.0001	2.9183***	0.0006	1.7045
	Post Event	0.0017	0.0002			
EGX 30 (Mesir)	Pre event	0.0017	0.0000	3.0115***	0.0004	1.7045
	Post event	0.0003	0.0001			
SET All Share (Thailand)	Pre event	-0.0018	0.0001	1.6132*	0.0699	1.7045
	Post Event	-0.0010	0.0002			
NSE All Share (Nigeria)	Pre event	0.0002	0.0000	1.3048	0.2049	1.7045
	Post event	0.0015	0.0000			
IRTS (Rusia)	Pre Event	0.0040	0.0006	1.1888	0.2959	1.7045
	Post Event	0.0012	0.0005			
Nifty 500 (India)	Pre Event	-0.0003	0.0001	1.8286**	0.0315	1.7045
	Post Event	0.0017	0.0002			
IBOV (Brazil)	Pre Event	0.0011	0.0001	1.2248	0.2648	1.7045
	Post Event	0.0011	0.0001			
KLSE (Malaysia)	Pre Event	-0.0004	0.0001	2.5746***	0.0020	1.7045
	Post Event	-0.0002	0.0002			
VNI (Vietnam)	Pre Event	0.0009	0.0000	23.2020***	0.0000	1.7045
	Post Event	0.0008	0.0005			

Notes: \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 2 reports variance-based F-tests comparing pre- and post-event volatility across the sample, revealing heterogeneous transmission of the reciprocal-tariff shock. At the 5% level, volatility increases are significant in China (SSEC), South Africa (JALSH), Egypt (EGX 30), India (Nifty 500), Malaysia (KLSE), and Vietnam (VNI), indicating a post-event shift toward a higher-risk regime in these markets. Vietnam stands out with an exceptionally large variance shift, suggesting the strongest regime change following the announcement. In

contrast, Indonesia (JKSE), Nigeria (NSE), Russia (IRTS), and Brazil (IBOV) do not exhibit statistically significant variance changes at conventional levels, implying that the volatility response was either muted or absorbed without a clear regime break. Thailand (SET) shows weak evidence at the 10% level but is not significant at 5%, pointing to a more marginal volatility adjustment.

From a theoretical perspective, these findings are consistent with the view that trade-policy announcements primarily operate as uncertainty shocks that reprice risk and elevate return dispersion, but the adjustment is not uniform across emerging markets. The cross-market differences likely reflect structural heterogeneity in trade exposure, market depth, investor composition, and the speed at which policy uncertainty is incorporated into prices. Markets that are more sensitive to global risk conditions or external demand may experience sharper variance shifts, whereas markets with stronger domestic buffers or deeper liquidity may display more stable volatility patterns. Overall, the results suggest that the reciprocal-tariff announcement generated a meaningful volatility regime shift in several (but not all) markets, providing partial support for **H1 and reinforcing the argument** that trade-policy shocks are transmitted asymmetrically across emerging equity markets.

### Return Analysis

Market responses are reflected not only in volatility but also in return changes during the observation period. In event study research, return movements are a primary indicator for assessing whether an event has a meaningful economic impact on capital markets. When a major event introduces new information, actual returns may deviate from their normal pattern. This deviation is measured as abnormal return, which helps indicate whether the market reacts positively or negatively to the event.

**Table 3 AAR and CAAR Calculation Result**

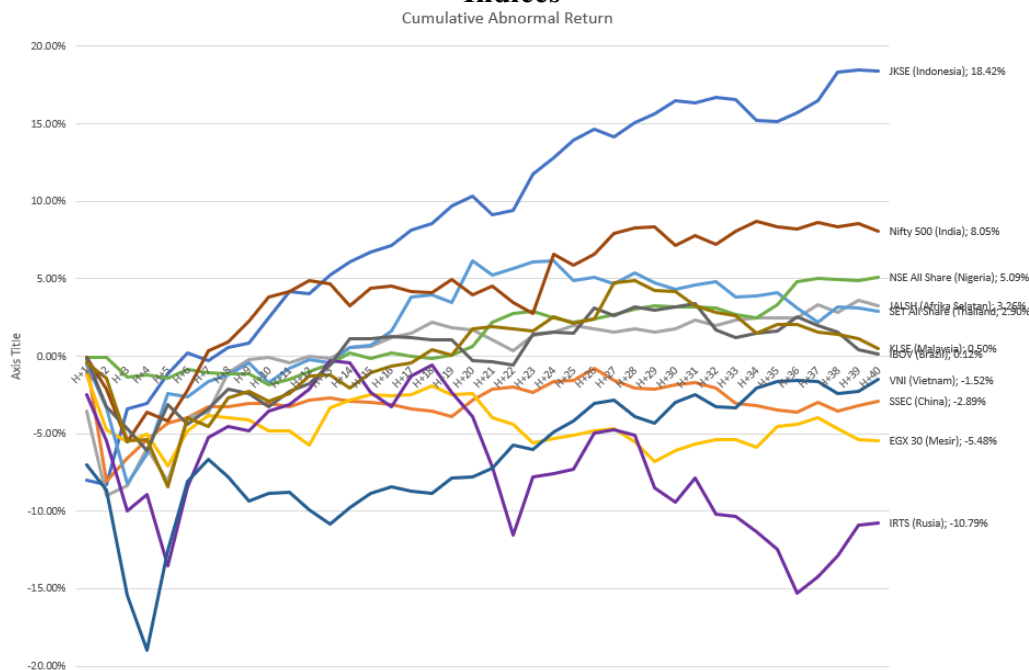
No	Index	<i>Average Abnormal Return</i>	<i>Cumulative Average Abnormal Return</i>
1	JKSE (Indonesia)	0.42%	9.19%
2	SSEC (China)	-0.07%	-2.99%
3	JALSH (Afrika Selatan)	0.11%	0.66%
4	EGX 30 (Mesir)	-0.23%	-4.63%
5	SET All Share (Thailand)	0.06%	2.08%
6	NSE All Share (Nigeria)	0.16%	1.94%
7	IRTS (Rusia)	-0.33%	-7.52%
8	Nifty 500 (India)	0.24%	5.02%
9	IBOV (Brazil)	-0.03%	0.04%
10	KLSE (Malaysia)	0.03%	0.22%
11	VNI (Vietnam)	-0.11%	-6.18%

The abnormal return results reveal substantial cross-country heterogeneity in market adjustment following the reciprocal tariff announcement. Several markets exhibit positive average abnormal returns, indicating that prices recovered above their expected levels after

the initial shock. This pattern suggests a reassessment process in which investors revised their expectations and perceived the longer-term impact of the tariff policy as less adverse than initially anticipated. In contrast, other markets experience persistently negative abnormal returns, reflecting sustained pressure on equity valuations and weaker post-event sentiment.

The cumulative abnormal return dynamics further reinforce this divergence. Markets such as Indonesia and India display strong positive cumulative abnormal performance, consistent with a relatively rapid recovery in investor confidence. Conversely, Russia, Egypt, Vietnam, and China record negative cumulative abnormal returns, indicating prolonged adjustment and heightened sensitivity to global risk and trade-policy uncertainty. China's sustained negative response is particularly notable given its role as the primary target of the tariff measures, while Russia's underperformance likely reflects the interaction between external trade shocks and domestic geopolitical risk. Overall, the CAAR patterns suggest that while some emerging markets are able to absorb and reassess trade-policy shocks relatively quickly, others face more persistent valuation pressures, underscoring the asymmetric transmission of tariff-induced uncertainty across markets.

**Figure 1 Cumulative Abnormal Return (CAR) Trends of Sample Countries' Stock Indices**



The cumulative abnormal return (CAR) dynamics reveal a clear two-stage market response to the reciprocal tariff announcement. Across all indices, the immediate post-announcement period is characterized by a sharp decline in cumulative performance, indicating a rapid and broadly negative reassessment of market conditions following the policy shock. This uniform initial response suggests that the announcement was perceived as adverse news, triggering a short-run correction consistent with heightened global trade uncertainty.

Beyond the initial shock, however, recovery trajectories diverge substantially across markets, highlighting heterogeneous sensitivity to trade-policy risk. Several markets exhibit

strong and sustained rebounds, with cumulative abnormal returns turning positive and remaining so throughout the observation window. This pattern suggests that investors in these markets reassessed the longer-term implications of the tariff policy as less damaging than initially feared, leading to a restoration of confidence and valuation recovery. Other markets display more moderate recoveries, returning to positive territory only gradually, which is consistent with partial exposure to the tariff shock and relatively contained spillover effects.

In contrast, a subset of markets shows persistent negative cumulative abnormal performance, indicating prolonged adjustment and heightened vulnerability to trade-policy uncertainty. In these cases, initial losses are not fully reversed, reflecting sustained pessimism regarding economic prospects and external risk exposure. China's weaker recovery is consistent with its role as a primary target of the tariff measures, while Russia's pronounced underperformance suggests that external trade shocks interact with domestic geopolitical and economic risks to amplify market stress. Overall, the CAR patterns underscore that while trade-policy announcements generate an immediate global shock, medium-term market outcomes are shaped by country-specific factors that condition the speed and direction of recovery.

**Tabel 4 Abnormal Return Significance Test Results Using Dummy Variable Regression**

No	Negara	Variabel	Coefficients	Standard Error	P-value
1	JKSE (Indonesia)	Intercept	-0.002	0.003	0.411
		<i>EventWindow</i>	-0.041***	0.011	0.001
		<i>PostEvent</i>	0.006***	0.004	0.071
2	SSEC (China)	Intercept	0.001	0.002	0.572
		<i>EventWindow</i>	-0.013**	0.005	0.014
		<i>PostEvent</i>	0.001	0.002	0.797
3	JALSH (Afrika Selatan)	Intercept	0.001	0.002	0.662
		<i>EventWindow</i>	-0.016***	0.005	0.002
		<i>PostEvent</i>	0.003	0.002	0.191
4	EGX 30 (Mesir)	Intercept	0.002	0.002	0.285
		<i>EventWindow</i>	-0.014***	0.005	0.002
		<i>PostEvent</i>	-0.001	0.002	0.688
5	SET All Share (Thailand)	Intercept	-0.002	0.002	0.337
		<i>EventWindow</i>	-0.016**	0.006	0.014
		<i>PostEvent</i>	0.002	0.003	0.405
6	NSE All Share (Nigeria)	Intercept	0.000	0.001	0.775
		<i>EventWindow</i>	-0.003	0.002	0.221
		<i>PostEvent</i>	0.002**	0.001	0.046
7	IRTS (Rusia)	Intercept	0.004	0.004	0.298
		<i>EventWindow</i>	-0.027**	0.011	0.012
		<i>PostEvent</i>	0.000	0.005	0.948
8		Intercept	0.000	0.002	0.825

**Tabel 4 Abnormal Return Significance Test Results Using Dummy Variable Regression**

No	Negara	Variabel	Coefficients	Standard Error	P-value	
	Nifty 500 (India)	<i>EventWindow</i>	-0.008*	0.005	0.098	
		<i>PostEvent</i>	0.004	0.002	0.112	
	9	IBOV (Brazil)	Intercept	0.001	0.002	0.533
<i>EventWindow</i>			-0.006	0.005	0.202	
	10	KLSE (Malaysia)	<i>PostEvent</i>	0.000	0.002	0.833
			Intercept	0.000	0.002	0.784
	<i>EventWindow</i>	-0.017***	0.005	0.000		
	11	VNI (Vietnam)	<i>PostEvent</i>	0.002	0.002	0.263
			Intercept	-0.002	0.003	0.411
	<i>EventWindow</i>	-0.041***	0.011	0.001		
		<i>PostEvent</i>	0.006***	0.004	0.071	

Notes: \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4 reports the single-step OLS dummy regressions for abnormal returns. Overall, the reciprocal tariff announcement is associated with negative and statistically significant abnormal returns during the event window in most markets, indicating an immediate adverse pricing response. At conventional significance levels, the event-window dummy is negative for Indonesia (JKSE), China (SSEC), South Africa (JALSH), Egypt (EGX 30), Thailand (SET), Russia (IRTS), Malaysia (KLSE), and Vietnam (VNI), while India (Nifty 500) shows weaker evidence at the 10% level. The largest event-window declines are observed in Indonesia and Vietnam ( $\beta_1 \approx -0.041$ ), suggesting the strongest short-run market stress among the sample. In contrast, Brazil (IBOV) and Nigeria (NSE) do not exhibit significant negative abnormal returns during the event window, implying a more muted immediate price reaction in these markets.

Post-event coefficients are largely insignificant, suggesting that the negative pricing effect is concentrated around the announcement rather than persistently depressing returns thereafter. A modest rebound is observed in Indonesia and Vietnam at the 10% level ( $\beta_2 \approx 0.006$ ,  $p \approx 0.071$ ), while Nigeria exhibits a small but significant positive post-event effect ( $\beta_2 \approx 0.002$ ,  $p = 0.046$ ), consistent with delayed adjustment or market-specific reallocation dynamics.

From a conceptual perspective, the pattern is consistent with trade-policy announcements operating as uncertainty shocks that trigger a rapid reassessment of expected cash flows and risk premia, producing immediate negative abnormal returns around the announcement window. The concentration of significance in the event window, combined with generally weak post-event effects, implies that markets absorb the policy signal relatively quickly, with limited evidence of prolonged price underreaction. Importantly, the cross-market dispersion in both the magnitude and persistence of abnormal returns indicates that policy shocks are not absorbed uniformly across emerging markets, aligning with a multi-channel adjustment view under global policy uncertainty rather than a single, symmetric reaction.

The heterogeneity across markets is plausibly driven by structural differences in trade exposure, liquidity depth, investor composition, and sensitivity to global risk cycles. Markets that are more externally exposed or more responsive to global risk repricing may exhibit sharper event-window declines, whereas markets with stronger domestic investor bases or different sectoral compositions may show muted return responses. Overall, **the findings provide broad support for H2**, while also emphasizing that abnormal return effects are asymmetric across countries and largely front-loaded around the event date.

### Volume Analysis

Abnormal trading volume provides an additional perspective on how trading activity changes in response to the event. An increase in volume suggests strong emotional reactions or active portfolio rebalancing, whereas a decline in volume indicates a “wait-and-see” stance or greater investor caution.

**Tabel 5 AAV and CAAV Calculation Result**

No	Index	<i>Average Abnormal Volume</i>	<i>Cumulative Average Abnormal Volume</i>
1	JKSE (Indonesia)	25.80%	331.43%
2	SSEC (China)	-15.95%	-259.91%
3	JALSH (Afrika Selatan)	-0.73%	151.49%
4	EGX 30 (Mesir)	20.57%	261.72%
5	SET All Share (Thailand)	1.10%	100.67%
6	NSE All Share (Nigeria)	11.38%	28.22%
7	IRTS (Rusia)	-38.63%	-698.42%
8	Nifty 500 (India)	23.49%	418.06%
9	IBOV (Brazil)	4.24%	209.86%
10	KLSE (Malaysia)	-13.59%	-334.07%
11	VNI (Vietnam)	10.51%	346.90%

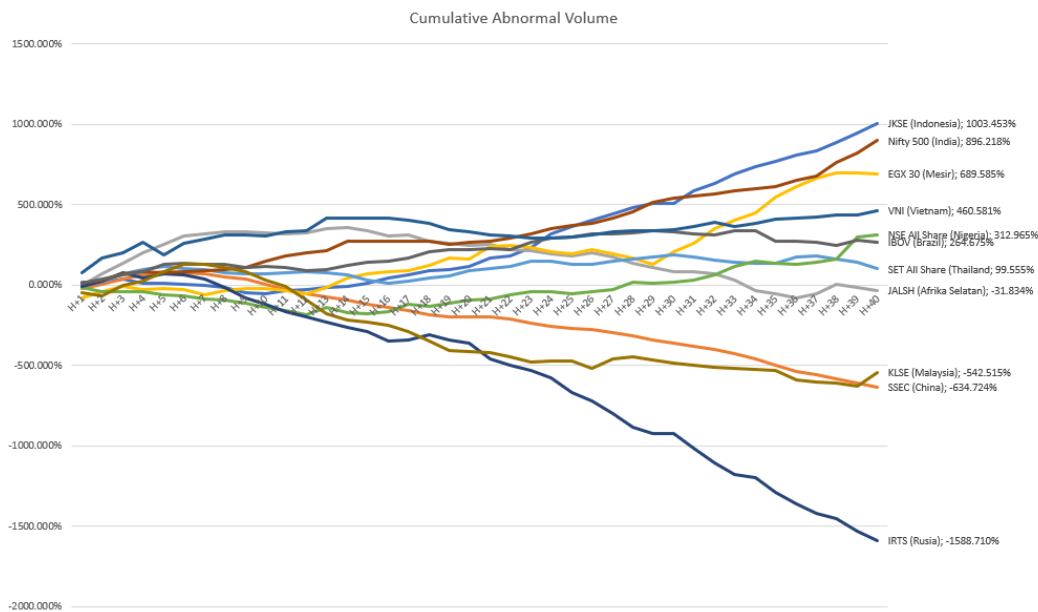
The abnormal trading volume patterns reveal clear cross-country heterogeneity in market participation following the reciprocal tariff announcement. A first group of markets—most notably Indonesia, India, and Egypt—exhibits pronounced and persistent increases in trading activity after the event. This pattern indicates active portfolio rebalancing, where investors responded to heightened uncertainty by adjusting positions over multiple trading sessions rather than reacting only on impact. The sustained accumulation of abnormal volume in these markets suggests that the tariff shock triggered a prolonged reassessment process, consistent with relatively reactive investor structures commonly observed in emerging markets.

In contrast, China, Malaysia, and Russia display marked contractions in trading activity following the announcement, indicating a more cautious “wait-and-see” response. In these markets, declining abnormal volume suggests reduced participation and potential liquidity withdrawal under elevated policy uncertainty. China’s contraction is consistent with its direct exposure as a primary target of the tariff measures, where investors may have postponed

trading decisions amid unclear policy trajectories. Russia exhibits the strongest volume decline, reflecting the interaction between external trade shocks and domestic geopolitical and economic risks that likely amplified investor caution and suppressed market participation.

A third group of markets, including South Africa, Brazil, Thailand, Nigeria, and Vietnam, shows more gradual and moderate increases in trading activity. Rather than an immediate surge, trading volume in these markets accumulates over time, suggesting slower information digestion and staggered adjustment. This pattern implies that investors required additional time to interpret the policy implications before engaging in larger-scale trading, leading to delayed but persistent increases in market participation. Overall, the volume evidence underscores that liquidity and participation adjust more slowly and asymmetrically than volatility and price channels. While valuation and risk repricing tend to occur rapidly around the announcement window, trading activity reflects a more prolonged and market-specific adjustment process shaped by trade exposure, domestic risk conditions, and investor behavior.

**Figure 2 Cumulative Abnormal Volume (CAV) Trends of Sample Countries' Stock Indices**



The cumulative abnormal trading volume (CAV) dynamics reveal pronounced cross-country heterogeneity in how market participation adjusted following the reciprocal tariff announcement. Rather than reacting uniformly, markets display distinct participation regimes that reflect differences in investor behavior, liquidity conditions, and exposure to trade-policy uncertainty. These patterns indicate that the policy shock was transmitted not only through price and volatility channels but also through sustained changes in transaction intensity.

Indonesia and India, exhibits a strong and persistent expansion in cumulative trading volume throughout the post-event window. This pattern suggests highly responsive investor behavior, where heightened uncertainty triggered continuous portfolio rebalancing rather than a short-lived burst of activity. Similar sustained increases are observed in Egypt,

Vietnam, Nigeria, and Brazil, indicating that in these markets the tariff shock induced prolonged trading engagement as investors repeatedly reassessed risk and valuation during the adjustment phase. Such behavior is consistent with emerging markets characterized by more reactive investor structures and active repositioning under global risk shocks.

Thailand displays only limited cumulative growth in trading activity, while South Africa records a slight net decline, implying that initial reactions were not sustained over time. These patterns suggest partial adjustment, where investors responded cautiously and gradually reduced trading intensity as uncertainty persisted, reflecting neither full withdrawal nor aggressive reallocation.

In contrast, most notably China, Malaysia, and Russia experiences substantial contractions in cumulative trading volume following the announcement. This sustained decline indicates risk-off behavior and reduced market participation, consistent with liquidity withdrawal under elevated policy uncertainty. China's contraction aligns with its position as a primary target of the tariff measures, where investors may have delayed transactions amid unclear policy trajectories. Russia's pronounced decline suggests that external trade shocks interacted with domestic geopolitical and economic constraints, amplifying investor caution and suppressing trading activity well beyond the initial event window.

**Table 6 Abnormal Trading Volume Significance Test Results Using Dummy Variable Regression**

No	Negara	Variabel	Coefficients	Standard Error	P-value
1	JKSE (Indonesia)	Intercept	23.400***	0.050	0.000
		abs_return	3.197	2.343	0.176
		EventWindow	-0.003	0.182	0.986
		PostEvent	0.287***	0.054	0.000
2	SSEC (China)	Intercept	24.600***	0.020	0.000
		abs_return	6.571***	1.688	0.000
		EventWindow	0.023	0.070	0.747
		PostEvent	-0.182***	0.026	0.000
3	JALSH (Afrika Selatan)	Intercept	19.352***	0.048	0.000
		abs_return	8.337**	3.814	0.032
		EventWindow	0.328**	0.144	0.025
		PostEvent	-0.060	0.056	0.288
4	EGX 30 (Mesir)	Intercept	18.658***	0.060	0.000
		abs_return	8.577	5.437	0.119
		EventWindow	-0.124	0.171	0.470
		PostEvent	0.214***	0.078	0.007
5	SET All Share (Thailand)	Intercept	21.631***	0.043	0.000
		abs_return	11.835***	3.033	0.000
		EventWindow	0.044	0.119	0.716
		PostEvent	0.013	0.047	0.779
6		Intercept	19.934***	0.068	0.000
		abs_return	2.026	11.223	0.857

**Tabel 6 Abnormal Trading Volume Significance Test Results Using Dummy Variable Regression**

No	Negara	Variabel	Coefficients	Standard Error	P-value
7	NSE All Share (Nigeria)	<i>EventWindow</i>	-0.125	0.175	0.475
		<i>PostEvent</i>	0.142*	0.083	0.090
		Intercept	25.157***	0.071	0.000
	IRTS (Rusia)	<i>abs_return</i>	8.050***	2.576	0.002
		<i>EventWindow</i>	0.055	0.157	0.726
		<i>PostEvent</i>	-0.425***	0.074	0.000
8	Nifty 500 (India)	Intercept	21.473***	0.046	0.000
		<i>abs_return</i>	2.175	3.706	0.559
		<i>EventWindow</i>	0.134	0.115	0.250
		<i>PostEvent</i>	0.244***	0.052	0.000
9	IBOV (Brazil)	Intercept	23.003***	0.039	0.000
		<i>abs_return</i>	11.397***	3.198	0.001
		<i>EventWindow</i>	0.143	0.094	0.133
		<i>PostEvent</i>	0.035	0.042	0.410
10	KLSE (Malaysia)	Intercept	19.044***	0.055	0.000
		<i>abs_return</i>	20.983***	4.414	0.000
		<i>EventWindow</i>	-0.057	0.149	0.701
		<i>PostEvent</i>	-0.176**	0.066	0.010
11	VNI (Vietnam)	Intercept	23.400***	0.050	0.000
		<i>abs_return</i>	3.197	2.343	0.176
		<i>EventWindow</i>	-0.003	0.182	0.986
		<i>PostEvent</i>	0.287***	0.054	0.000

Notes: \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6 reports the dummy-variable OLS results for abnormal trading volume (log volume), controlling for contemporaneous price movement via absolute returns. Overall, the event-window dummy is insignificant in most markets, indicating that the tariff announcement did not generally trigger an immediate surge in trading activity on impact. A notable exception is South Africa (JALSH), which shows a significant positive event-window effect, suggesting short-run trading intensification during the announcement window. The more pronounced adjustments occur after the event: post-event trading volume increases significantly in Indonesia (JKSE), Egypt (EGX 30), India (Nifty 500), and Vietnam (VNI), consistent with sustained reallocation and elevated turnover following the shock. In contrast, post-event volume declines significantly in China (SSEC), Russia (IRTS), and Malaysia (KLSE), indicating a contraction in trading activity and potentially reduced liquidity after the announcement. Thailand (SET) and Brazil (IBOV) show no significant post-event change, while Nigeria exhibits only weak evidence of a post-event increase at the 10% level.

Conceptually, these results support the idea that trading activity may react more slowly than risk and price channels in response to policy uncertainty. Rather than an immediate volume spike, several markets display delayed post-event volume shifts, consistent with gradual portfolio rebalancing, staggered information processing, and liquidity management under uncertainty. The cross-market divergence post-event expansions in some markets and contractions in others also highlights asymmetric transmission of trade-policy shocks. Rising post-event volume may reflect intensified repositioning and risk re-hedging, whereas falling post-event volume may indicate liquidity withdrawal, heightened caution, or a ‘wait-and-see’ stance that suppresses trading participation. Overall, **the evidence provides partial support for H3** abnormal trading volume responses are present, but they are heterogeneous in both direction and timing across BRICS and partner indices.

### Discussion

The empirical results indicate that the U.S. reciprocal tariff announcement in April 2025 generated asymmetric and multi-dimensional reactions across BRICS and partner equity markets. Rather than adjusting uniformly, markets responded through distinct channels volatility, returns, and trading activity each operating at different speeds and with varying intensity. This pattern suggests that trade-policy shocks are transmitted primarily as uncertainty shocks that first reprice risk, then affect valuation, and only later influence market participation and liquidity.

The volatility findings show statistically significant post-event variance shifts in several markets, supporting the economic policy uncertainty framework, which posits that unexpected policy interventions elevate ambiguity regarding future economic conditions and future cash flows, thereby increasing perceived risk (Scott R. Baker, Nicholas Bloom, 2016). Markets with stronger integration into global trade networks or closer exposure to U.S. trade policy exhibit more pronounced volatility adjustments, consistent with evidence of cross-market risk transmission in emerging economies (Singh et al., 2024). Conversely, markets with muted volatility responses suggest that domestic market structure, investor composition, or local risk factors may partially buffer external policy shocks. These findings challenge a strict interpretation of the Efficient Market Hypothesis, as policy uncertainty appears to induce changes in the risk environment that extend beyond immediate information absorption (Fama, 1970).

Abnormal return results further indicate that equity prices react rapidly and predominantly negatively around the event window, reflecting an immediate reassessment of expected cash flows and risk premia following the tariff announcement. The concentration of statistically significant abnormal returns during the event window is broadly consistent with event-study evidence from prior trade-war episodes, where tariff announcements triggered sharp but short-lived pricing responses (Ang & Wang, 2023). However, the heterogeneous recovery paths observed across markets suggest that post-event price dynamics are shaped by country-specific characteristics, such as trade dependence, macroeconomic resilience, and investor depth. This behavior aligns with a hybrid view combining market efficiency with behavioral finance insights, where prices adjust quickly, yet investor reassessment and sentiment contribute to cross-market divergence following the initial shock (Barberis & Thaler, 2002; De Bondt & Thaler, 1985)

In contrast to volatility and returns, trading volume responses are generally delayed and mixed in direction. The absence of strong immediate volume reactions during the event

window, coupled with significant post-event adjustments in several markets, is consistent with the Mixture of Distributions Hypothesis, which suggests that price and volume are driven by common information flows but do not necessarily adjust synchronously (Karpoff, 1987). Post-event increases in trading activity in some markets reflect active portfolio rebalancing and risk repositioning under heightened uncertainty, a pattern frequently documented in studies of systemic announcements and crisis periods (Bajzik, 2021; Ozdemir, 2020). Conversely, post-event volume contractions in other markets may signal heightened caution, liquidity withdrawal, or a prolonged “wait-and-see” stance, particularly where policy uncertainty is perceived as persistent or compounded by domestic risk factors.

Taken together, these findings support a multi-channel adjustment perspective in which trade-policy uncertainty is transmitted sequentially through financial markets. Risk repricing, as reflected in volatility, emerges as the earliest response, followed by rapid valuation adjustment in prices, while liquidity and participation respond more gradually and asymmetrically across markets. This integrated evidence refines conventional event-study interpretations by demonstrating that market reactions to trade-policy shocks cannot be fully captured by price movements alone and underscores the importance of incorporating volatility and trading activity indicators when assessing market stability under global policy uncertainty.

## CONCLUSION

This study examines the equity-market impact of the U.S. reciprocal tariff announcement on 2 April 2025 across BRICS and selected partner markets using an event-study framework that jointly evaluates volatility, abnormal returns, and abnormal trading volume. The findings reveal heterogeneous and asymmetric transmission of the trade-policy shock across markets and across market dimensions. Volatility shifts are significant in several indices, indicating a post-event change in risk conditions in parts of the sample, while abnormal returns are largely negative and concentrated within the event window, suggesting an immediate adverse pricing response around the announcement. In contrast, abnormal trading volume responses are mostly delayed and mixed in direction, with some markets showing post-event increases consistent with portfolio rebalancing, while others display post-event contractions suggestive of liquidity withdrawal or cautious participation. Overall, the evidence implies that trade-policy shocks are not absorbed uniformly across emerging markets, and that risk, price, and trading channels can adjust at different speeds and with different signs.

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