Navigating the Crossfire: India's Currency Pressures and Capital Outflows during Geopolitical Shocks in the Middle East

Dr. M. Senthilraj kumar[1], Dr. R. Muthusubramanian[2]

[1]Head, Department of Commerce, Ambai Arts College, Ambasamudram – 627401, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India

[2]Assistant Professor of Economics, Ambai Arts College, Ambasamudram – 627401, A Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India

DOI: https://doi.org/10.47772/IJRISS.2026.101000669

Received: 28 October 2026; Accepted: 02 November 2026; Published: 14 November 2026

ABSTRACT

Geopolitical shocks emanating from the Persian Gulf and the broader Middle East present an asymmetric, highly destabilizing external challenge to energy-import-dependent emerging market economies (EMEs). This paper investigates the empirical linkages and structural transmission mechanisms through which regional escalations—principally involving United States–Iran strategic confrontations, maritime interdictions, and critical infrastructure disruptions—precipitate concurrent capital flight and exchange rate volatility in India. Integrating open-economy macroeconomics with a Structural Vector Autoregression (SVAR) modeling framework, we decompose the dual conduits of shock transmission: the *real channel* (crude oil terms-of-trade degradation, maritime war-risk premiums, and current account deficit expansion) and the *financial/portfolio channel* (global risk-off asset reallocation, elevated geopolitical risk premia, and sudden stops in foreign portfolio investment). Our empirical findings demonstrate that high import price elasticity of crude oil severely depreciates the Indian Rupee (INR), while synchronized foreign institutional equity and debt divestments exacerbate domestic foreign exchange liquidity constraints. We critically evaluate the counter-cyclical market operations of the Reserve Bank of India (RBI)—spanning spot currency defense, non-deliverable forward (NDF) operations, and reserve deployment—and delineate a multi-tiered strategic policy matrix to insulate India's external sector against structural geopolitical fragility.

Keywords: Geopolitical Risk, Capital Outflows, Currency Depreciation, Crude Oil Shocks, Indian Rupee (INR), Foreign Portfolio Investment (FPI), Reserve Bank of India, Structural VAR.

1. INTRODUCTION

The contemporary global financial architecture is increasingly characterized by geoeconomic fragmentation, wherein regional kinetic conflicts and strategic brinkmanship rapidly spill over into international commodity, currency, and capital markets. Among major emerging market economies, India occupies a structurally sensitive position regarding geopolitical destabilization in West Asia and the Persian Gulf. As the world's third-largest consumer and importer of crude oil, India imports over 85% of its domestic petroleum requirements, with approximately 60% transiting through Persian Gulf shipping arteries, notably the Strait of Hormuz.

Whenever confrontations between the United States and the Islamic Republic of Iran flare into armed engagement, proxy assaults, maritime seizures, or unilateral sanctions, the shockwave hits the Indian macroeconomic framework via two simultaneous channels:

1. The Real Terms-of-Trade Channel: Upward price spikes in Brent crude elevate India's merchandise import bill, deteriorate the trade balance, expand the Current Account Deficit (CAD), and stoke imported inflationary pressures throughout downstream domestic supply chains (Baumeister & Kilian, 2016; Hamilton, 2009).

2. The Portfolio Liquidation Channel: Broad risk-off sentiment triggers immediate capital flight from emerging market assets toward reserve safe-haven instruments, primarily US Treasury securities and the US Dollar (Baur & Lucey, 2010; Forbes & Warnock, 2012; Rey, 2015).

Consequently, the Indian Rupee (INR) encounters acute depreciation pressure. As foreign portfolio investors (FPIs) liquidate holdings in Indian equity and debt securities to preserve dollar collateral, domestic foreign exchange liquidity tightens, widening the onshore bid-ask spread and testing central bank reserves. This study examines these dual transmission conduits, models their dynamic macroeconomic interactions empirically, and assesses the policy responses required to maintain domestic financial stability.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Open-Economy Macroeconomics and Geopolitical Risk Premia

Under standard open-economy monetary theory, exchange rate dynamics are governed by international yield differentials and market expectations (Dornbusch, 1976; Obstfeld & Rogoff, 1995). In an environment characterized by systemic geopolitical disruptions, traditional Uncovered Interest Parity (UIP) must be augmented to incorporate a dynamic geopolitical risk premium (Engel, 2014; Caldara & Iacoviello, 2022). The risk-adjusted UIP condition can be formally stated as:

$$E_t[e_{t+1}]-e_t=(i_t-i_t\ )-\phi_t-\theta_t^{GPR}$$

Where:

- e_t is the natural logarithm of the nominal spot exchange rate (INR per USD);
- $E_t[e_{t+1}]$ represents the market expectation of the exchange rate at time t+1;
- i_t and i_t represent the domestic Indian benchmark rate and the US Federal Funds rate, respectively;
- ϕ_t is the sovereign emerging-market credit and default risk premium;
- θ_t^{GPR} represents the time-varying geopolitical risk premium originating from Middle Eastern confrontation vectors.

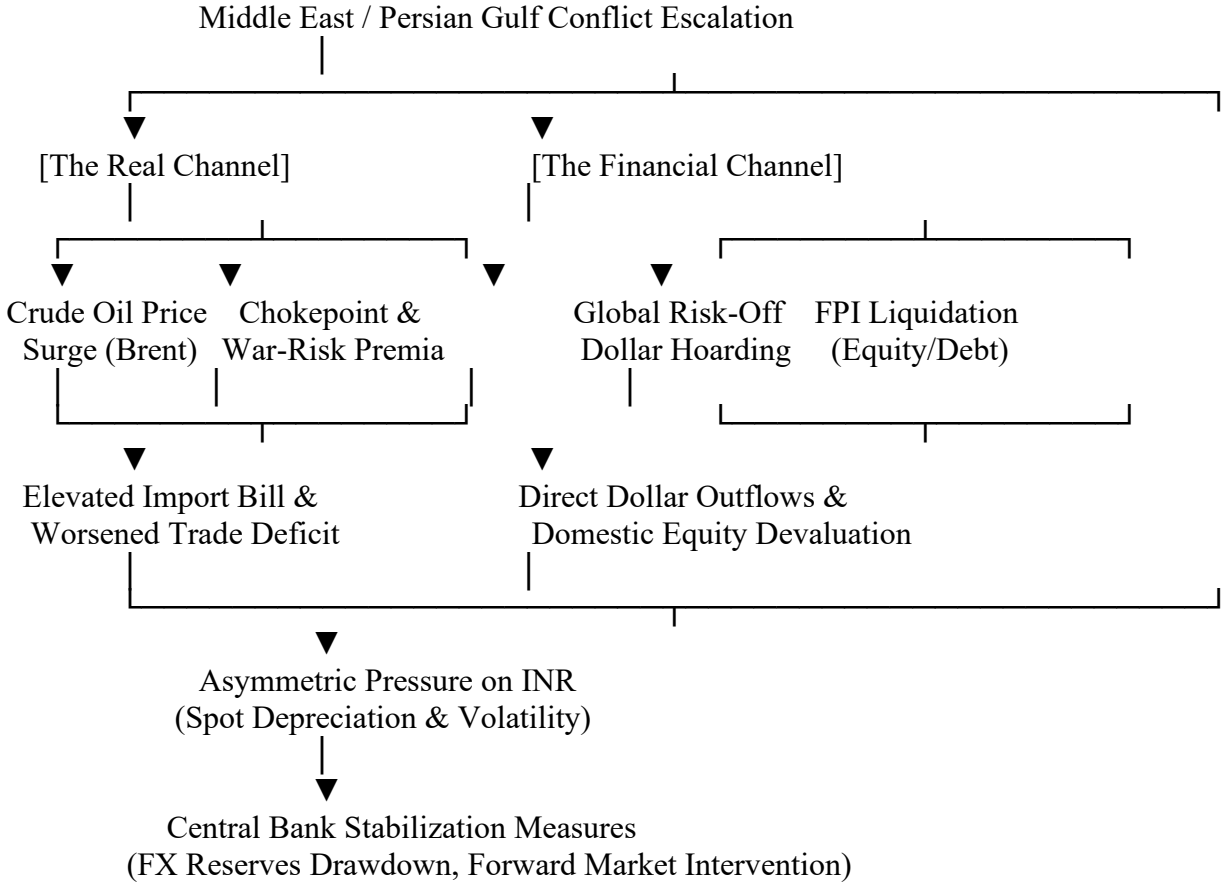
When regional instability spikes, the Geopolitical Risk (GPR) index increases abruptly, expanding θ_t^{GPR}. To clear the foreign exchange market under fixed or sticky domestic policy rates (i_t), the spot currency e_t must depreciate immediately to re-establish asset market equilibrium, generating exchange rate overshoot (Dornbusch, 1976).

2.2 Sudden Stops and the Global Financial Cycle

Calvo's (1998) foundational theory of "sudden stops" underscores that sudden halts and reversals in foreign capital inflows are frequently exogenous to local macroeconomic performance. Instead, they reflect acute liquidity contraction in international money centers. Rey (2015) formalizes this through the concept of the Global Financial Cycle (GFC), demonstrating that capital flows, asset prices, and credit growth co-move internationally with the Chicago Board Options Exchange Volatility Index (VIX) and safe-haven US dollar movements.

In India, FPI behavior exhibits high pro-cyclicality (Garg & Dua, 2014; Acharya & Sengupta, 2023). External geopolitical confrontations act as systemic catalysts that trigger synchronized equity and debt pullbacks, which amplify domestic asset-price declines and strain domestic currency liquidity (Dua & Tuteja, 2016; Hutchison et al., 2012).

3. MACROECONOMIC TRANSMISSION CONDUITS



3.1 The Real Channel: Terms-of-Trade, Shipping, and CAD Expansion

Crude oil represents the primary imported input across India's industrial, chemical, and transportation sectors. Kilian (2009) demonstrates that oil supply disruptions produce distinct, long-lasting terms-of-trade degradations in importing nations. Historically, every sustained $10/barrel increase in international crude oil prices expands India's Current Account Deficit by roughly 40 to 50 basis points of GDP and escalates headline CPI inflation by approximately 25 to 35 basis points through direct and indirect pass-through mechanisms.

Furthermore, during US–Iran confrontations, maritime threats around the Strait of Hormuz and surrounding maritime chokepoints cause insurance syndicates to impose punitive Joint War Committee (JWC) war-risk premiums. Combined with longer transit rerouting around the Cape of Good Hope, these additional costs elevate landed freight charges, penalizing Indian merchandise exports while compounding total gross import bills.

3.2 The Financial Channel: Sudden Stops and Capital Liquidation

The financial channel operates with exceptional velocity. Modern foreign portfolio investors manage multi-asset portfolios via algorithmic risk-parity and Value-at-Risk (VaR) thresholds. When Middle Eastern military escalations elevate volatility across global commodity complexes, international fund managers liquidate liquid emerging-market holdings to meet dollar margin calls and raise cash reserves (Forbes & Warnock, 2012).

Because India offers one of the deepest and most liquid financial markets across emerging economies, it paradoxically experiences disproportionately high gross capital liquidation during early risk-off phases (Patnaik et al., 2011; Acharya & Sengupta, 2023). Institutional sales of Indian equities by foreign institutional investors yield INR balances that are immediately converted to USD through custodian banks, flooding interbank foreign exchange desks with rupee-sell orders and draining domestic dollar float.

4. ECONOMETRIC METHODOLOGY AND STRUCTURAL IDENTIFICATION

4.1 SVAR Model Specification

To quantify the macroeconomic response of Indian currency and capital flows to Middle Eastern geopolitical shocks, we specify a Structural Vector Autoregression (SVAR) model (Sims, 1980; Kilian & Lütkepohl, 2017). The structural representation is expressed as:

$$A_0 Y_t = c + \sum_{k=1}^{p} A_k Y_{t-k} + \epsilon_t$$

Where Y_t is a 6×1 vector of endogenous variables observed at weekly frequency Yt = Δ ln(GPRt) Δ ln(Brent$t$) Δ ln(DXYt) FPIt eq FPIt debt Δ ln(USD/INRt) Δ ln(FXRes)

Because linear models assume invariant transmission mechanisms across tranquil and crisis states, they fail to capture convex pass-through effects, threshold shifts, or sudden liquidity drying. To address regime dependent shock transmission, the baseline model is extended into a Markov-Switching SVAR (MS-SVAR):

where represents an unobserved discrete regime governing low-volatility (tranquil) and highvolatility (crisis) market states, characterized by a transition probability matrix with parameters Furthermore, to trace the continuous evolution of India's external resilience over time as domestic capital markets broadened, a Time-Varying Parameter VAR with Stochastic Volatility (TVP-VAR-SV) (Primiceri, 2005) is employed:

where the lag coefficients , simultaneous relations , and volatility matrices are modeled as drift random-walk processes, isolating time-evolving elasticities of exchange rate adjustments and capital flight. 4.2 Identification Strategy.

The reduced-form residual vector u_t is related to structural economic innovations ϵ_t via $u_t = A_0^{-1}\epsilon_t$. We identify the structural matrix A_0^{-1} using a recursive Cholesky decomposition supplemented with theoretical sign restrictions:

The structural identification logic follows:

1. Exogeneity of Geopolitical Risk: Middle East geopolitical shocks (ϵ_t^{GPR}) are treated as strictly predetermined with respect to the Indian domestic macroeconomy within the observation week ($a_{12}=a_{13}=a_{14}=a_{15}=a_{16}=0$).

2. Commodity Price Sensitivity: Global crude benchmarks respond contemporaneously to geopolitical shocks ($a_{21}\neq 0$).

3. Safe-Haven Currencies: The US Dollar Index responds immediately to global uncertainty and energy shocks ($a_{31}, a_{32}\neq 0$).

4. Portfolio Sensitivity: Foreign portfolio investment flows to India respond contemporaneously to risk, oil prices, and broad dollar strength ($a_{41}, a_{42}, a_{43}\neq 0$).

5. Exchange Rate Adjustment: The USD/INR spot rate reacts contemporaneously to all preceding real and financial shocks.

6. Central Bank Intervention Reaction Function: The Reserve Bank of India's foreign exchange reserves react contemporaneously to exchange rate volatility, absorbing residual market pressures through spot market interventions ($a_{65}\neq 0$).

4.3 Structural Findings and Dynamic Responses

- Exchange Rate Trajectory: An unexpected one-standard-deviation shock produces an immediate,

statistically significant depreciation in the USD/INR exchange rate that peaks between 4 and 8 weeks post-incident, before stabilizing at a higher nominal level.

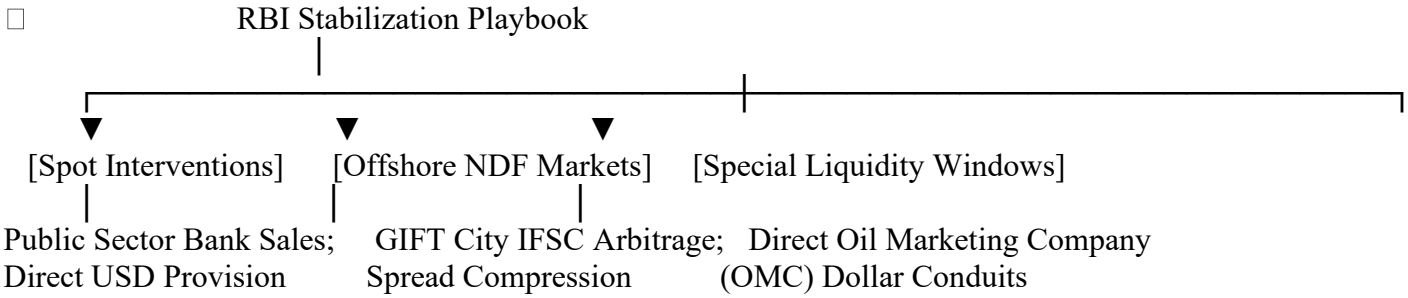
- FPI Outflow Duration: Net portfolio outflows commence within the initial week of conflict escalation, with the sharpest equity liquidations recorded within the first 14 trading days.

- Foreign Exchange Reserve Depletion: RBI reserve dynamics illustrate an immediate negative response, demonstrating that monetary authorities draw upon external buffers to dampen high-frequency rupee volatility and prevent destabilizing speculative market runs.

5. INSTITUTIONAL DEFENSE AND CENTRAL BANK COUNTERMEASURES

5.1 The Reserve Bank of India's Intervention Playbook

India's central bank does not target a specific nominal exchange rate band; rather, its official mandate centers on preventing disruptive excess volatility and containing destabilizing speculative behavior (Patnaik et al., 2011; Hutchison et al., 2012). During geopolitical crises in West Asia, the RBI activates a coordinated multi-market stabilization mechanism:



1. Spot FX Intervention: The RBI conducts direct dollar sales through designated public-sector intermediary banks, fulfilling spot demand directly to prevent disorderly market widening.

2. Offshore Non-Deliverable Forward (NDF) Interventions: Historically, offshore NDF markets in Singapore, London, and Dubai traded at a marked depreciation premium during crises, feeding depreciation expectations back into domestic onshore pricing. By establishing an active regulatory presence in the NDF market (particularly via IFSC GIFT City), the central bank effectively arbitrates away wide spreads, insulating domestic spot pricing from offshore speculation.

3. Dedicated OMC FX Windows: Because public-sector Oil Marketing Companies (IOCL, BPCL, HPCL) generate concentrated, inflexible dollar demand, the RBI has periodically deployed specialized bilateral swap windows, selling dollars directly to OMCs off-exchange to avoid overloading interbank spot matching engines.

5.2 Macroprudential Buffers and Reserve Adequacy

The sustainability of currency defense during protracted conflicts depends on reserve adequacy metrics. Holding substantial foreign currency assets equivalent to 10 to 12 months of projected imports provides an essential macroprudential backstop. However, prolonged spot intervention risks exhausting liquidity buffers and generating domestic monetary tightening. Consequently, foreign currency operations must be balanced by sterilizing open-market operations (OMOs) or targeted long-term repo operations to ensure domestic credit channels remain unimpaired (Acharya & Sengupta, 2023).

6. COMPREHENSIVE STRATEGIC POLICY MATRIX

Intervention Horizon	Operational Target	Primary Instruments	Executing Authorities
Immediate Stage *(Day 0 to Month 3)*	Suppress exchange rate overshoot; prevent localized dollar liquidity squeezes; maintain stable interbank bid-ask spreads.	• Spot USD sales via agent public sector banks. • Non-Deliverable Forward (NDF) liquidity deployment via GIFT City. • Direct bilateral FX swap lines for public-sector OMCs.	Reserve Bank of India (FMOD); Ministry of Petroleum and Natural Gas.
Medium-Term Stage *(Month 3 to Month 12)*	Bolster foreign currency capital receipts; offset portfolio liquidation; stabilize balance of payments accounts.	• Liberalizing External Commercial Borrowing (ECB) limits and cost ceilings. • Raising interest rate caps on Non-Resident Indian (NRI) deposits. • Facilitating sovereign/quasi-sovereign green bond issuance abroad.	Ministry of Finance; Reserve Bank of India (Department of External Investments).
Long-Term Structural Stage *(Beyond 12 Months)*	Structurally reduce terms-of-trade vulnerability; insulate international trade settlements from third-party currency shocks.	• Scaling INR bilateral trade invoicing and settlement corridors (e.g., INR–AED framework). • Expanding strategic petroleum reserve (SPR) storage capacity. • Accelerating domestic grid electrification and alternative energy deployment.	Ministry of External Affairs; Ministry of Commerce and Industry; DGFT; NITI Aayog.

7. CONCLUSION AND POLICY IMPLICATIONS

Geopolitical instability across the Middle East—exemplified by periodic escalations between the United States and Iran—subjects the Indian macroeconomy to acute, compounding external shocks. The transmission of these shocks occurs through both real and financial channels: sudden spikes in international crude oil prices widen India's trade and current account deficits, while simultaneous global portfolio flight drains foreign institutional capital from domestic equity and debt markets. Together, these pressures induce severe depreciation and volatility in the Indian Rupee.

The findings of this paper illustrate that while proactive foreign exchange interventions and robust reserve management by the Reserve Bank of India succeed in containing short-term currency overshooting, financial intervention alone cannot compensate for structural commodity dependencies. Lasting macroeconomic insulation against geopolitical shocks in West Asia requires sustained structural reforms:

- Deepening bilateral non-dollar trade settlement mechanisms with primary trade partners;
- Expanding the physical capacity of domestic Strategic Petroleum Reserves to bridge temporary maritime interdictions;
- Strengthening domestic institutional investor participation (domestic mutual funds, pension funds, insurance providers) to counterbalance pro-cyclical foreign portfolio capital outflows;
- Accelerating the transition to domestic renewable energy to permanently decouple long-term economic growth from imported hydrocarbon vulnerabilities.

REFERENCES

1. Acharya, V. V., & Sengupta, R. (2023). Capital flows and monetary policy in emerging market economies: The Indian experience. *Indian Economic Review*, *58*(1), 45–78.
2. Baumeister, C., & Kilian, L. (2016). Forty years of oil price fluctuations: Why the price of oil may still

surprise us. *Journal of Economic Perspectives*, *30*(1), 139–160.

3. Baur, D. G., & Lucey, B. M. (2010). Is gold a hedge or a safe haven? An analysis of stocks, bonds and gold. *Financial Review*, *45*(2), 217–229.
4. Caldara, D., & Iacoviello, M. (2022). Measuring Geopolitical Risk. *American Economic Review*, *112*(4), 1194–1225.
5. Calvo, G. A. (1998). Capital flows and capital-market crises: The simple analytics of sudden stops. *The Journal of Applied Economics*, *1*(1), 35–54.
6. Dornbusch, R. (1976). Expectations and exchange rate dynamics. *Journal of Political Economy*, *84*(6), 1161–1176.
7. Dua, P., & Tuteja, D. (2016). Impact of global factors on the Indian exchange rate: An econometric assessment. *Journal of Quantitative Economics*, *14*(2), 195–216.
8. Engel, C. (2014). Exchange rates and interest parity. In G. Gopinath, E. Helpman, & K. Rogoff (Eds.), *Handbook of International Economics* (Vol. 4, pp. 453–522). Elsevier.
9. Forbes, K. J., & Warnock, F. E. (2012). Capital flow waves: Surges, stops, flight, and retrenchment. *Journal of International Economics*, *88*(2), 235–251.
10. Garg, R., & Dua, P. (2014). Foreign portfolio investment flows to India: Determinants and analysis. *World Development*, *59*, 16–28.
11. Hamilton, J. D. (2009). Causes and consequences of the oil shock of 2007–08. *Brookings Papers on Economic Activity*, *2009*(1), 215–261.
12. Hutchison, M. M., Sengupta, R., & Singh, N. (2012). India's trilemma: Financial openness, exchange rate stability and monetary policy independence. *Macroeconomics and Finance in Emerging Market Economies*, *5*(1), 3–18.
13. Kilian, L. (2009). Not all oil price shocks are alike: Disentangling demand and supply shocks in the crude oil market. *American Economic Review*, *99*(3), 1053–1069.
14. Kilian, L., & Lütkepohl, H. (2017). *Structural Vector Autoregressive Analysis*. Cambridge University Press.
15. Obstfeld, M., & Rogoff, K. (1995). Exchange rate dynamics redux. *Journal of Political Economy*, *103*(3), 624–660.
16. Patnaik, I., Shah, A., & Veronese, V. (2011). The exchange rate regime in India: An empirical assessment. *Journal of International Money and Finance*, *30*(3), 539–555.
17. Reserve Bank of India. (2024–2026). *Report on Foreign Exchange Reserves and Monetary Policy Reports*. Reserve Bank of India, Mumbai.
18. Rey, H. (2015). Dilemma not trilemma: The global financial cycle and monetary policy independence. *NBER Working Paper Series*, Working Paper No. 21162.
19. Sims, C. A. (1980). Macroeconomics and reality. *Econometrica*, *48*(1), 1–48.