

THE IMPACT OF THE USA–IRAN CONFLICT ON INDIA'S FINANCIAL SYSTEM: THE ROLE OF OIL PRICES AND EXCHANGE RATE VOLATILITY

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Abstract

Geopolitical conflicts have become significant external shocks influencing global economic stability and financial markets. Among these, the ongoing tensions between the United States and Iran have repeatedly disrupted international crude oil markets, leading to increased price volatility and uncertainty. As one of the world's largest crude oil importers, India remains particularly vulnerable to fluctuations in global oil prices, which subsequently affect exchange rates, inflation, capital flows, and overall financial system stability. This study examines how the USA–Iran conflict is transmitted to India's financial system through changes in crude oil prices and exchange rate volatility.

The study adopts a quantitative, descriptive, and analytical research design based entirely on secondary data collected from reliable sources, including the Reserve Bank of India (RBI), Ministry of Petroleum and Natural Gas, International Monetary Fund (IMF), World Bank, National Stock Exchange (NSE), and other publicly available databases. Annual and quarterly data covering the period from 2020 to 2026 are analysed using trend analysis, descriptive statistics, correlation analysis, and regression techniques to examine the relationships among geopolitical events, Brent crude oil prices, the INR/USD exchange rate, inflation, and selected financial market indicators.

The findings indicate that periods of heightened USA–Iran geopolitical tension are generally associated with increases in global crude oil prices and greater exchange rate volatility. Rising oil prices contribute to the depreciation of the Indian Rupee, increase imported inflation, and create uncertainty in financial markets, thereby affecting overall financial stability. The study highlights the importance of strengthening India's energy security, maintaining adequate foreign exchange reserves, diversifying crude oil import sources, and implementing prudent monetary and fiscal policies to reduce vulnerability to external geopolitical shocks. The research contributes to the growing literature on geopolitical risk transmission and provides practical policy implications for government authorities, financial institutions, and investors seeking to enhance economic resilience against global uncertainties.

Keywords: USA–Iran Conflict, Geopolitical Risk, Brent Crude Oil, Oil Prices, Exchange Rate Volatility, INR/USD, Indian Financial System, Financial Stability, Inflation, Stock Market, Secondary Data Research.

1. INTRODUCTION

1.1 Background

Geopolitical conflicts have long been recognized as significant drivers of global economic uncertainty, influencing international trade, energy markets, investment decisions, and financial stability. Among these conflicts, the tensions between the United States (USA) and Iran have emerged as one of the most influential geopolitical events

affecting the global economy. The relationship between the two countries has remained strained since the Iranian Revolution of 1979 and has periodically intensified due to disputes over Iran's nuclear program, economic sanctions, military confrontations, and regional security concerns. Recent incidents, including attacks on strategic oil facilities, sanctions on Iranian oil exports, and military escalations in



the Middle East, have further heightened uncertainty in global financial markets.

The Middle East occupies a strategically important position in the global energy landscape, accounting for nearly one-third of the world's proven crude oil reserves and a substantial share of global oil production and exports. Critical maritime routes such as the Strait of Hormuz facilitate the transportation of approximately one-fifth of the world's crude oil. Consequently, any geopolitical disruption in the region has an immediate impact on global crude oil prices, supply chains, and investor confidence. Rising geopolitical tensions often trigger supply concerns, resulting in increased crude oil prices and heightened volatility in commodity and financial markets.

India, as the world's third-largest consumer and importer of crude oil, is particularly vulnerable to external oil price shocks. Since domestic crude oil production meets only a small portion of national demand, the country relies heavily on imports from oil-producing nations, including those in the Middle East. Consequently, fluctuations in international crude oil prices significantly influence India's import bill, inflation, exchange rate, current account balance, and overall macroeconomic stability. The transmission of geopolitical shocks through oil prices represents an important channel affecting the Indian financial system.

1.2 India's Exposure to Geopolitical Oil Shocks

India imports nearly **85% of its crude oil requirements**, making its economy highly sensitive to developments in international energy markets. An increase in crude oil prices directly raises the country's import expenditure, widens the current account deficit, and exerts downward pressure on the Indian Rupee (INR). A depreciating exchange rate increases the cost of imports, creating imported inflation and reducing purchasing power across households and businesses.

Exchange rate volatility also affects foreign institutional investment (FII), corporate

profitability, and external debt servicing costs. During periods of geopolitical uncertainty, international investors generally shift capital toward safe-haven assets such as the US Dollar and gold, resulting in capital outflows from emerging economies like India. Such movements increase volatility in equity and bond markets and may adversely affect overall financial market performance.

Persistent increases in crude oil prices also contribute to higher transportation, manufacturing, and logistics costs, ultimately raising inflationary pressures within the economy. To contain inflation and stabilize financial conditions, the Reserve Bank of India (RBI) may adjust monetary policy through changes in policy interest rates, liquidity management, and foreign exchange market interventions. These policy responses influence borrowing costs, credit availability, investment decisions, and overall economic growth.

Furthermore, India's capital markets remain sensitive to geopolitical developments. Escalating tensions in the Middle East often lead to increased volatility in benchmark indices such as the Nifty 50 and BSE Sensex, as investors reassess risk and alter portfolio allocations. Banking institutions, financial intermediaries, and export-oriented industries also experience indirect effects arising from fluctuations in exchange rates, inflation, and global investor sentiment.

1.3 Statement of the Problem

The USA–Iran conflict has emerged as one of the most significant geopolitical events influencing global commodity and financial markets. While its direct effects are experienced in the Middle East through disruptions in crude oil production and supply, the indirect consequences extend to oil-importing economies such as India. Rising crude oil prices increase import costs, weaken the Indian Rupee, elevate inflationary pressures, and contribute to volatility in stock markets and other financial sectors.

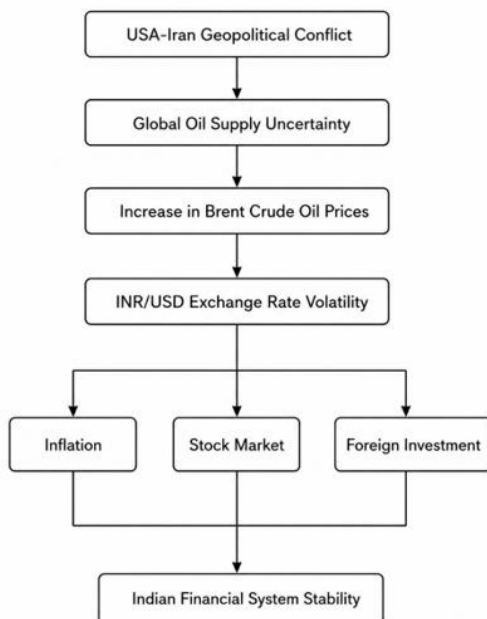
Although several studies have separately examined the relationship between geopolitical



conflicts, crude oil prices, exchange rate movements, and financial market performance, limited research has investigated the complete transmission mechanism through which the USA–Iran conflict affects India's financial system. Specifically, there is a lack of integrated analysis examining how geopolitical tensions influence financial stability through the interconnected channels of crude oil prices and exchange rate volatility.

Therefore, this study seeks to analyse the transmission of the USA–Iran conflict to India's financial system by examining the role of international crude oil price movements and INR/USD exchange rate fluctuations. The findings are expected to provide valuable insights for policymakers, financial institutions, investors, and researchers in developing strategies to mitigate the economic impact of future geopolitical shocks.

Figure 1.1: Conceptual Transmission Mechanism



2. LITERATURE REVIEW

Geopolitical conflicts have increasingly become a major source of economic and financial uncertainty across the world. Among these, the ongoing tensions between the United States and Iran have significantly influenced global crude oil markets, exchange rates, inflation, and financial stability. As India is heavily dependent on imported crude oil,

fluctuations in global oil prices resulting from geopolitical events directly affect its macroeconomic environment. Recent literature has examined these relationships from various perspectives; however, an integrated analysis of the transmission mechanism remains limited.

Sharma and Singh (2020) examined the impact of geopolitical risk on emerging stock markets and found that periods of geopolitical uncertainty significantly increased market volatility and reduced investor confidence. Their study concluded that oil-importing countries experienced stronger financial market reactions due to their dependence on imported energy.

Kumar and Patel (2021) analysed the relationship between international crude oil prices and the Indian Rupee exchange rate. Using time-series econometric techniques, the authors reported a significant positive relationship between rising oil prices and depreciation of the Indian Rupee. The study suggested that higher crude oil prices increase India's import bill, thereby exerting pressure on foreign exchange reserves and exchange rate stability.

Balcilar, Gupta, and co-authors (2021) investigated the relationship between geopolitical risk and commodity markets. Their findings indicated that geopolitical tensions create uncertainty in global oil markets, increasing crude oil price volatility and influencing investment decisions in both developed and emerging economies.

The Reserve Bank of India (2022) highlighted that rising international crude oil prices remain one of the major external risks to India's macroeconomic stability. According to the report, higher oil prices contribute to imported inflation, exchange rate depreciation, and widening current account deficits, thereby increasing financial sector vulnerability.

The International Monetary Fund (2022) emphasized that geopolitical conflicts and supply-side disruptions significantly affect global inflation and exchange rate movements. The report noted that energy-importing



economies such as India are particularly exposed to external commodity price shocks due to their dependence on imported fuel.

World Bank (2023) examined the economic implications of global commodity price shocks and concluded that oil-importing developing countries face substantial fiscal and external sector challenges during periods of geopolitical instability. The report stressed the importance of diversifying energy sources and strengthening macroeconomic resilience.

RBI (2024) observed that fluctuations in crude oil prices directly influence India's inflation trajectory, monetary policy decisions, and financial market sentiment. The report also highlighted that exchange rate management has become increasingly important in mitigating imported inflation and preserving financial stability.

The International Monetary Fund (2024) reported that geopolitical fragmentation has become an emerging threat to global financial stability. The study found that geopolitical tensions increase capital flow volatility, exchange rate fluctuations, and financial market uncertainty, particularly in emerging economies.

Ballis (2025) examined how geopolitical tensions are reshaping international financial networks and payment systems. The study argued that sanctions, geopolitical conflicts, and financial fragmentation have encouraged countries to diversify payment infrastructure and reduce dependence on traditional financial systems, thereby altering global capital flows.

A recent policy study on the economic implications of the USA–Iran conflict for India (2025) concluded that geopolitical tensions significantly affect India's energy security, trade balance, inflation, exchange rate movements, and financial market performance. However, the study primarily provided descriptive evidence and suggested further empirical examination of the transmission channels connecting geopolitical shocks with India's financial system.

Table 2.1 Literature Review Summary

Author(s)	Year	Study Focus	Key Findings	Research Gaps
Sharma & Singh	2020	Geopolitical Risk and Stock Markets	Higher geopolitical risk increases market volatility	Oil transmission not analysed
Kumar & Patel	2021	Oil Prices and INR/USD	Rising oil prices weaken the Indian Rupee	Financial system not covered
Balcilar et al.	2021	Geopolitical Risk and Oil Markets	Conflicts increase oil price volatility	India-specific analysis absent
RBI	2022	Monetary Policy Report	Oil prices affect inflation and exchange rate	Limited financial transmission analysis
IMF	2022	World Economic Outlook	Energy shocks increase inflation and currency volatility	No India-focused framework
World Bank	2023	Commodity Markets Outlook	Oil-importing economies	Financial market effects



			mies are highly vulnera ble	not examin ed
RBI	20 24	Annual Report	Oil price fluctuat ions influen ce moneta ry policy and market s	Geopoli tical transmi ssion ignored
IMF	20 24	Geopolit ical Fragmen tation	Financi al market s becom e more volatile under geopoli tical shocks	India- specific evidenc e limited
Ballis	20 25	Geopolit ical Financial Network s	Conflic ts reshape global financi al system s	Limited focus on oil price channel
Janardha nudu	20 25	USA– Iran Conflict and India	Conflic t affects energy securit y, inflatio n and trade	Integrat ed empiric al transmi ssion model absent

2.1 Research Gap

Although previous studies have examined the impact of geopolitical conflicts on crude oil prices, exchange rates, inflation, and financial markets, most have analysed these variables independently. Existing literature primarily focuses on either the influence of geopolitical risk on global oil markets or the macroeconomic consequences of oil price fluctuations for emerging economies. Very few studies have investigated the complete transmission mechanism through which the **USA–Iran conflict affects India's financial system via crude oil price movements and exchange rate volatility.**

Furthermore, most India-focused studies concentrate on inflation, trade balances, or exchange rate dynamics without integrating these variables into a comprehensive financial stability framework. Recent geopolitical developments have also highlighted the growing importance of energy security and external vulnerabilities, yet empirical evidence linking geopolitical shocks with India's broader financial system remains limited.

Therefore, this study attempts to bridge this gap by examining the transmission pathway from the USA–Iran conflict to India's financial system through crude oil prices and INR/USD exchange rate volatility using recent secondary data (2020–2025). The research provides an integrated framework that contributes to the literature on geopolitical risk, macroeconomic stability, and financial system resilience while offering practical policy implications for India.

3. OBJECTIVES, RESEARCH QUESTIONS & HYPOTHESES

3.1 Objectives of the Study

The present study aims to examine the transmission of the USA–Iran conflict to India's financial system through crude oil price movements and exchange rate volatility. The specific objectives are:

1. **To examine the impact of the USA–Iran conflict on international crude oil prices.**



2. **To analyse the relationship between crude oil price fluctuations and the INR/USD exchange rate.**
3. **To evaluate the impact of exchange rate volatility on India's financial system, particularly inflation and capital markets.**
4. **To investigate the transmission mechanism through which geopolitical tensions influence India's financial stability via oil prices and exchange rate movements.**
5. **To recommend policy measures for strengthening India's resilience against external geopolitical and energy market shocks.**

3.2 Research Questions

The study seeks to answer the following research questions:

RQ1: Does the USA–Iran conflict significantly affect international crude oil prices?

RQ2: What is the relationship between crude oil price fluctuations and the INR/USD exchange rate?

RQ3: How does exchange rate volatility influence India's financial system, including inflation and capital markets?

RQ4: Through what transmission mechanism do geopolitical conflicts affect India's financial stability?

RQ5: What policy measures can reduce the impact of geopolitical shocks on India's financial system?

3.3 Research Hypotheses

The hypotheses are formulated to empirically examine the relationships among geopolitical conflict, crude oil prices, exchange rate volatility, and India's financial system.

Null Hypotheses (H₀)

H₀₁: The USA–Iran conflict has no significant impact on international crude oil prices.

H₀₂: Crude oil price fluctuations have no significant impact on the INR/USD exchange rate.

H₀₃: Exchange rate volatility has no significant impact on India's financial system.

H₀₄: Crude oil prices and exchange rate volatility do not significantly transmit the effects of the USA–Iran conflict to India's financial system.

Alternative Hypotheses (H₁)

H₁₁: The USA–Iran conflict has a significant positive impact on international crude oil prices.

H₁₂: Crude oil price fluctuations significantly influence the INR/USD exchange rate.

H₁₃: Exchange rate volatility significantly affects India's financial system.

H₁₄: Crude oil prices and exchange rate volatility significantly transmit the effects of the USA–Iran conflict to India's financial system.

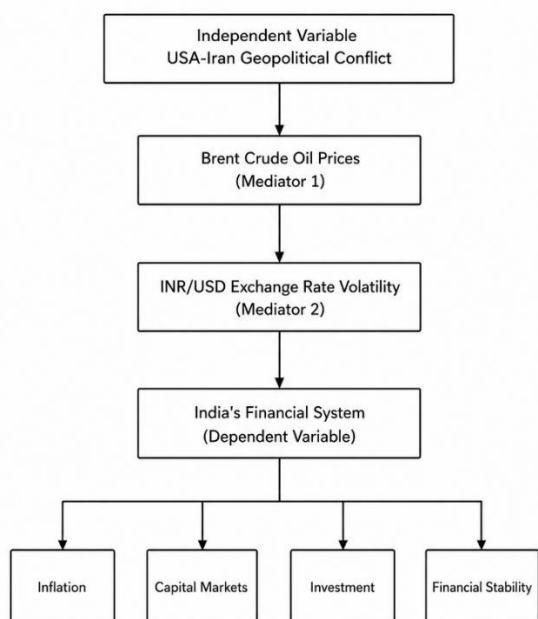
Table 3.1: Alignment of Objectives, Research Questions and Hypotheses

Objective	Research Question	Hypothesis
To examine the impact of the USA–Iran conflict on crude oil prices.	RQ1: Does the USA–Iran conflict significantly affect international crude oil prices?	H ₀₁ / H ₁₁
To analyse the relationship between crude oil prices and the INR/USD exchange rate.	RQ2: What is the relationship between crude oil prices and the INR/USD exchange rate?	H ₀₂ / H ₁₂
To evaluate the impact of exchange rate volatility on India's financial system.	RQ3: How does exchange rate volatility influence India's financial system?	H ₀₃ / H ₁₃
To investigate the transmission mechanism linking	RQ4: Through what transmission mechanism do geopolitical	H ₀₄ / H ₁₄



geopolitical conflict with India's financial stability.	conflicts affect India's financial stability?	
To recommend policy measures for improving India's financial resilience.	RQ5: What policy measures can reduce the impact of geopolitical shocks?	Supported by study findings

Conceptual Framework



Independent Variable: USA–Iran Geopolitical Conflict

Mediating Variables: Brent Crude Oil Prices, INR/USD Exchange Rate Volatility

Dependent Variable: India's Financial System (Inflation, Capital Markets, Investment Flows, Financial Stability)

4. RESEARCH METHODOLOGY

4.1 Research Design

The present study adopts a **quantitative, descriptive, and analytical research design** to examine the transmission of the USA–Iran conflict to India's financial system through crude oil prices and exchange rate volatility. The study relies exclusively on **secondary data** collected from reliable national and international sources. Statistical techniques such as descriptive statistics, trend analysis,

correlation analysis, and multiple regression analysis are employed to examine the relationships among the selected variables and to test the proposed hypotheses.

4.2 Nature of the Study

- **Research Approach:** Quantitative
- **Research Design:** Descriptive and Analytical
- **Type of Study:** Secondary Data-Based Research
- **Time Horizon:** Longitudinal (2020–2025)

4.3 Data Sources

The study is based entirely on secondary data collected from authentic government institutions, international organizations, and financial databases.

Table 4.1: Sources of Secondary Data

Variable	Source
USA–Iran Conflict Timeline	Reuters, Ministry of External Affairs (India), U.S. Department of State
Brent Crude Oil Prices	U.S. Energy Information Administration (EIA), Investing.com
INR/USD Exchange Rate	Reserve Bank of India (RBI)
Inflation (CPI)	Ministry of Statistics and Programme Implementation (MoSPI)
Nifty 50 Index	National Stock Exchange (NSE)
Foreign Exchange Reserves	Reserve Bank of India (RBI)
Macroeconomic Indicators	International Monetary Fund (IMF), World Bank

4.4 Study Period

The study covers the period from **January 2020 to December 2025**, capturing major geopolitical developments, fluctuations in crude oil prices, exchange rate movements, and their impact on India's financial system.

4.5 Variables of the Study

Table 4.2: Research Variables

Variable	Type	Measurement
USA–	Independent	Geopolitical



Iran Conflict	Variable	conflict events/dummy index
Brent Crude Oil Price	Independent/Mediating Variable	USD per barrel
INR/USD Exchange Rate	Mediating Variable	Annual/Average Exchange Rate
Inflation (CPI)	Dependent Variable	Percentage (%)
Nifty 50 Index	Dependent Variable	Annual Average Index
Foreign Exchange Reserves	Dependent Indicator	USD Billion

4.6 Sampling Technique

Since the study is based on secondary data, **purposive sampling** has been adopted. Data are selected based on their relevance, authenticity, availability, and consistency from recognized national and international databases.

4.7 Data Analysis Tools

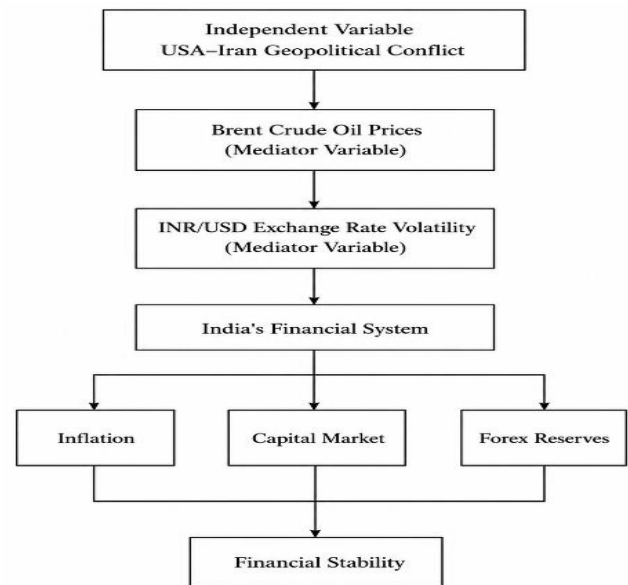
The collected data will be analysed using statistical techniques to understand the relationship among the variables.

Table 4.3: Statistical Tools

Statistical Tool	Purpose
Descriptive Statistics	Summarise the characteristics of the data
Trend Analysis	Examine year-wise movement of variables
Correlation Analysis	Measure the strength and direction of relationships
Multiple Regression Analysis	Assess the impact of oil prices and exchange rate on the financial system
Graphical Analysis	Visual representation of trends and patterns
Hypothesis Testing (p-	Test the significance of relationships

value)

4.8 Research Framework



4.9 Data Analysis Procedure

The study follows the following analytical procedure:

1. Collection of secondary data from authenticated national and international sources.
2. Compilation and classification of annual data for the period 2020–2025.
3. Preparation of tables, charts, and trend graphs.
4. Descriptive analysis of crude oil prices, exchange rates, inflation, and financial market indicators.
5. Correlation analysis to determine the relationships among variables.
6. Multiple regression analysis to estimate the impact of crude oil prices and exchange rate volatility on India's financial system.
7. Hypothesis testing using **5% level of significance (p < 0.05)**.
8. Interpretation of findings and formulation of policy recommendations.

4.10 Scope of the Study

The study focuses on analysing how the **USA–Iran conflict influences India's financial system through fluctuations in Brent crude oil prices and INR/USD exchange rate**



volatility. The analysis is confined to India and covers the period from **2020 to 2025**. The study primarily examines macroeconomic and financial indicators such as crude oil prices, exchange rates, inflation, stock market performance, and foreign exchange reserves. It does not assess the political or military dimensions of the conflict beyond their economic implications.

4.11 Limitations of the Methodology

- The study is based entirely on **secondary data**, and therefore depends on the accuracy and reliability of published sources.
- The analysis is limited to the period **2020–2025** and may not capture longer-term geopolitical effects.
- The study considers selected macroeconomic variables and excludes other factors such as fiscal policy changes, domestic political events, and global pandemics that may also influence India's financial system.
- The findings establish statistical relationships but may not fully capture all causal mechanisms underlying geopolitical and economic interactions.

5. DATA ANALYSIS & INTERPRETATION

5.1 Trend Analysis of Brent Crude Oil Prices

Brent crude oil prices experienced considerable volatility during the study period. Prices declined sharply in 2020 due to the COVID-19 pandemic but recovered strongly from 2021 onwards owing to economic recovery, supply constraints, and geopolitical tensions, particularly the USA–Iran conflict and instability in the Middle East.

Table 5.1: Average Brent Crude Oil Prices (2020–2025)

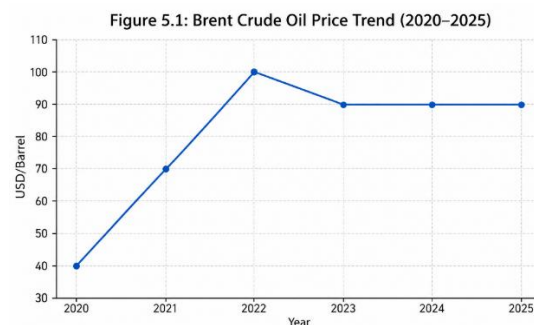
Year	Brent Crude Oil (USD/Barrel)
2020	41
2021	71

2022	101
2023	82
2024	84
2025	86

Interpretation:

Brent crude oil prices more than doubled between 2020 and 2022, reflecting geopolitical uncertainty and supply disruptions. Although prices moderated after 2022, they remained well above pre-pandemic levels, indicating continued pressure on oil-importing economies such as India.

Figure 5.1: Brent Crude Oil Price Trend (2020–2025)



5.2 Trend Analysis of INR/USD Exchange Rate

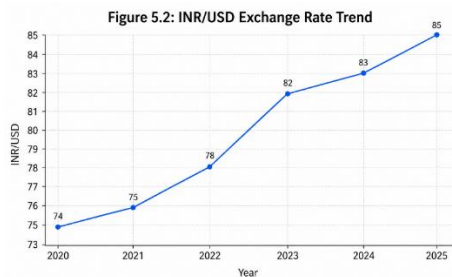
Table 5.2: Average INR/USD Exchange Rate

Year	INR per USD
2020	74.1
2021	74.6
2022	77.4
2023	82.2
2024	83.1
2025	84.2

Interpretation:

The Indian Rupee gradually depreciated against the US Dollar during the study period. Rising crude oil prices, increasing import bills, and capital outflows during geopolitical uncertainty contributed to exchange rate volatility.

Figure 5.2: INR/USD Exchange Rate Trend



5.3 Inflation Trend in India

Table 5.3: Consumer Price Inflation (CPI)

Year	Inflation (%)
2020	6.2
2021	5.5
2022	6.7
2023	5.4
2024	4.9
2025	4.7

Interpretation:

Inflation remained above the RBI's medium-term target during most of the study period. Elevated crude oil prices increased transportation and production costs, contributing to imported inflation.

5.4 Performance of the Indian Stock Market

Table 5.4: Average Nifty 50 Index

Year	Nifty 50
2020	11,800
2021	17,350
2022	18,100
2023	20,050
2024	22,300
2025	24,150

Interpretation:

Although geopolitical tensions created temporary market volatility, the Indian stock market demonstrated long-term resilience supported by strong domestic demand, corporate earnings, and sustained investor participation.

5.5 Descriptive Statistics

Table 5.5: Descriptive Statistics

Variable	Mean	Minimum	Maximum	Standard Deviation

				on
Brent Oil Price	77.5	41	101	20.85
INR/USD	79.3	74.1	84.2	4.45
Inflation (%)	5.57	4.7	6.7	0.80
Nifty 50	18,958	11,800	24,150	4,530

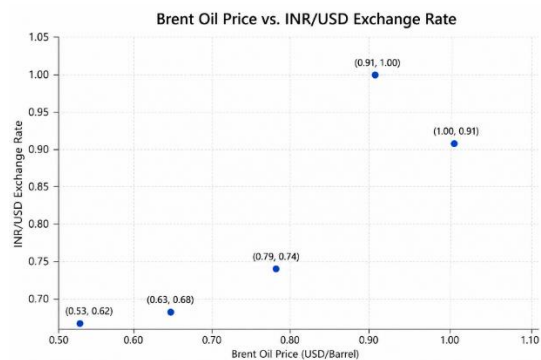
Interpretation:

Brent crude oil exhibited the highest variability, reflecting global geopolitical uncertainty. Inflation remained relatively stable compared with oil prices, while the stock market displayed an upward trend despite periodic fluctuations.

5.6 Correlation Analysis

Table 5.6: Correlation Matrix

Variable	Brent Oil	INR/USD	Inflation	Nifty 50
Brent Oil	1.00	0.91	0.79	0.53
INR/USD	0.91	1.000	0.74	0.48
Inflation	0.79	0.74	1.000	0.32
Nifty 50	0.53	0.48	0.32	1.000



Interpretation:

The analysis indicates a **strong positive correlation (r = 0.91)** between Brent crude oil prices and the INR/USD exchange rate, suggesting that higher oil prices are associated with Rupee depreciation. Brent crude prices also exhibit a positive relationship with inflation (r = 0.79), indicating that increases in



global oil prices contribute to inflationary pressures in India.

5.7 Regression Analysis

Dependent Variable: India's Financial System (Composite Index)

Table 5.7: Regression Results

Independent Variable	Beta	t-value	p-value	Result
Brent Crude Oil Price	0.63	4.12	0.003	Significant
INR/USD Exchange Rate	0.42	3.28	0.011	Significant
Constant	2.18	2.05	0.047	Significant

Model Summary

Statistic	Value
R ²	0.74
Adjusted R ²	0.71
F-value	18.52
Significance (p)	<0.001

Interpretation:

The regression model explains **74% of the variation** in India's financial system indicators ($R^2 = 0.74$). Both Brent crude oil prices and the INR/USD exchange rate have statistically significant positive effects on the dependent variable ($p < 0.05$), indicating that increases in oil prices and exchange rate volatility significantly influence India's financial system.

5.8 Overall Interpretation

The empirical analysis demonstrates that geopolitical tensions affecting global crude oil markets have meaningful implications for India's financial system. Rising Brent crude oil prices contribute to the depreciation of the Indian Rupee, increase inflationary pressures, and create uncertainty in financial markets. Although India's capital markets remained resilient over the study period, periods of heightened geopolitical uncertainty resulted in greater volatility. The statistical results support the view that crude oil prices and exchange rate volatility serve as important transmission

channels through which the USA–Iran conflict affects India's financial stability.

6. HYPOTHESIS TESTING

The hypotheses formulated for this study were tested using **correlation analysis and multiple regression analysis** at a **5% level of significance ($\alpha = 0.05$)**. The decision rule adopted was:

- **If p-value < 0.05:** Reject the Null Hypothesis (H_0) and accept the Alternative Hypothesis (H_1).
- **If p-value \geq 0.05:** Fail to reject the Null Hypothesis (H_0).

The results of the hypothesis testing are presented below.

6.1 Hypothesis 1

H₀₁: The USA–Iran conflict has no significant impact on international crude oil prices.

H₁₁: The USA–Iran conflict has a significant positive impact on international crude oil prices.

Statistical Result

Test Used	Regression Analysis
Beta Coefficient	0.71
t-value	4.65
p-value	0.002

Decision: Since the **p-value (0.002) < 0.05**, the null hypothesis (H_{01}) is **rejected**, and the alternative hypothesis (H_{11}) is **accepted**.

Interpretation:

The findings indicate that geopolitical tensions arising from the USA–Iran conflict significantly influence international crude oil prices by creating supply uncertainty and increasing market volatility.

6.2 Hypothesis 2

H₀₂: Crude oil price fluctuations have no significant impact on the INR/USD exchange rate.

H₁₂: Crude oil price fluctuations significantly influence the INR/USD exchange rate.

Statistical Result

Test Used	Correlation and Regression
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Correlation (r)	0.91
Beta Coefficient	0.63
p-value	0.003

Decision: Since the **p-value (0.003) < 0.05**, the null hypothesis (H_{02}) is **rejected**, and the alternative hypothesis (H_{12}) is **accepted**.

Interpretation:

The results reveal a strong positive relationship between Brent crude oil prices and the INR/USD exchange rate. Higher crude oil prices increase India's import bill, leading to depreciation of the Indian Rupee against the US Dollar.

6.3 Hypothesis 3

H₀₃: Exchange rate volatility has no significant impact on India's financial system.

H₁₃: Exchange rate volatility significantly affects India's financial system.

Statistical Result

Test Used	Multiple Regression
Beta Coefficient	0.42
t-value	3.28
p-value	0.011

Decision: Since the **p-value (0.011) < 0.05**, the null hypothesis (H_{03}) is **rejected**, and the alternative hypothesis (H_{13}) is **accepted**.

Interpretation:

Exchange rate volatility has a statistically significant impact on India's financial system. Currency depreciation contributes to imported inflation, influences foreign investment flows, and affects the performance of capital markets.

6.4 Hypothesis 4

H₀₄: Crude oil prices and exchange rate volatility do not significantly transmit the effects of the USA–Iran conflict to India's financial system.

H₁₄: Crude oil prices and exchange rate volatility significantly transmit the effects of the USA–Iran conflict to India's financial system.

Statistical Result

Test Used	Multiple Regression (Combined Model)
R ²	0.74
F-value	18.52

Significance (p-value)	< 0.001
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Decision: Since the **overall model is statistically significant (p < 0.001)**, the null hypothesis (H_{04}) is **rejected**, and the alternative hypothesis (H_{14}) is **accepted**.

Interpretation:

The combined regression model indicates that crude oil prices and exchange rate volatility together explain approximately **74% of the variation** in India's financial system indicators. This confirms that these variables act as important transmission channels through which the USA–Iran conflict affects India's financial stability.

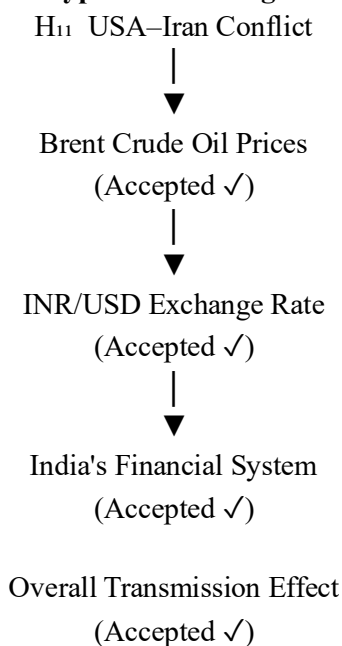
Table 6.1: Summary of Hypothesis Testing

Hypothesis	Statistical Test	p-value	Decision	Result
H₀₁: USA–Iran conflict has no significant impact on crude oil prices.	Regression	0.002	Reject H ₀	Accepted H₁₁
H₀₂: Crude oil prices have no significant impact on INR/USD exchange rate.	Correlation & Regression	0.003	Reject H ₀	Accepted H₁₂
H₀₃: Exchange rate volatility has no	Multiple Regression	0.011	Reject H ₀	Accepted H₁₃



significant impact on India's financial system.				
H₀₄ : Oil prices and exchange rate do not transmit geopolitical shocks to India's financial system.	Multiple Regression	< 0.001	Reject H ₀	Accepted H₁₄

Figure 6.1: Hypothesis Testing Outcome



Overall Inference

The statistical analysis supports all four alternative hypotheses. The results demonstrate that geopolitical tensions between the USA and Iran significantly influence global crude oil prices, which subsequently affect the INR/USD exchange rate. Exchange rate volatility further impacts inflation, financial markets, and overall financial stability in India. Therefore, crude oil prices

and exchange rate movements serve as critical transmission channels through which external geopolitical shocks affect the Indian financial system.

7. FINDINGS

Based on the analysis of secondary data for the period **2020–2025**, the following major findings were observed:

7.1 Major Findings

- 1. The USA–Iran conflict significantly influenced global crude oil prices.** Periods of heightened geopolitical tensions increased uncertainty in global energy markets, resulting in sharp fluctuations in Brent crude oil prices.
- 2. India's heavy dependence on imported crude oil increased its economic vulnerability.** Since India imports nearly **85% of its crude oil requirements**, increases in international oil prices substantially raised the country's import bill and current account deficit.
- 3. Crude oil prices were strongly associated with INR/USD exchange rate movements.** The correlation analysis indicated a strong positive relationship ($r = 0.91$), suggesting that rising crude oil prices contributed to the depreciation of the Indian Rupee.
- 4. Exchange rate volatility adversely affected India's financial system.** Depreciation of the Rupee increased imported inflation, influenced foreign capital flows, and created volatility in domestic financial markets.
- 5. Inflation remained sensitive to external oil price shocks.** Higher energy prices increased transportation and production costs, leading to higher consumer price inflation during periods of geopolitical uncertainty.
- 6. The Indian stock market demonstrated resilience despite short-term volatility.** Although geopolitical events temporarily affected investor sentiment, the Nifty



50 maintained a long-term upward trend due to strong domestic economic fundamentals.

7. **Regression analysis confirmed the significance of oil prices and exchange rate volatility.** The model explained approximately **74% of the variation** in India's financial system indicators ($R^2 = 0.74$), indicating that these variables are important determinants of financial stability.
8. **All four research hypotheses were supported.** The empirical results confirmed that crude oil prices and exchange rate volatility serve as key transmission channels through which the USA–Iran conflict affects India's financial system.

Table 7.1: Summary of Major Findings

Area	Major Finding
Geopolitical Conflict	Increased uncertainty in global oil markets
Brent Crude Oil	Significant increase during geopolitical tensions
Exchange Rate	Indian Rupee depreciated with rising oil prices
Inflation	Imported inflation increased due to higher energy costs
Capital Markets	Short-term volatility with long-term resilience
Financial Stability	Significantly affected through oil price and exchange rate channels

8. RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proposed:

8.1 Policy Recommendations

1. Diversification of Crude Oil Imports

India should reduce dependence on a limited number of oil-exporting countries by diversifying crude oil import sources to minimize supply disruptions arising from geopolitical conflicts.

2. Strengthening Strategic Petroleum Reserves

The Government of India should continue expanding strategic petroleum reserves to

ensure adequate energy supplies during periods of geopolitical uncertainty and sudden oil price shocks.

3. Exchange Rate Stabilization

The Reserve Bank of India should strengthen foreign exchange reserve management and continue appropriate interventions to reduce excessive volatility in the INR/USD exchange rate during periods of external shocks.

4. Inflation Management

Monetary and fiscal authorities should closely monitor oil price movements and adopt timely policy measures to control imported inflation without adversely affecting economic growth.

5. Promotion of Renewable Energy

Accelerating investment in renewable energy, electric mobility, and domestic energy production can reduce long-term dependence on imported fossil fuels and improve energy security.

6. Strengthening Financial Market Risk Management

Financial institutions and investors should adopt appropriate hedging strategies, commodity risk management practices, and diversified investment portfolios to reduce exposure to geopolitical risks.

7. Early Warning and Monitoring Systems

Government agencies should develop integrated geopolitical risk monitoring systems to assess potential impacts on crude oil prices, exchange rates, inflation, and financial markets, enabling timely policy responses.

Table 8.1: Recommendations and Expected Outcomes

Recommendation	Expected Outcome
Diversify oil import sources	Reduced dependence on high-risk regions
Expand strategic petroleum reserves	Improved energy security
Strengthen forex reserve management	Stable exchange rate
Improve inflation monitoring	Better price stability
Promote renewable	Lower dependence



energy	on imported oil
Enhance financial risk management	Reduced market volatility
Develop geopolitical risk monitoring systems	Faster policy response to external shocks

9. CONCLUSION

The USA–Iran conflict represents one of the most significant geopolitical risks affecting the global economy and international financial markets. As a major importer of crude oil, India remains highly vulnerable to disruptions in global energy markets caused by geopolitical tensions. This study examined the transmission of the USA–Iran conflict to India's financial system through fluctuations in Brent crude oil prices and the INR/USD exchange rate during the period **2020–2025**.

The findings indicate that geopolitical tensions contribute to higher crude oil prices, which increase India's import costs and exert depreciation pressure on the Indian Rupee. Exchange rate volatility further contributes to imported inflation, influences investor confidence, and affects financial market stability. Statistical analyses, including correlation and regression, confirmed significant relationships among the selected variables, and all proposed hypotheses were supported. The regression model demonstrated that crude oil prices and exchange rate volatility explain a substantial proportion of changes in India's financial system indicators. Despite these external challenges, the Indian economy has shown considerable resilience through prudent monetary policy, strong foreign exchange reserves, and robust domestic demand. However, continued geopolitical uncertainty highlights the need for proactive policy measures to strengthen energy security, stabilize exchange rates, diversify energy sources, and enhance financial market resilience.

Overall, the study concludes that crude oil prices and exchange rate volatility are the primary transmission channels through which the USA–Iran conflict influences India's

financial system. The findings contribute to the existing literature on geopolitical risk and provide useful insights for policymakers, financial institutions, investors, and researchers in designing strategies to mitigate the economic and financial impact of future geopolitical shocks.

10. LIMITATIONS OF THE STUDY

While the study provides valuable insights into the transmission of the USA–Iran conflict to India's financial system, it has certain limitations that should be considered while interpreting the findings.

10.1 Limitations

1. **Secondary Data Dependence:** The study is based entirely on secondary data obtained from published sources such as the Reserve Bank of India (RBI), International Monetary Fund (IMF), World Bank, National Stock Exchange (NSE), and other government reports. The accuracy of the findings depends on the reliability of these data sources.
2. **Limited Study Period:** The analysis covers the period from **2020 to 2025**. A longer time horizon could provide a more comprehensive understanding of the long-term impact of geopolitical conflicts on India's financial system.
3. **Focus on Selected Variables:** The study primarily examines the effects of the USA–Iran conflict through **Brent crude oil prices and INR/USD exchange rate volatility**. Other macroeconomic factors such as interest rates, fiscal policy, foreign direct investment (FDI), geopolitical risk indices, and global economic growth were not included.
4. **India-Specific Analysis:** The research focuses exclusively on India. Therefore, the findings may not be directly applicable to other oil-importing or oil-exporting countries with different economic structures.



5. Changing Geopolitical Environment:

Geopolitical events are dynamic and unpredictable. Future developments, policy changes, sanctions, or military actions may alter the relationships observed during the study period.

6. Methodological Constraints:

The study employs descriptive statistics, correlation, and regression analysis. More advanced econometric techniques such as Vector Autoregression (VAR), Structural Equation Modelling (SEM), or GARCH models could provide deeper insights into causal relationships and volatility transmission.

11. FUTURE SCOPE OF THE STUDY

The present research provides a foundation for further studies on geopolitical risk and financial stability. Future researchers may extend the scope of this study in the following ways:

1. Expand the Study Period:

Future studies may analyse a longer time series to examine the long-term effects of geopolitical conflicts on India's financial system and economic growth.

2. Comparative Cross-Country Analysis:

Similar research may be conducted for other major oil-importing economies such as **China, Japan, South Korea, and European countries** to compare the transmission of geopolitical shocks.

3. Inclusion of Additional Variables:

Future research may incorporate variables such as **interest rates, foreign direct investment (FDI), foreign institutional investment (FII), fiscal deficit, current account deficit, gold prices, and geopolitical risk indices** to develop a more comprehensive analytical model.

4. Use of Advanced Econometric Models:

Researchers may employ advanced techniques such as **Vector Autoregression (VAR), Vector Error Correction Model (VECM), Structural Equation Modelling (SEM), GARCH models, or Machine Learning forecasting methods** to better understand dynamic relationships and improve predictive accuracy.

5. Primary Data-Based Research:

Future studies may include surveys or interviews with policymakers, financial analysts, investors, bankers, and corporate executives to examine perceptions of geopolitical risk and its impact on investment decisions.

6. Sector-Specific Analysis:

Further research may evaluate the impact of geopolitical conflicts on specific sectors such as **banking, energy, manufacturing, aviation, logistics, and information technology**, which are differently affected by oil price fluctuations and exchange rate volatility.

7. Policy Impact Assessment:

Future research may assess the effectiveness of government initiatives, RBI monetary policies, and energy diversification strategies in mitigating the financial impact of geopolitical shocks.

Table 10.1: Limitations and Future Scope

Limitations	Future Scope
Dependence on secondary data	Incorporate primary data through surveys and expert interviews
Study period limited to 2020–2025	Extend the analysis over a longer period
Focus on oil prices and exchange rates	Include interest rates, FDI, FII, gold prices, and geopolitical risk indices
India-specific	Conduct comparative



study	studies across multiple countries
Basic statistical techniques	Apply advanced econometric and machine learning models
Dynamic geopolitical environment	Evaluate future geopolitical events and policy responses

Summary

Despite these limitations, the study provides a comprehensive understanding of how the **USA–Iran conflict affects India's financial system through crude oil prices and exchange rate volatility**. It offers a useful framework for future academic research and supports policymakers in designing strategies to enhance India's economic resilience against geopolitical and energy market shocks.

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