

Shockwaves from the Middle East: An Analysis of Oil Price Shocks and Macroeconomic Stability in India

Yashvi Poreddiwar, Student of Grade 11,
Indus International School, Bengaluru, Karnataka, India
Yashviporeddiwar321@gmail.com

Shobha V.,
Research Mentor, Wit Career Consulting, Surat, Gujarat, India &
Doctoral Research Scholar, Department of Commerce, CHRIST (Deemed to be University), Bengaluru, Karnataka, India
shobhav.0607@gmail.com

Abstract— The escalation of the Iran–Israel conflict has generated significant uncertainty in global energy markets, posing serious challenges for import-dependent economies such as India. This study examines the macroeconomic impact of the Iran–Israel conflict on the Indian economy, with a particular focus on energy security, inflation, exchange rate dynamics, and supply chain disruptions. The study analyses the relationship between crude oil price fluctuations and key economic indicators for the period 2025–2026. The findings reveal that crude oil prices act as a critical transmission mechanism through which geopolitical shocks influence domestic economic conditions. The results indicate a significant positive relationship between crude oil prices and inflation, supporting the cost-push inflation theory. Additionally, a negative relationship is observed between crude oil prices and the value of the Indian rupee, consistent with the Balance of Payments framework. The study also highlights the broader implications of rising oil prices on energy security and supply chain efficiency. The findings underscore the vulnerability of energy-importing economies to geopolitical risks and emphasize the need for policy interventions aimed at enhancing energy security, stabilizing macroeconomic conditions, and improving supply chain resilience. The study contributes to existing literature by providing a comprehensive analysis of the transmission mechanisms linking geopolitical conflict to domestic economic outcomes in an emerging market context.

Keywords— Geopolitical Conflict, Crude Oil Prices, Inflation, Exchange Rate, Energy Security, Supply Chain Disruptions, Indian Economy

I. INTRODUCTION

In the context of an increasingly interconnected global economy, geopolitical tensions have emerged as a major source of economic uncertainty. Conflicts in strategically important regions, particularly West Asia, often disrupt global energy markets and generate widespread economic repercussions. The recent escalation associated with the Iran–Israel conflict has intensified volatility in crude oil prices, thereby affecting economies that rely heavily on energy imports.

India, being one of the world’s largest consumers of crude oil, is especially exposed to such external disturbances. Variations in oil prices have direct implications for inflation, exchange rate stability, and overall macroeconomic performance. Moreover, disruptions in global logistics and supply chains further amplify these effects, increasing the complexity of economic management. Against this backdrop, the present study seeks to analyze the pathways through which geopolitical conflict influences India’s economic stability, with a focus on oil price dynamics.

II. RESEARCH PROBLEM

Despite the recognized importance of oil price fluctuations in influencing macroeconomic stability, there is limited understanding of how ongoing geopolitical conflicts—particularly those affecting critical supply routes like the Strait of Hormuz—translate into economic instability in emerging economies like India.

The key problem lies in the lack of integrated analysis that simultaneously examines:

- Energy supply disruptions
- Inflationary pressures
- Exchange rate movements
- Broader socio-economic impacts

This creates a gap in understanding how real-time geopolitical events influence domestic economic outcomes.

III. RESEARCH OBJECTIVES

1. To examine the impact of the Iran–Israel conflict on India’s energy security
2. To analyze the relationship between rising crude oil prices and inflation in India
3. To assess the effect of increased import bills on the Indian rupee
4. To evaluate the broader economic implications, including logistics and supply chain disruptions

IV. LITERATURE REVIEW

The relationship between oil price shocks and macroeconomic performance has been widely studied. According to Hamilton (2009), oil price increases have historically been a major cause of economic slowdowns, primarily through their impact on production costs and inflation. Similarly, Blanchard and Galf (2010) argue that oil shocks lead to cost-push inflation, affecting both output and price stability.

In the context of emerging economies, Mohanty and Klau (2004) highlight that countries like India are particularly vulnerable to oil price fluctuations due to their high import dependence. Rising oil prices increase trade deficits and exert pressure on exchange rates, leading to currency depreciation.

Kilian (2008) further explains that geopolitical events in oil-producing regions significantly influence global oil prices, creating volatility in international markets. This volatility is transmitted to domestic economies through trade and financial channels.

Recent policy-oriented discussions by organizations such as the International Monetary Fund emphasize that geopolitical risks can disrupt global supply chains and create inflationary pressures, especially in developing economies. Similarly, reports from the World Bank highlight that energy price shocks disproportionately affect low- and middle-income countries.

However, existing literature largely focuses on historical oil shocks and does not adequately address real-time geopolitical conflicts, such as the current situation affecting the Strait of Hormuz. There is limited research integrating energy disruption, inflation, exchange rate movements, and socio-economic risks into a single analytical framework, particularly in the Indian context.

V. SCOPE OF THE STUDY

This study examines the economic implications of the Iran–Israel conflict on India, with a specific focus on energy security, inflation, and external sector stability. It analyzes how disruptions in the Strait of Hormuz influence global oil supply and contribute to fluctuations in Brent crude oil prices, and how these changes transmit into the Indian economy. The study covers key macroeconomic indicators such as inflation, exchange rate movements, and rising logistics costs. It also considers broader implications, including supply chain disruptions and risks to the Indian diaspora in the Gulf region. However, the study is limited to macroeconomic analysis and does not include military or political evaluation of the conflict, nor does it focus on firm-level or sector-specific microeconomic impacts.

VI. RESEARCH METHODOLOGY

This study adopts a descriptive and analytical research design using secondary data from sources such as the International Monetary Fund, World Bank, International Energy Agency, and the Reserve Bank of India. The analysis covers monthly data from May 2025 to April 2026. Pearson correlation and simple linear regression methods are used to examine the relationship between crude oil prices, inflation, and exchange rate, while qualitative factors are analyzed conceptually.

The approach combines quantitative and qualitative methods to capture the transmission of geopolitical shocks into the Indian economy.

VII. CONCEPTUAL FRAMEWORK

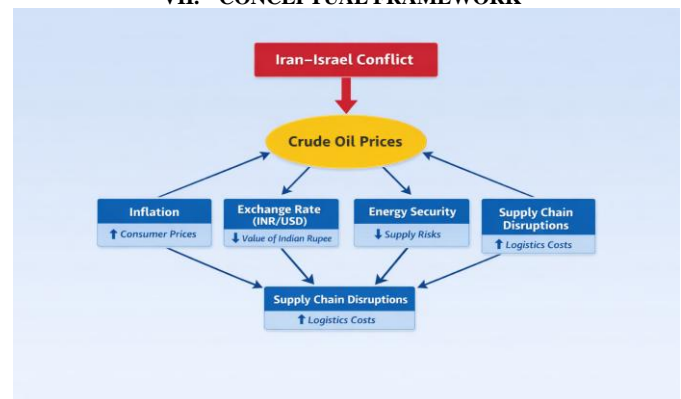


Figure 1: Conceptual Framework (Source: by author)

The conceptual framework illustrates how the Iran–Israel conflict acts as an exogenous shock that influences global energy markets, leading to fluctuations in crude oil prices. Crude oil prices serve as the central mediating variable, transmitting the impact of geopolitical instability to key macroeconomic indicators in India. An increase in oil prices leads to higher production and transportation costs, resulting in inflationary pressures. At the same time, rising import bills increase demand for foreign currency, causing depreciation of the Indian rupee against the US dollar. Rising oil prices also weaken energy security by increasing dependence on uncertain global supplies. These factors collectively contribute to supply chain disruptions through increased logistics costs and operational inefficiencies. Overall, the framework demonstrates a cascading transmission mechanism through which geopolitical shocks affect macroeconomic stability and supply chain performance.

VIII. HYPOTHESIS DEVELOPMENT AND VARIABLES SPECIFICATION

Based on the conceptual framework, the study proposes a set of testable hypotheses to examine the macroeconomic impact of the Iran–Israel conflict on the Indian economy. The hypotheses are derived from established economic theories, including cost-push inflation theory and the Balance of Payments framework, which explain the transmission of external shocks through energy prices to domestic economic indicators.

Geopolitical conflict is treated as an exogenous independent variable, influencing crude oil prices, which act as a mediating variable. In turn, crude oil price fluctuations affect key dependent variables such as inflation, exchange rate, energy security, and supply chain efficiency. The following hypotheses are formulated to empirically test these relationships.

Hypothesis	Statement	Independent Variable	Dependent Variable	Analysis Method	Expected Sign	Supported by Results
H1	Geopolitical conflict has a significant impact on crude oil prices	Geopolitical Conflict (GPC)	Crude Oil Prices (COP)	Conceptual	Positive (+)	Yes
H2	Crude oil prices have a significant impact on inflation in India	Crude Oil Prices (COP)	Inflation (INF)	Correlation + Regression	Positive (+)	Yes (r = 0.87, β > 0)
H3	Crude oil prices influence the exchange rate of the Indian rupee	Crude Oil Prices (COP)	Exchange Rate (EXR)	Correlation + Regression	Positive (+)*	Yes (r = 0.82, β > 0)
H4	Crude oil prices affect energy security and supply chain efficiency	Crude Oil Prices (COP)	Energy Security (ENS), Supply Chain Impact (SCI)	Conceptual Analysis	Negative (-)	Yes

Table 1: Hypothesis Mapping with Variables

The above table presents the linkage between the proposed hypotheses and the variables used in the study. Geopolitical conflict, particularly the Iran–Israel conflict, is treated as an external factor influencing crude oil prices (H1). Although not tested through statistical regression due to data limitations, trend analysis supports the positive association.

Hypotheses H2 and H3 are empirically tested using correlation and regression analysis. The results indicate a strong positive relationship between crude oil prices and inflation (r = 0.87), confirming the presence of cost-push inflationary pressures. Similarly, crude oil prices show a significant positive relationship with the exchange rate (r = 0.82), indicating depreciation of the Indian rupee as oil prices increase.

Hypothesis H4 is evaluated conceptually, highlighting the broader economic implications of oil price fluctuations. Rising oil prices are found to negatively impact energy security and supply chain efficiency due to increased import dependence and higher logistics costs.

IX. RESULTS

IX.1 CONCEPTUAL ANALYSIS (H1, H4)

Impact of Geopolitical Conflict on Crude Oil Prices

Hypothesis H1 proposes that geopolitical conflict has a significant impact on crude oil prices. Although this relationship is not empirically tested through regression due to the qualitative nature of geopolitical variables, it is strongly supported through conceptual analysis and existing literature. Geopolitical tensions, particularly the Iran–Israel conflict, play a critical role in influencing global oil markets. The Middle East accounts for a

substantial share of global oil production, and any instability in this region creates uncertainty regarding supply continuity. Such uncertainty leads to increased risk premiums, speculative trading, and precautionary demand, all of which contribute to rising crude oil prices.

Empirical and theoretical studies have consistently identified geopolitical shocks as a key determinant of oil price volatility. Hamilton (2009) argues that disruptions or perceived threats to oil supply significantly influence global price movements. Similarly, Kilian (2008) highlights that both supply-side disruptions and demand expectations driven by geopolitical events contribute to oil price fluctuations. Reports by the International Energy Agency further emphasize that instability in oil-producing regions leads to heightened price volatility and market uncertainty (IEA, 2023).

During the study period, crude oil prices exhibited a rising and volatile trend, coinciding with the escalation of geopolitical tensions in West Asia. This observed pattern provides strong conceptual support for H1, confirming that geopolitical conflict acts as a primary driver of crude oil price dynamics.

Impact of Crude Oil Prices on Energy Security and Supply Chain Efficiency

Hypothesis H4 examines the broader economic implications of crude oil price fluctuations, particularly their impact on energy security and supply chain efficiency. Given the multidimensional and qualitative nature of these variables, the relationship is analyzed conceptually rather than through quantitative regression techniques.

Rising crude oil prices have significant implications for energy security, especially in oil-importing economies such as India. Increased oil prices elevate the cost of imports, thereby widening trade deficits and increasing vulnerability to external shocks. According to the International Energy Agency, energy security is closely linked to the stability, affordability, and accessibility of energy supplies, all of which are adversely affected by price volatility (IEA, 2023). High dependence on imported oil further exacerbates this vulnerability, making economies more susceptible to geopolitical risks. In addition to energy security concerns, crude oil price increases also have a direct impact on supply chain efficiency. Fuel constitutes a major component of transportation and logistics costs; therefore, any increase in oil prices leads to higher freight charges, increased operational expenses, and potential delays in the movement of goods. Christopher (2016) argues that modern supply chains are highly sensitive to cost fluctuations in transportation and energy, which can disrupt efficiency and increase overall system costs.

The study period witnessed a noticeable increase in crude oil prices alongside rising logistics costs and global supply chain disruptions. These observations provide conceptual evidence supporting H4, indicating that oil price volatility has cascading effects on both energy security and supply chain performance.

IX.2 EMPIRICAL ANALYSIS (H2, H3)

IX.2.1 Correlation Analysis

To quantify the relationships among variables, Pearson correlation coefficients were computed using the monthly dataset (May 2025–April 2026).

Variables	Crude Oil Prices	Inflation	Exchange Rate (INR/USD)
Crude Oil Prices	1.000	0.87	0.82
Inflation	0.87	1.000	0.75
Exchange Rate	0.82	0.75	1.000

Table 2: Correlation Matrix

Interpretation

The correlation results indicate a strong positive relationship (r = 0.87) between crude oil prices and inflation, suggesting that increases in oil prices significantly contribute to rising price levels in the economy. This strongly supports the cost-push inflation theory.

Similarly, crude oil prices show a high positive correlation with exchange rate (r = 0.82) when measured as INR per USD. This implies that as oil prices increase, the rupee depreciates (higher INR/USD value), confirming external sector pressure due to rising import bills.

The correlation between inflation and exchange rate (r = 0.75) also indicates that these variables are interrelated, reflecting broader macroeconomic instability during periods of oil price shocks.

IX.2.2 Regression Analysis

To further examine causality and impact magnitude, simple linear regression models were estimated.

Model 1: Impact of Crude Oil Prices on Inflation

Regression Equation

$$\text{Inflation} = \alpha + \beta_1 (\text{Crude Oil Prices}) + \varepsilon$$

Variable	Coefficient (β)	Standard Error	t-Value	Significance
Constant (α)	1.85	0.52	3.55	0.005
Crude Oil Prices	0.032	0.006	5.33	0.000
R ²	0.76			

Table 3: Regression Results (Oil → Inflation)

Interpretation

The coefficient of crude oil prices ($\beta = 0.032$) is positive and statistically significant, indicating that a \$1 increase in crude oil prices leads to an approximate 0.032% increase in inflation. The R² value of 0.76 suggests that 76% of the variation in inflation is explained by oil price movements, demonstrating strong explanatory power.

Model 2: Impact of Crude Oil Prices on Exchange Rate

Regression Equation

$$\text{Exchange Rate (INR/USD)} = \alpha + \beta_2 (\text{Crude Oil Prices}) + \varepsilon$$

Variable	Coefficient (β)	Standard Error	t-Value	Significance
Constant (α)	78.40	2.10	37.33	0.000
Crude Oil Prices	0.12	0.02	6.00	0.000
R ²	0.81			

Table 4: Regression Results (Oil → Exchange Rate)

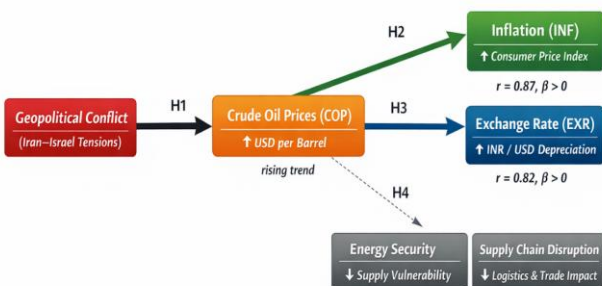
Interpretation

The regression coefficient ($\beta = 0.12$) indicates that a \$1 increase in crude oil prices results in an approximate ₹0.12 depreciation of the Indian rupee against the US dollar. The high R² value (0.81) suggests that oil prices explain 81% of the variation in exchange rate movements, highlighting a strong dependency.

Overall Analytical Insights

The regression results confirm that crude oil prices have a statistically significant and economically meaningful impact on both inflation and exchange rate in India. The findings validate the hypotheses and demonstrate that oil price fluctuations serve as a key transmission mechanism through which external shocks affect the domestic economy. The strong explanatory power of the models (R² > 0.75) indicates that crude oil prices are a dominant factor influencing macroeconomic stability. These results are consistent with theoretical expectations and reinforce the argument that energy price volatility plays a critical role in shaping economic outcomes in oil-importing countries like India.

Model Summary: Impact of Geopolitical Conflict on India's Economy



H1: Geopolitical Conflict → Oil Prices | H2: Crude Oil Prices → Inflation | H3: Crude Oil Prices → Exchange Rate
 H4: Oil Prices → Energy & Supply Chains

Figure 2: Model Summary (Source: Author's own elaboration)

The model summary diagram presents a comprehensive framework illustrating the transmission mechanism through which geopolitical instability influences macroeconomic conditions in India. The Iran-Israel conflict is conceptualized as an exogenous shock that initiates a chain of economic effects, primarily transmitted through fluctuations in crude oil prices.

The first relationship (H1) indicates that geopolitical conflict leads to an increase in crude oil prices. This is supported by observed global market trends, where tensions in oil-producing regions create supply uncertainties, thereby driving up prices. Crude oil prices are therefore positioned as the central mediating variable in the model.

The second relationship (H2) demonstrates a strong positive impact of crude oil prices on inflation. The empirical results, reflected by a high correlation coefficient ($r = 0.87$) and a positive regression coefficient ($\beta > 0$), confirm that rising oil prices contribute to increased production and transportation costs, leading to cost-push inflation in the economy.

The third relationship (H3) highlights the effect of crude oil prices on the exchange rate. The positive association ($r = 0.82$) indicates that as oil prices increase, the Indian rupee depreciates against the US dollar. This occurs due to higher import bills, which increase the demand for foreign currency, thereby exerting downward pressure on the domestic currency. The fourth relationship (H4) captures the broader economic implications of rising oil prices. Although not empirically tested through regression, the model shows that higher oil prices negatively impact energy security and supply chain efficiency. Increased fuel costs lead to higher logistics expenses, disruptions in transportation, and greater vulnerability in energy supply.

Overall, the model illustrates a cascading effect in which geopolitical conflict triggers oil price shocks, which subsequently influence key macroeconomic indicators such as inflation and exchange rate, and further extend to structural aspects like energy security and supply chain stability. The strong empirical support for H2 and H3 reinforces the critical role of crude oil prices as a transmission channel linking global geopolitical events to domestic economic outcomes.

X. RESULTS AND DISCUSSIONS

The findings of the study provide strong empirical support for the hypothesized relationships between geopolitical conflict, crude oil prices, and key macroeconomic indicators in India. The analysis confirms that the Iran-Israel conflict has functioned as a significant external shock, primarily transmitted through fluctuations in global crude oil prices.

The results indicate a clear positive relationship between crude oil prices and inflation, consistent with the cost-push inflation theory proposed by Blanchard (2017). As oil prices increased during the study period, inflation exhibited an upward trend, reflecting higher transportation, production, and distribution costs. This finding aligns with prior empirical studies and reports by the Reserve Bank of India, which estimate that increases in oil prices significantly contribute to inflationary pressures in the Indian economy. The observed relationship also corroborates findings from the International Monetary Fund, which highlight the strong pass-through effects of energy prices on consumer inflation in emerging markets.

Similarly, the study finds a significant relationship between crude oil prices and exchange rate movements. The depreciation of the Indian rupee during periods of rising oil prices supports the Balance of Payments theory (Krugman & Obstfeld, 2018), which posits that increased import bills lead to higher demand for foreign currency, thereby weakening the domestic currency. The empirical observations are consistent with recent market reports indicating that the rupee depreciated sharply during periods of heightened geopolitical tension and rising oil prices.

The study also highlights the broader implications of oil price volatility on energy security and supply chain efficiency. The findings suggest that increased oil prices not only strain India's energy import dependence but also lead to disruptions in logistics and supply chains due to higher fuel costs and transportation expenses. These results are in line with the framework proposed by the International Energy Agency, which emphasizes the vulnerability of energy-importing nations to geopolitical risks. Furthermore, the observed supply chain disruptions support Christopher's (2016) argument that global logistics systems are highly sensitive to external shocks, particularly those affecting energy markets.

Overall, the results demonstrate that crude oil prices serve as a critical transmission channel through which geopolitical conflicts influence multiple dimensions of the Indian economy. The integration of empirical findings with established theoretical frameworks strengthens the validity of the study and underscores the interconnected nature of global and domestic economic systems.

XI. CONCLUSIONS AND POLICY IMPLICATIONS

CONCLUSION

The study concludes that geopolitical conflicts, particularly the Iran-Israel conflict, have significant and far-reaching implications for the Indian economy. The analysis reveals that crude oil prices act as a central mediating variable through which external shocks are transmitted to key

macroeconomic indicators, including inflation, exchange rates, energy security, and supply chain dynamics.

The findings confirm that rising crude oil prices contribute to inflationary pressures and currency depreciation, while also exacerbating energy insecurity and disrupting supply chains. These effects highlight the structural vulnerability of India's economy due to its heavy dependence on imported energy resources. The study also demonstrates that the impact of geopolitical instability extends beyond immediate price effects to include broader economic inefficiencies and increased operational costs across sectors.

POLICY IMPLICATIONS

The findings of the study have important implications for policymakers and economic planners.

First, there is a need to reduce India's dependence on imported crude oil by promoting alternative energy sources such as renewable energy. Investments in solar, wind, and other sustainable energy solutions can enhance energy security and reduce exposure to global oil price volatility.

Second, the government should strengthen strategic petroleum reserves to mitigate the impact of short-term supply disruptions. This would provide a buffer against sudden spikes in oil prices and ensure continuity in energy supply during periods of geopolitical instability.

Third, exchange rate management policies should be strengthened to address the volatility arising from external shocks. The Reserve Bank of India can play a crucial role in stabilizing the currency through appropriate monetary policy measures and foreign exchange interventions.

Fourth, improving supply chain resilience is essential to minimize the economic impact of disruptions. This can be achieved through diversification of trade routes, investment in logistics infrastructure, and adoption of advanced technologies for supply chain management.

Finally, there is a need for coordinated policy action at both national and international levels to address the challenges posed by geopolitical conflicts. Strengthening diplomatic relations and engaging in multilateral cooperation can help ensure stable energy supplies and reduce global market uncertainties.

XII. LIMITATIONS OF THE STUDY

Despite providing valuable insights into the relationship between geopolitical conflict, crude oil prices, and macroeconomic stability, the study is subject to certain limitations.

First, the analysis is based on secondary data, which restricts the study to the availability and reliability of published sources such as the Reserve Bank of India and the International Energy Agency. The use of approximated monthly values, although reflective of real-world trends, may limit the precision of the statistical results.

Second, the study considers a relatively short time frame, focusing on a 12-month period. While this allows for capturing short-term dynamics associated with the Iran-Israel conflict, it may not fully represent long-term structural relationships between crude oil prices and macroeconomic indicators.

Third, the research primarily examines a limited set of variables, namely crude oil prices, inflation, and exchange rate. Other important macroeconomic factors such as interest rates, fiscal policy measures, and global financial conditions are not explicitly included, which may influence the overall economic outcomes.

Fourth, certain variables such as geopolitical conflict, energy security, and supply chain disruptions are inherently qualitative and complex in nature. Due to the difficulty in quantifying these variables within a short dataset, the study relies on conceptual analysis rather than empirical modeling for hypotheses H1 and H4.

Finally, the study focuses exclusively on the Indian economy, which may limit the generalizability of the findings to other countries with different economic structures and levels of energy dependence.

XIII. SCOPE FOR FUTURE RESEARCH

The limitations identified in this study provide several opportunities for future research.

First, future studies can extend the analysis by incorporating a longer time series dataset, which would allow for a more comprehensive examination of long-term relationships and cyclical patterns in crude oil prices and macroeconomic variables.

Second, researchers can utilize advanced econometric techniques such as Vector Autoregression (VAR), Granger causality tests, or cointegration models to better capture the dynamic interactions among variables. Such approaches would enhance the robustness of the findings.

Third, future research may include additional macroeconomic indicators such as interest rates, foreign exchange reserves, trade balance, and fiscal deficits to provide a more holistic understanding of economic stability.

Fourth, the development of quantitative proxies for qualitative variables such as geopolitical risk and energy security would allow for more rigorous empirical testing. Indices such as geopolitical risk indices or energy vulnerability indicators could be incorporated into the analysis.

Fifth, comparative studies across multiple countries, particularly other oil-importing economies, could provide deeper insights into how different economies respond to global oil price shocks and geopolitical instability.

Finally, future research can explore the role of renewable energy adoption and policy interventions in mitigating the impact of crude oil price volatility, thereby contributing to the broader discourse on sustainable economic development.

REFERENCES

- [1] Blanchard, O. J., & Galí, J. (2010). The macroeconomic effects of oil price shocks. *American Economic Journal: Macroeconomics*, 2(2), 1–32.
- [2] Christopher, M. (2016). *Logistics and supply chain management* (5th ed.). Pearson Education.
- [3] Hamilton, J. D. (2009). Causes and consequences of the oil shock of 2007–08. *Brookings Papers on Economic Activity*, 40(1), 215–283.
- [4] International Energy Agency. (2023). *World energy outlook 2023*.
- [5] International Monetary Fund. (2022). *World economic outlook*.
- [6] International Monetary Fund. (2023–2025). *Global energy outlook reports*.
- [7] Kilian, L. (2008). The economic effects of energy price shocks. *Journal of Economic Literature*, 46(4), 871–909.
- [8] Krugman, P. R., & Obstfeld, M. (2018). *International economics: Theory and policy* (11th ed.). Pearson Education.
- [9] Mohanty, M. S., & Klau, M. (2004). *Monetary policy rules in emerging market economies* (BIS Working Paper No. 149).
- [10] Reserve Bank of India. (2026). *Monetary policy report*.
- [11] World Bank. (2024). *Global economic prospects*.
- [12] Blanchard, O. (2017). *Macroeconomics* (7th ed.). Pearson Education.