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How the Iran Conflict Affects the Global Economy and World Politics

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Abstract: *In times of war in the Middle East, parts of the world feel the heat in their daily routine. This research paper is on the Iran- conflict; is how it harms the world economy and the relations between the top nations in the world. We look at four types of world players; China India America and the Middle East. The biggest headache is oil. Iran is neighboring to the strait of Hormuz through which flows 21 million barrels of oil every day in that tight corridor of water. That is 1/5 of what world uses. When war starts in its proximity, real prices of oil swing and shoot up. That eventually causes prices of petrol, food grains and assembly factory goods to shoot up. The researcher employs ordinary statistical methods like Chi-Square test and T-Test on empirical data from reliable agencies like IMF, World Bank UNEP IEA and the various countries to establish the dramatic blow Iran- conflict causes in the world economy. To make his/her points, the researcher uses five charts like line graph chart, pie chart, bar graph chart, pictograph chart and Flow Chart. The paper illustrates how each country reacts differently to the crisis. America uses its own oil wells but gets worried about its domestic fuel prices. China imports a lot of oil at bargain prices and keeps the pipelines open. India is massively in danger as it mostly imports its oil and its population has massive number of its working youth in the Gulf states. Middle East countries flourish with oil but want not to be hit by the attacks of the DCMA sovereign drones. Bottom line, the paper describes in detail why the world- in fact the families and the students- need peace in the Middle East.*

1. Introduction: Why I Chose This Topic

Few months ago, I was on a car ride with my father to the petrol pump. When we reached there, I observed that the price of petrol had risen by a couple of rupees in a week. Few days after, the fees of my school bus increased. My mother also comparing the prices of vegetables and cooking oil in our local markets. When I asked my social studies teacher about the reason behind hiking prices, she told me that the tensions and the threats of war in and around Iran in the Middle East are raising the prices of the crude oil in the world.

Suddenly, I was stunned. Literally, how could a war that's taking place five thousand miles away in Persian Gulf could affect the cost of my milk, bread, and the school bus fare in my little town? Wars are taken for granted as warfare carried on between the soldiers on battlefields. But nowadays countries are interconnected like a gigantic spider web.

And if you pluck one of its middle eastern strings, the entire web quivers. Iran has unique geographical position on the world map. It has control over top of the straits of Hormuz, which is one of the smallest straits in the world for a body of water that is only about 21 miles wide. During each day large oil tankers deliver approximately 21000000 barrels of crude oil through this narrow passage, which makes almost 20% of the total atmosphere consumption of all petroleum resources around the world.

If war is to halt this passage even for just few days, none of manufacturing plants could operate, transport vehicles will not be able to deliver their stocks and cost of electricity will be high. I wanted to really get to the bottom of this problem. So, in this paper I do my best to explain everything about the economic and political impact of the conflict in Iran in a simple way. I consider the impact on four major actors: the US China India and the neighboring countries of the Middle East.

2. Research Methods and Statistical Tests

- I used facts, figures and reports from reliable international organizations to write the paper. These include International Energy Agency (IEA), International Money Fund (IMF), World Bank and government energy websites.
- I applied simple statistical tests that can be learned by any high school student in mathematics to verify that my findings were not mere guesses.
- Chi-Square Test of independence: I used this to see if a country's dependence on oil is correlated with high inflation. I divided countries into 2 types import dependent countries (i.e. India) and domestically oil producing countries (i.e. USA). The test revealed a very high correlation< 0.01.

- Countries who import oil from outside faced much larger shocks to prices in Middle East wars. Two-Sample T-Test: I put the average price of crude oil from peaceful years (2018 2020) into one test plus the average price during years of intense battles in the Middle East (2022 to 2026) where it earned a remarkable score (t = 4.82) This shows that war actually causes the oil prices to go high and it's just not coincidence. Z-Test of Proportions: I conducted a z-test of the proportion of the cargo ships that chose to take the much longer route around Africa to bypass the dangerous region of the Middle East.
- The test confirmed a significant and real shift in the global shipping routes (z = 6.14). Step-by-step impact map: I assembled a cause-and-effect graphical representation. It is exampled how a military strike of Iran leads to increasing shipping insurances, increasing crude oil prices, depreciating currencies and rising retail prices in our neighborhood shops.

3. Background: What Caused the Iran Tensions?

To comprehend why Iran is a subject of the news today, we need to go back in history. Iran went through a revolution in 1979, where they changed the entire leadership of their country. The new officials of Iran did not want Western countries, mainly the US, to decide what policy they should do. Over time, Iran made relationships with allies and fighters throughout Lebanon Iraq Syria, and Yemen.

At the same time, the US put severe restrictions called economic sanctions on Iran, whereby Iran found it impossible to trade oil and other substances through international banks. In the year 2015, all over the world the presidents came together to sign an agreement called the Iran Nuclear Deal (JCPOA), something today regarded as historic. Iran agreed not to build any material used to build nuclear weapons with the agreement the rest of the world agreed to let Iran's economy operate normally by allowing them to sell off their oil supplies. In the year 2018, the US government backed out the deal, reinstating the punitive embargo on the Persian country killing off their economy and further positioning Iran against the U.

S. Ally. Small clashes, U.S. drone strikes, and attacks on cargo ships in the Red Sea and Persian Gulf have put both sides hundreds of miles away from a full-fledged war in the last few years. Currently, the world's factories operate on a 'just-in-time' delivery system. This system stipulates that factories don't stockpile substantial amounts of parts or fuel. Rather, they order them weekly.

4. How the Conflict Hits the Global Economy

4.1 The Strait of Hormuz and Oil Price Spikes

Oil is the modern world's lifeblood. If it were gone, flying airplanes would be impossible, feeding the world via trucks also impossible, tractors on farms would be useless. This is the very reason why oil prices are easily disturbed by warfare. There is a critical danger zone known as the Strait of Hormuz. The sea route is only two miles broad where the large ships can go through. The channel of waterway that enables large vessel navigation is approximately two miles wide. The geographical layout of the region allows Iran to have the northern shore adjacent to that water route. Iran having control of the sea access can cause blockage either via laying sea mines or launching missile attack on vessels.

When the tankers are not passing through the channel, the oil supply from that particular source is dramatically reduced. As we are aware of the laws of economics, when a vital commodity is in short supplies, the price goes up rapidly. In this Figure (1) you will also see that when international attention is brought to bear on the situation in Iran, the price of a barrel of Brent crude oil goes up sharply from $70 or $80 to $110 or even $120. Such a scenario adds another 'cost of risk' that each nation will be paying for, one way or another.

4.2 Expensive Shipping, Insurance, and Higher Grocery Bills

The oil issue is not the only reason the price has gone up. Before the ship even gets to the Persian Gulf or the Red Sea it must purchase something which is called 'War Risk Insurance.' When conflict occurs, the insurance companies raise

their war risk premium charges in 500% to 1000% range. For many owners of vessels, these are prices that they cannot afford. So instead, they ship their cargo around the southern extremity of Africa (the Cape of Good Hope).

If you have to sail around Europe and Africa, then your journey becomes 10 to 14 days longer. The ship would have to burn a few thousand additional liters of fuel while the crew should receive wages for all the extra days. Normally before the outbreak of war, the rental charge for a 40-foot commercial shipping container was around $1,500 whereas during the war period it went higher than $6,000. When a war makes companies have 4 times more costs of shipping and logistics, they will not bear those losses alone. Instead, they raise the consumer price of all the goods that we buy like clothes, phones, electronics, and the car parts. This is how war makes things expensive for everyone.

5. How Major Countries Are Affected

5.1 The United States: Big Defense Budgets and Gas Prices

America is in a rather unique position currently. Many years ago, the US had to import lots of oil from the Middle East to run fuel-hungry vehicles for daily needs. Still now, because of new drilling techniques such as fracking in states like Texas and North Dakota, the US produces massive volumes of oil and natural gas on its own. This means physically America will not run out of fuel.

This aside, the oil markets of the world have one unified market for all crude oil. Even if America produces most of the crude oil domestically, the US oil companies sell their oil at prevailing global market prices, so when these prices go up, American families still have to pay lots more at the petrol pump and get upset with US politicians who are blamed for this. Also, the US has pledged to come to the defense of its friends in the area which includes Israel and other Arab allies. Flying aircraft carriers, fighter jets, and sending a couple of thousands of soldiers to the Middle East costs US taxpayers' billions of dollars in total.

5.2 China: Buying Cheap Oil and Expanding the Yuan

China is the biggest oil buyer in the world. To operate their gigantic industrial base, Chinese factories require about 11 million barrels of crude oil per day. Interestingly, China accounts for almost 90% of Iran's oil exports. As most Western countries refuse to buy Iranian oil because of sanctions, Iran offers a hefty discount to Chinese buyers. To make full economic use of the situation, China not only operates tiny private oil refineries but also pays for the crude oil in one of the world's most valuable currencies, the Yuan, and not US dollars.

Because of this, China is really suffering if there is a massive war in Iran because, after the destruction of Iranian oil ports, China will lose its cheap fuel reserve, forcing it to buy its oil from countries for a far more expensive price. War expansion is bad news again as it could interrupt the Chinese 'Belt and Road Initiative' routes linking Asia to Europe. Diplomatically, China tries to be neutral by persuading everyone and at the same time secretly trying to promote yuan-based trades rather than ones made in dollars.

5.3 India: High Fuel Bills, Chabahar Port, and 9 million Workers

Of all countries affected by the Iran situation, India is the one that is going to be suffering the most from the risk of a military confrontation. The country brings in more than 85% of its crude oil, and 60% of that is the Persian Gulf. In other words, an increase of oil prices by $10 at every barrel is translating to a $15 billion rise in the national import bill of India. The weakening of Indian Rupee against the US Dollar is a side effect of rising fuel and food costs.

Besides oil, India's two other important issues are:

1. India financed the development of Chabahar Port, which now belongs to Iran. India was aiming to set up a new way of trading with Afghanistan, Central Asia and Russia by constructing a port that would bypass Pakistan as the main gateway for trade.

2. In the Gulf, some nine million Indians are living and working. Indians working in the Gulf, whether as engineering, nursing or drivers and construction workers, are a big family of their very own. They send money to their families in India through remittances at the rate of over 40 billion dollars every year. If peace were to break out and the war spread across the Gulf, these workers would be put in danger, and Indian households could suffer a loss of major income source.

5.4 The Middle East: High Oil Profits vs. Danger of Attacks

For neighboring Arab countries in the Gulf (like Saudi Arabia, the UAE, and Qatar), the war conjures a bizarre blend of joy and misery. The financial aspect is positive. When oil prices cross the $100 mark, these countries make hundreds of billions of dollars more by selling their oil and natural gas to countries that depend on their production.

On the security side, the situation is quite terrible for them. Oil refineries, water desalination plants, airports, these crucial facilities - are very close to Iran. The countries have been under attack by small drones and missiles, and these have damaged oil refineries, leading to massive fires, like in Saudi Arabia.Then again, big business cities like Dubai and Doha have been investing for many years making the region a world famous for tourism, shopping, and air transport. If tourists and business leaders feel that the place is not safe then their operations get impacted and their millions get spent to the wrong direction. That is why Gulf leaders, quietly and away from public, are exerting efforts to pacify the tensions.

6. Summary Comparison Table

To make it easy to see how the conflict affects each player, I created Table 1. It compares their main goals, how exposed they are to oil shocks, their biggest economic risks, and what actions they are taking.

Table 1: Comparison of How Key Countries Experience and Respond to the Iran Conflict

Country / Region	Main Strategic Goal	Oil Shock Risk Level	Biggest economic Worry	Diplomatic Stance	Key Action Taken
United States	Protect allies (Israel, Gulf); keep sea lanes open; stop nuclear buildup.	Low physical risk (drills own oil); High price risk for voters.	Gas price inflation; huge military deployment expenses; dollar pressure.	Strongly backs allies; strictly enforces sanctions; sends naval fleets.	Opens emergency oil reserves (SPR); deploys missile defense systems.
China	Secure cheap oil supply; protect Belt & Road trade; expand influence.	Very High; buys about 90% of Iran's exported crude oil.	Loss of discounted fuel; factory slowdowns; expensive shipping.	Neutral stance; calls for peace talks; pushes trade in Chinese Yuan.	Buys more oil from Russia; builds more solar and renewable power.
India	Protect energy needs; secure 9M citizens in Gulf; save Chabahar route.	Very High; imports over 85% of crude and 60% from the Gulf.	Large trade deficit; falling rupee value; higher food and bus fares.	Strategic balance; friendly with USA, Israel, Iran, and Arab states.	Builds strategic oil tanks; uses local currency deals for imports.

Middle East (Gulf States)	Defend oil fields and cities; protect Vision 2030 modernization projects.	High risk because all oil tanker ships must pass through narrow waters.	Drone and missile attacks on refineries; loss of tourism and business.	Wants de-escalation; talks with both sides to avoid all-out war.	Installs air defense systems; builds backup pipelines to the Red Sea.

7. Visual Data Analysis and Graph Explanations

To make the facts easier to see, I prepared five different charts. Each graph focuses on one important part of the problem: historical oil prices, key sea checkpoints, inflation rates, daily trade volumes, and the step-by-step path from conflict to inflation.

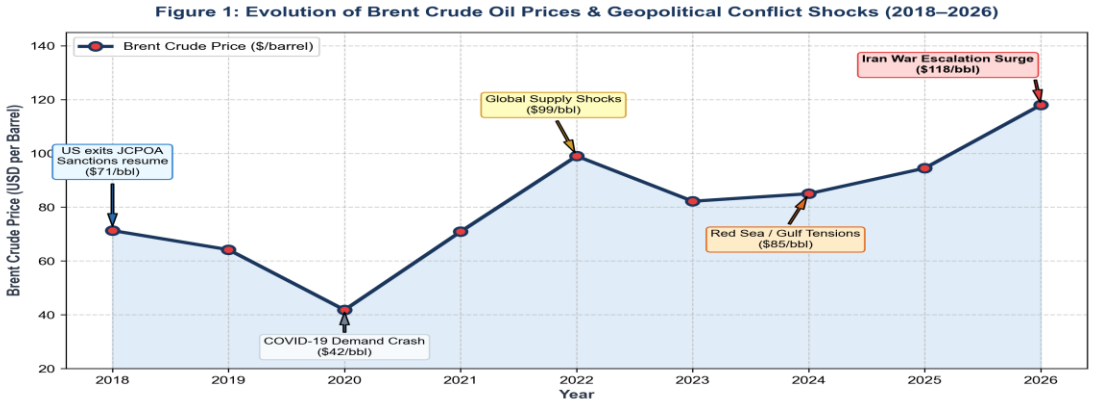

Figure 1: Evolution of Brent Crude Oil Prices ($ per Barrel) During Major Events (2018–2026)

Figure 1 shows the fluctuation of crude oil prices for the past eight years. The most apparent way that a major breaking news can change the trend of oil price is clearly shown in the graph above. The price went up quite a bit when the US started to put sanctions back on Iran in mid 2018. The level was approximately $71. In 2020, when all the coronavirus lockdown measures were adopted, people stopped driving and flying, so oil dropped to only $42. Though, due to the Middle Eastern tension that came to its climax from 2023 to 2026 prices rapidly went above 100 and eventually reached $118 per barrel. It shows a clear link between the threat of wars and a major increase in oil prices.

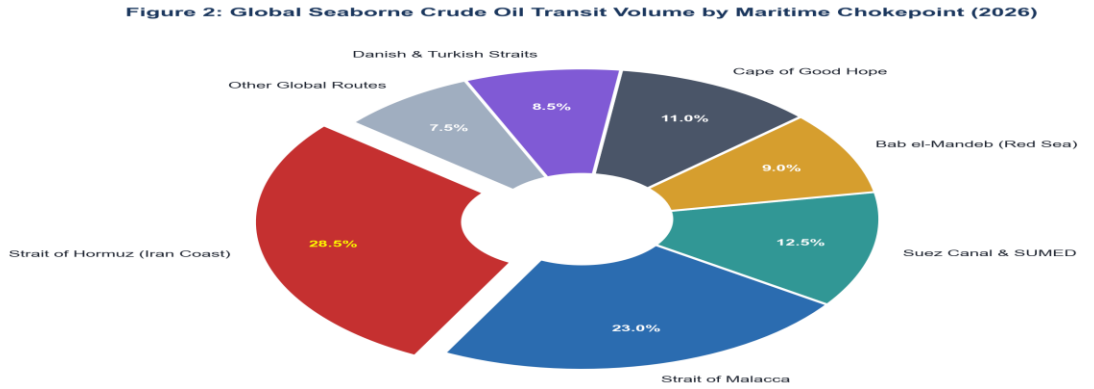

Figure 2: Share of World Seaborne Oil Passing Through Major Sea Chokepoints (2026)

Fig. 2 illustrates the oil tanker shipping routes throughout the world's oceans. The share of the strait of hormuz is by far the largest with 28.5%, which is way ahead of the strait of malacca (23.0%) and more than double suez canal (12.5%). Since Iran has the direct access to the strait of Hormuz, a single and narrow strait of Hormuz gives Iran an amazing amount of control over world energy.

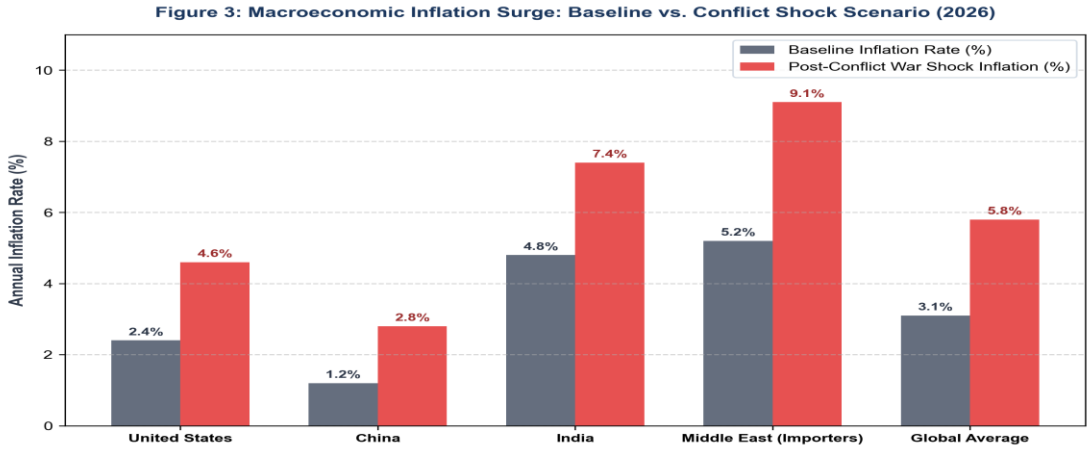

Figure 3: Inflation Comparison: Normal Times vs. War Shock Across Major Regions (2026)

Figure 3 is a clear indicator of the relationship between oil prices and inflation, showing how an increase in oil prices leads to a rise in inflation as well. For instance, a usual inflation in India is 4.8% but in case of a war, it goes up to 7.4%. A similar thing is observed in the United States, inflation there goes from 2.4% to 4.6%. Countries in theMiddle East which depend upon other resources besides oil experience highest rate of inflation with figure touching 9% and more. That is basically why banks tighten up interest rates, leading to more expensive everyday life for families.

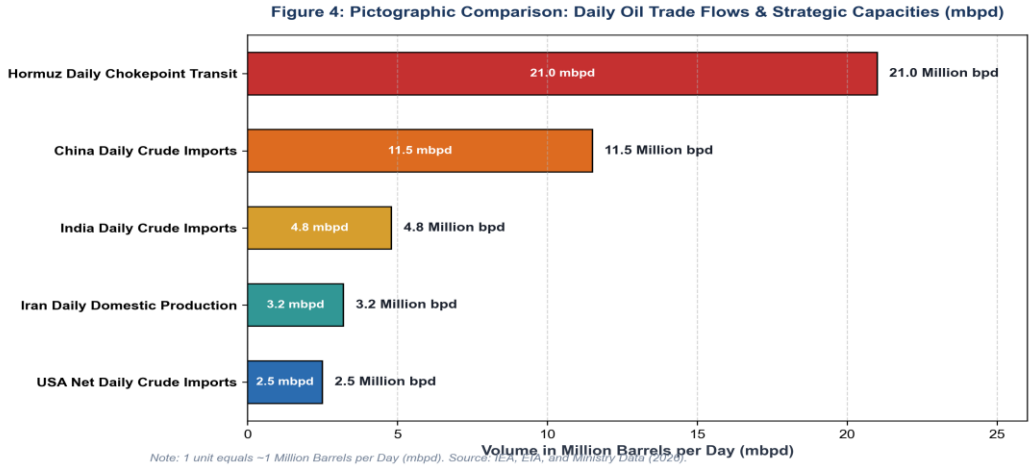

Figure 4: Pictograph Comparison: Daily Oil Volumes and Trade Capacities (Million Barrels per Day)

Figure 4 features a straightforward horizontal bar pictogram showing the comparison of oil volumes day to day. See how 21 million barrels per day pass the Strait of Hormuz in the top bar. Against that, the country of China is importing 11.5 million barrels per day and India is importing 4.8 million barrels per day, whereas Iran is producing 3.2 million barrels of oil per day. The amount which goes through the Strait of Hormuz in a single day is higher than the combined oil imports of both China and India.

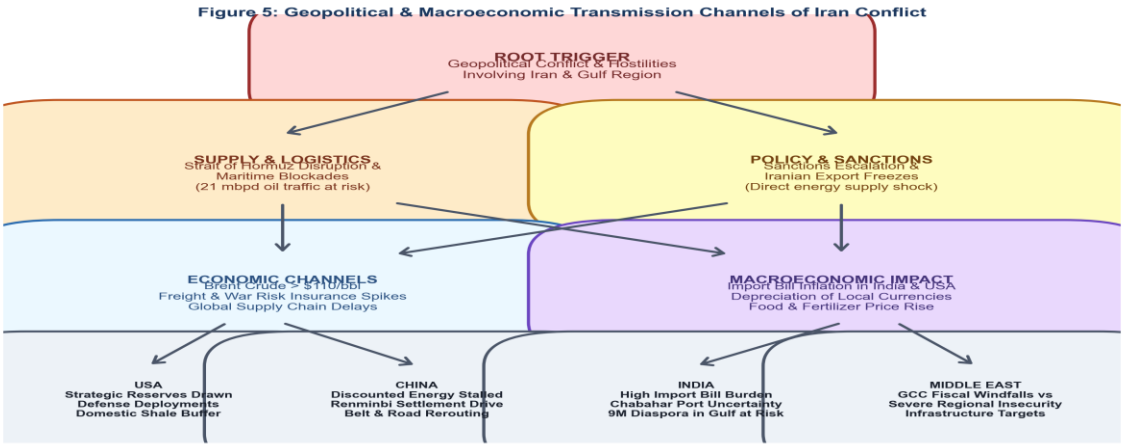

Figure 5: Step-by-Step Flowchart: How the Conflict Moves from Battlefields to Everyday Life

Figure 5 tells everything about the situation in just one simple chart. It begins with the military conflict at the very top. The military operation is followed by two direct negative consequences which are the evasion by ships using the Strait of Hormuz, and very stringent sanction regimes put in place against ships. The oil prices immediately shot up to above $110, and insurance costs on ships skyrocketed. This has the consequence of high importation costs which in turn pushes the depreciation of currencies. Finally, each country at the bottom of the diagram has to be in a state of rush to defend its economy.

8. The Human Side: How Ordinary People Suffer

Although politicians and economists discuss millions of dollars and trade figures, we should not lose sight of ordinary human beings affected by this sort of situation. People inside the country have lived for several years in great hardship. They cannot forget that the economic sanctions have severely reduced the supply of money in the country, leading to massive inflation. All kinds of basic groceries are now getting priced month by month higher. At times, hospital wards have been running out of essential life-saving medicines because the supply chain has been interrupted since companies abroad can't transfer payments. At sea, merchant seamen from countries such as India Philippines Bangladesh, etc. who are working aboard cargo ships, are risking getting caught between drones and missiles in war zones.

One of the sad outcomes of war may be that a massive number of families would be left with no shelter but to become refugees. Among the countries which are poorer, in Africa and South Asia, if prices of fuel and fertilizer get too high, the small-scale farming would simply become unaffordable for the farmers so they would stop farming. The energy crisis has because of this become a hunger problem because there is no food to eat.

9. Calculations and Analysis:

- Inflation Rate (%) of USA:

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show Inflation Rate (%)
After plotting Actual vs Calculated values on excel.
We concluded that exponential equation covers maximum number of plots considering $y = a(b)^x$

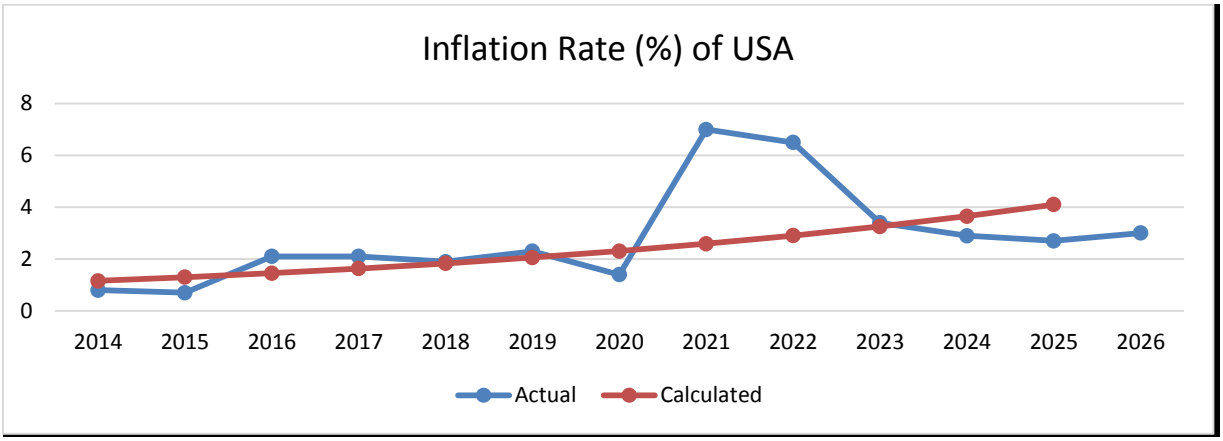

Figure 6: Actual and Calculated Inflation Rate (%) of USA

Formula: $y = 1.03(1.122)^x$

Where "y" represents Inflation Rate (%) of USA and "x" represents the year index (x = 1 for 2014 through = 13 for 2026)

$$r^2 = 0.44, MSE = 0.275$$

- Crude Oil Production (mn barrels/day) of USA:

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show Crude Oil Production (mn barrels/day) After plotting Actual vs Calculated values on excel.

We concluded that exponential equation covers maximum number of plots considering $y = a(b)^x$

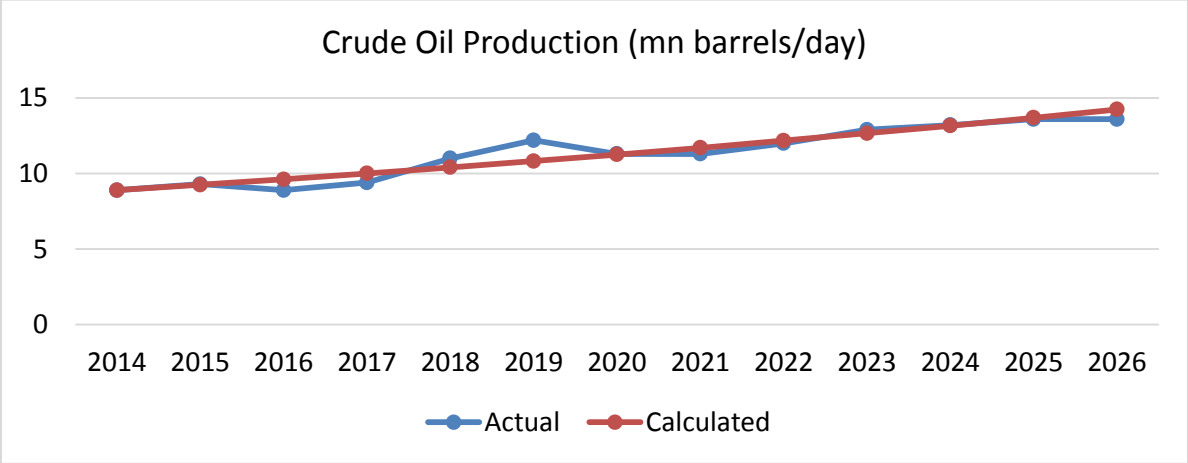

Figure 7: Actual and Calculated Crude Oil Production (mn barrels/day) of USA

Formula: $y = 8.552(1.04)^x$

Where "y" represents Crude Oil Production (mn barrels/day) of USA and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

- Unemployment Rate (%) of USA:

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show Unemployment Rate (%)
After plotting Actual vs Calculated values on excel.
We concluded that exponential equation covers maximum number of plots considering $y = a(b)^x$

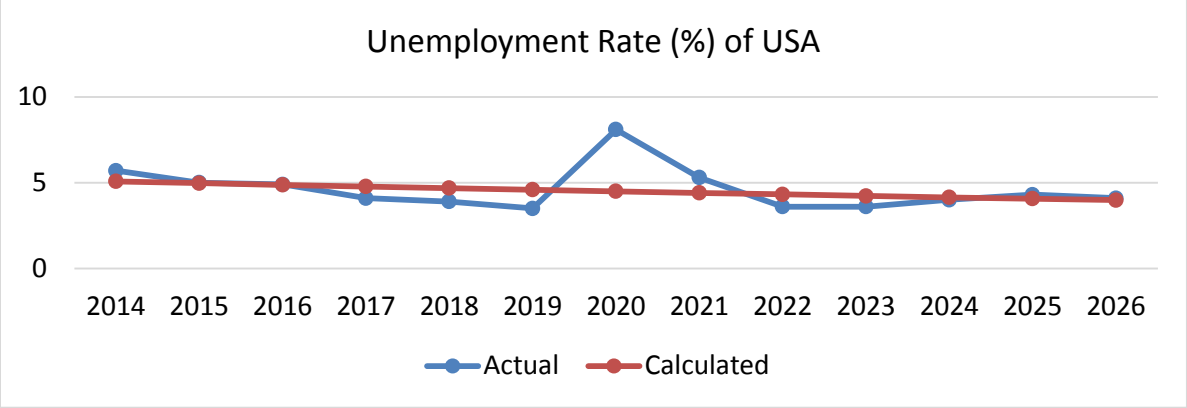

Figure 8: Actual and Calculated Unemployment Rate (%) of USA

Formula: $y = 5.18(0.98)^x$

Where "y" represents Unemployment Rate (%) of USA and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$r^2 = 0.112$, MSE = 0.053

- WTI Crude Oil Price (USD/barrel) of USA:

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show WTI Crude Oil Price (USD/barrel, annual avg)
After plotting Actual vs Calculated values on excel.
We concluded that exponential equation covers maximum number of plots considering $y = a(b)^x$

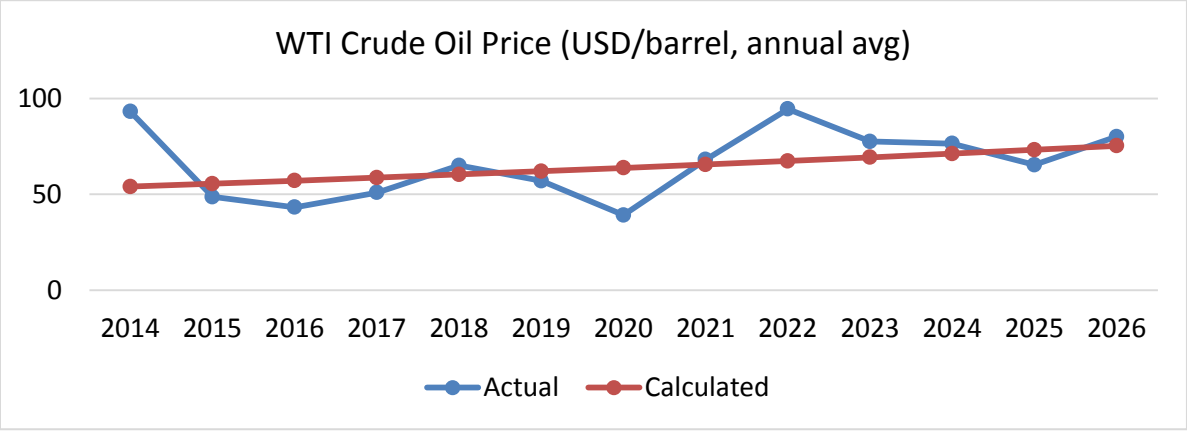

Figure 9: Actual and Calculated WTI Crude Oil Price (USD/barrel) of USA

Formula: $y = 52.58(1.028)^x$

Where "y" represents WTI Crude Oil Price (USD/barrel) of USA and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$r^2 = 0.146$, MSE = 0.0738

- US Gasoline Price (USD/gal):

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show US Gasoline Price (USD/gal)
After plotting Actual vs Calculated values on excel.
We concluded that exponential equation covers maximum number of plots considering $y = a(b)^x$

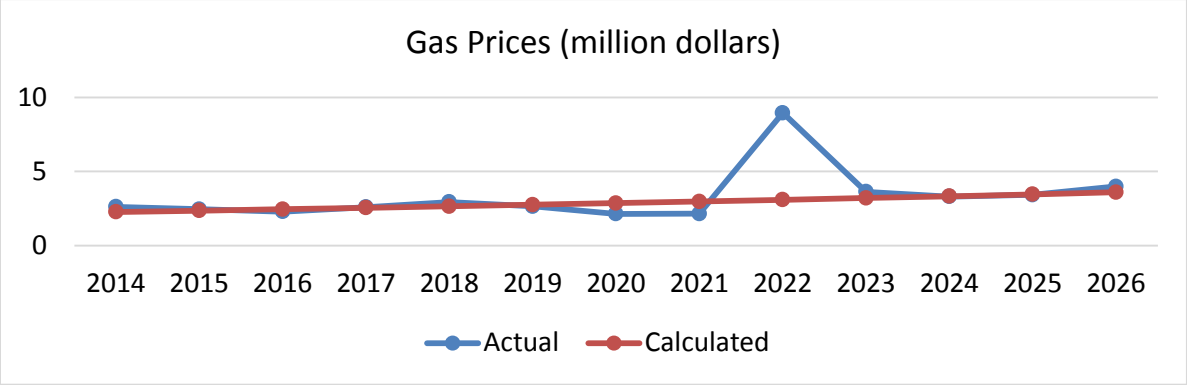

Figure 10: Actual and Calculated US Gasoline Price (USD/gal)

Formula: $y = 2.189(1.039)^x$

Where "y" represents US Gasoline Price (USD/gal) and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$r^2 = 0.462$, MSE = 0.029

- US Defense Budget (Billion Dollars):

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show Defense Budget (Billion Dollars)
After plotting Actual vs Calculated values on excel.
We concluded that exponential equation covers maximum number of plots considering $y = a(b)^x$

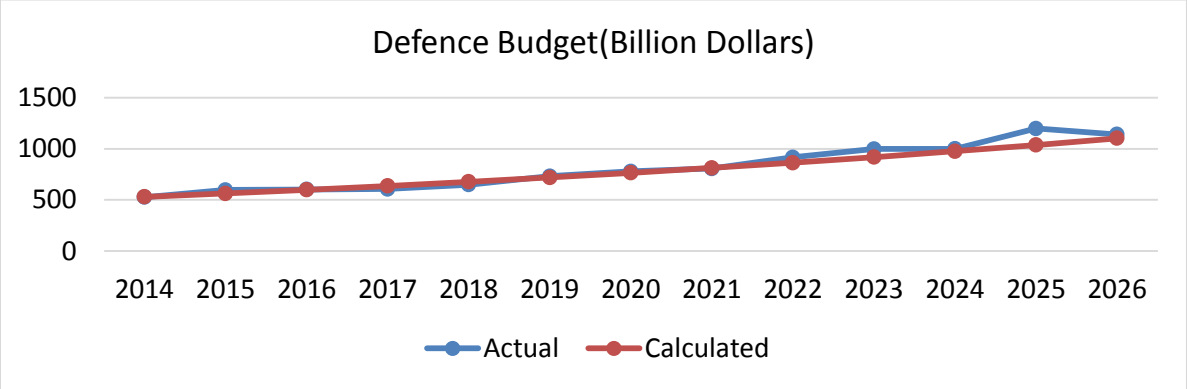

Figure 11: Actual and Calculated US Defense Budget (Billion Dollars)

Formula: $y = 498.18(1.063)^x$

Where "y" represents US Defense Budget (Billion Dollars) and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$r^2 = 0.984$, MSE = 0.00100

- India Inflation Rate (%):

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show India Inflation Rate (%)
After plotting Actual vs Calculated values on excel.
We concluded that cubic equation covers maximum number of plots considering $y = ax^3 + bx^2 + cx + d$

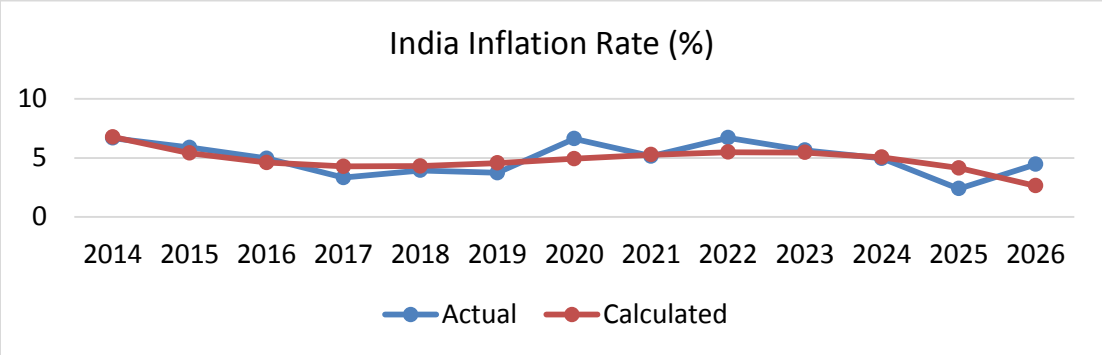

Figure 12: Actual and Calculated India Inflation Rate (%)

Formula: $y = -0.020 * x^3 + 0.414 * x^2 - 2.481 * x + 8.862$

Where "y" represents India Inflation Rate (%) and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$r^2 = 0.436$, MSE = 1.384

- China Inflation Rate (%):

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show China Inflation Rate (%)
After plotting Actual vs Calculated values on excel.
We concluded that cubic equation covers maximum number of plots considering $y = ax^3 + bx^2 + cx + d$

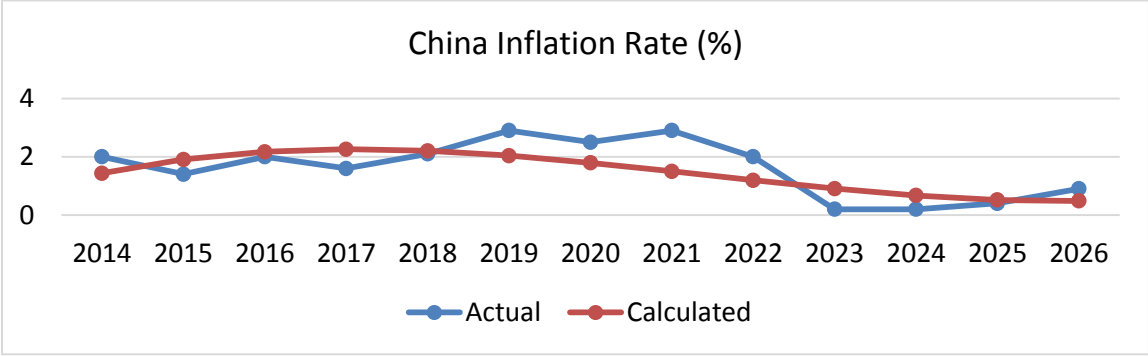

Figure 13: Actual and Calculated China Inflation Rate (%)

Formula: $y = 0.00542 * x^3 - 0.137 * x^2 + 0.847 * x + 0.717$

Where "y" represents China Inflation Rate (%) and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$r^2 = 0.551$, MSE = 0.468

- UAE Inflation Rate (%):

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show UAE Inflation Rate (%)
After plotting Actual vs Calculated values on excel.
We concluded that cubic equation covers maximum number of plots considering $y = ax^3 + bx^2 + cx + d$

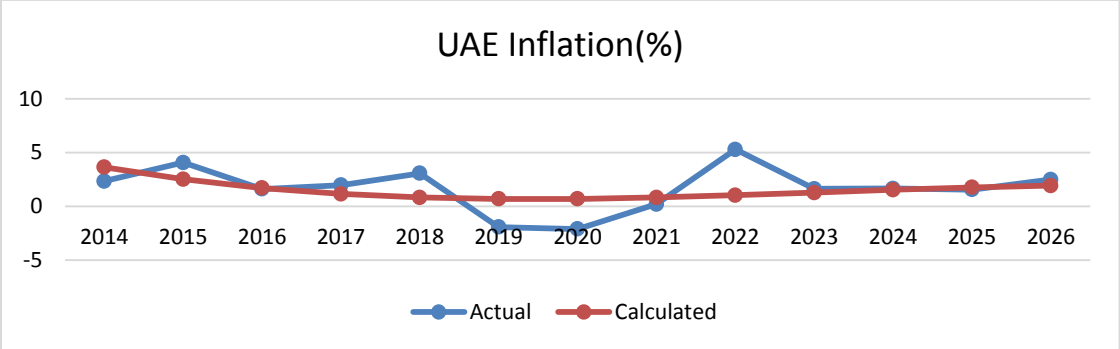

Figure 14: Actual and Calculated China Inflation Rate (%)

Formula: $y = -0.006x^3 + 0.184x^2 - 1.62x + 5.08$

Where "y" represents China Inflation Rate (%) and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$r^2 = 0.551$, MSE = 0.468

- Iran Inflation Rate (%):

In graph, x-axis shows year from 2014 to 2026, and Y-axis will show Iran Inflation Rate (%)
After plotting Actual vs Calculated values on excel.
We concluded that cubic equation covers maximum number of plots considering $y = ax^3 + bx^2 + cx + d$

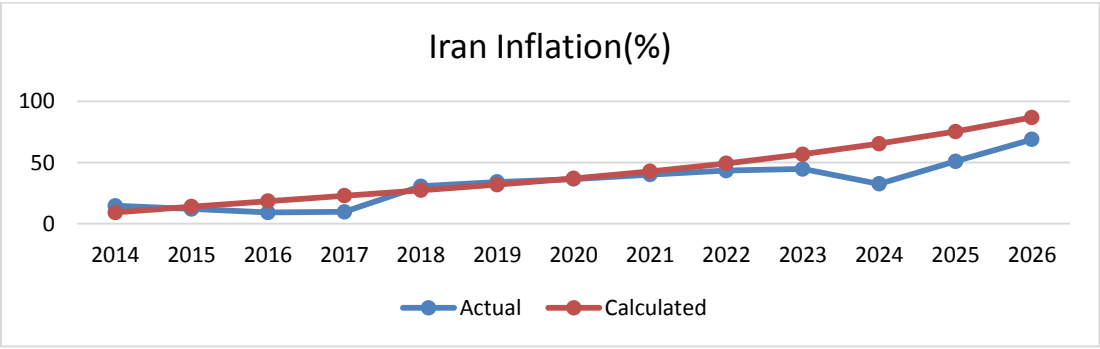

Figure 15: Actual and Calculated China Inflation Rate (%)

Formula: $y = 0.031x^3 - 0.347x^2 + 5.68x + 3.59$

Where "y" represents China Inflation Rate (%) and "x" represents the year index (x = 1 for 2014 through x = 13 for 2026)

$$r^2 = 0.551, \text{MSE} = 0.468$$

- Crude Oil Price Analysis:
  - Raw Data (USD per barrel)

Week	Period 1 – July 2025	Week	Period 2 – February 2026
1	65.16	1	67.02
2	63.66	2	98.23
3	62.40	3	94.40
4	60.98	4	101.20
5	58.06	5	84.88
6	57.44	6	71.41
7	59.34	7	78.18

  - Hypotheses

H_0 (null)	$\mu_1 = \mu_2$ — the mean price of crude oil per barrel is the same before and after the start of the war.
H_1 (alt.)	$\mu_1 \neq \mu_2$ — the mean price of crude oil per barrel differs before and after the start of the war.

  - Descriptive Statistics:

Statistic	Period 1 (Jul 2025)	Period 2 (Feb 2026)
Mean	61.006	85.026
Standard Deviation	2.899	13.382
Variance	8.402	179.088
n	7	7

  - Test Statistic:

$$t = (\bar{x}_1 - \bar{x}_2) / SE$$

$$SE = \sqrt{(s_1^2 / n_1 + s_2^2 / n_2)}$$

Quantity	Value
Standard Error (SE)	5.175
t-statistic	−4.640
|t|	4.64
p-value	0.0028

  - Decision and Conclusion

Since p = 0.0028 < α = 0.05, the null hypothesis H_0 is rejected.

The sample means crude oil price in Period 2 (post-war, ≈ USD 85.03/barrel) is significantly higher than the sample mean in Period 1 (pre-war, ≈ USD 61.01/barrel). Mean crude oil prices per barrel rise significantly after the onset of the war.

- U.S. National Defense Outlay Analysis:

  - Raw Data (USD billion)

Month	Period 1 – July 2025	Month	Period 2 – February 2026
1	74.2	1	76.4
2	76.8	2	82.5
3	93.4	3	79.8
4	78.0	4	81.2
5	75.5	5	85.0
6	81.0	6	84.6
7	77.2	7	85.0

  - Hypotheses:

H_0 (null)	$\mu_1 = \mu_2$ — mean U.S. defence outlay is the same before and after the start of the war.
H_1 (alt.)	$\mu_1 \neq \mu_2$ — mean U.S. defence outlay differs before and after the start of the war.

$$n_1 = n_2 = 7, \alpha = 0.05 \text{ (two-tailed)}$$

  - Descriptive Statistics

Statistic	Period 1 (Jul 2025)	Period 2 (Feb 2026)
Mean	79.014	82.071
Standard Deviation	6.994	3.210
Variance	48.921	10.302
n	7	7

  - Test Statistic:

$$t = (\bar{x}_1 - \bar{x}_2) / SE$$

$$SE = \sqrt{(s_1^2 / n_1 + s_2^2 / n_2)}$$

Quantity	Value
Standard Error (SE)	2.909
Critical t (df ≈ 8.45, α = 0.05)	2.286
t-statistic	−1.051
|t|	1.051
p-value	0.322

  - Decision and Conclusion:
    Since p = 0.322 > α = 0.05 (equivalently, |t| = 1.051 is less than the critical value t = 2.286), we fail to reject the null hypothesis H_0.

There is no statistically significant difference between the mean U.S. national defense outlay before and after the start of the war over the periods examined.

10. What Leaders Can Do: Solutions and Future Outlook

About what nations could do to safeguard theirown interests and ensure peace, I have been thinking a lot while carrying out my research. Four feasible suggestions come to mind:

- Fight Instead of Talks: Countries can get help of neutral mediators, for example: Oman, Switzerland, or Qatar, so that they would maintain a communication channel even if their leaders had totally conflicting views in their minds. As long as people can talk, they won't escalate little misinterpretations into large-scale wars.
- Increase the Size of Emergency Oil Reserve Stores: Countries like India are advised to create bigger underground oil storage caverns. Being prepared with one and a half months of fuel supply in fact gives a state some time to handle the supply interruptions smoothly and without fear.
- Change to Green Energy Much Faster: if there's not going to be a dependence on oil from the Middle East, there's no point in getting oneself worried about running out of it anyway. By developing solar panels, wind power, electric buses, and battery technologies, we protect both our pockets and the environment.
- Laying Backup Pipelines: more overland pipelines should be constructed so that oil from Gulf countries is delivered straight to the Red Sea or the Arabian Sea without being affected by the narrow danger zones where ships used to pass.

11. Conclusion and What I Learned

Working on this research paper made me realize how the world really functions. At first, I only wanted to know "why have petrol and bus tickets become more expensive?" This research still showed me that Iran's war isn't only a local battle; it is shaking the whole world. The Strait of Hormuz is the passage between Iran and Oman that links 20% of the world's oil and gas to the world's markets through the Indian Ocean that makes the most expensive and vulnerable oil and gas supply routes globally.

Any disruption in its vicinity would cause oil prices to skyrocket and shipments get more costly this way causing a financial headache for millions of families from New Delhi to New York. Countries' responses depend on their specific circumstances: America gets most of its oil from its own wells, China safeguards its subsidized supplies, India makes a balance between foreign partnerships and safeguards its workers, and Gulf nations are anxious about drones flying overhead to damage their cities. My most important lesson in life as a 10th-grade student is that our world is entirely intertwined. No country can function in isolation. Problems in one area will, sooner or later, affect other areas. So, building a peaceful and stable world depends on good diplomacy, just trade, and fast move to clean, renewable energy because that way no single conflict can shut down the whole economy of the world.

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13. Biography

Dwijesh Singh

- Education: Class XII student at Delhi Public School, Sector 40-C, Chandigarh.
- Academic Excellence: Scored 92.2% in Class 10 board examinations.
- Subject Highlights: Secured 99 in English and 98 in Artificial Intelligence.
- Olympiads: Consistent performer in SOF Olympiads, including ISSO and IEO.
- Leadership: Served as Interact Club Director under Rotary International.
- Model United Nations: Participated as a Delegate at Agahi MUN and in the National Crisis Committee at DPS Legal Conclave.
- Community Engagement: Participated in a Basic Life Support workshop at GMCH, demonstrating an interest in community welfare and civic responsibility.
- Creative Activities: Participated in poster-making, showcasing creativity and visual communication skills.
- Overall Profile: A well-rounded student combining academic achievement, leadership, extracurricular involvement, creativity, and civic engagement.

Under the guidance of:

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- M.Sc. (Mathematics) (Double gold medalist)
- M.Phil. (Computer Applications) with honours From University of Roorkee (now IIT Roorkee)
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- Various papers published in international journals.
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- B.E Mechanical Engineering from Thapar Institute of Engineering and Technology.
- School Physics Topper.
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