

## **RUSSIAN – UKRAINIAN WAR & ITS IMPACT ON CRUDE AND INDIAN ECONOMY**

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### **Abstract**

The world economy is just coming out and recovering from the blues of the pandemic and yet again we are with another crisis i.e., “The Russian & Ukrainian War” (R-U war) and it seems no end to the combat which hurts the crude oil market. Battles are of no good to society as they bring destruction. The Ukraine and Russian war is causing havoc and posing a serious threat to the world economy, especially the crude oil market all around the world. R-U war caused a constant increase in the price of crude oil and the price of crude rose to \$ 94.64 resulting in a surge in inflation levels. Eight months of war destroyed Ukraine and the impact is felt all around the world. India is not an exception, the tremors are already felt in the form of price pressures and inflation. On the other hand OPEC is accepting the discounts in Russian crude oil supply to buyers like China and India, while western consumers are pulling down global demand. India’s procurement of discounted Russian crude oil is based on serving National interests and this phenomenon will be continuing as of now. In October 2022, Russia emerged as India’s top oil supplier. The present study is an attempt made to analyze the impact of Russian-Ukrainian war on Indian crude oil market and its economy.



**Keywords:** Indian economy, crude oil market, Russian-Ukrainian war, oil refineries, Inflation

### **INTRODUCTION**

Crude oil is a liquid component extracted from beneath the earth. Crude Oil is liquid gold for many nations and helps them to strengthen their economy. Crude oil is one of the important components of the world’s energy requirements and consumption. Asia possesses most of the

refineries with more than 316 Out of 697 oil refineries. Here is the list of a few oil refineries around the world along with the period of inception.

**Table No – 1: Oil Refineries**

S. No	Oil Refineries	Year
1	Baku, Iran	1837
2	Bobrka, Poland	1854
3	Bucharest, Romania	1857
4	Ontario, Canada	1858
5	Pennsylvania, USA	1859
6	Titusville, USA	1859
7	Ohio, USA	1870
8	Digboi, India	1901
9	Mumbai Refinery, India	1954
10	Jamnagar Refinery, India	1999

Source: Statista, 2022

The first oil refinery was set up in Baku, Iran to distil oil into paraffin, very soon commercial oil refineries was set up in ,Bobrka, Bucharest, Ontario, Pennsylvania, Titusville, Ohio. Digboi and Jamnagar. The first oil refinery in India was set up in the year 1901 at Digboi, Assam with a capacity of 0.50 Million Metric Tons per annum. Jamnagar refinery in Gujarat is owned by Reliance industries with an installed capacity of 1240000 Barrels per day. Ukraine and Russia war and the proposed EU ban on Russian oil on March 23, 2022, has its impact on the price of crude oil which had escalated to \$ 114 per barrel at the international market, a move which can tighten the supply of crude oil. Furthermore, with rising demand of gasoline in USA the prices surged with restrained refining capacities. China..... The world’s second largest economy also faced some adversaries and restricted itself to processing 11% less of crude oil in April, 2022. As soon as the UK and USA had decided to Ban on Russian oil the prices of crude initially escalated to \$140 per barrel. Meanwhile, the war also has a negative impact on Indian edible oil market, as India imports some 90% of sunflower oil from Russia and Ukraine combined.

Already the world is under the troubled waters with major problems like Pandemic, Rising prices, unemployment, high inflation and shrinking global economic growth and with shelling an oil refinery in Ukraine the things worsened to a great extent. This time the impact was too serious and caused demand and supply mismatch of crude oil and paved the way for cost-push inflation. According to World Bank estimates the war may lead to “Largest Commodity Shock” since the 1970s, and further warned that there may be huge rise in prices of natural gas, wheat and cotton. Mint an Indian financial daily newspaper published that the war may affect the Indian economy’s nascent recovery from the pandemic.

## REVIEW OF LITERATURE

According to Nicolas Dupuis (2018), On a positive note, the increased demand of crude oil at international market and the surge in oil production and simultaneous export to Asia has pushed the adoption of west Texas Intermediate (WTI) as a leading crude benchmark in Asia.

Peter Nagle (2022), senior economist at the world bank, in his work on “Economic and humanitarian effects of War” is of the view that households across the world are feeling the cost of living crisis and this may have an adverse effect on the poorest households as they spend their larger chunk of income on food and energy. The author revealed that the masses are particularly vulnerable to the price spike.

William Carpenter (2022), in his work “The biggest oil producers in Asia” revealed that Asia Pacific accounts for 8.4% of the world’s oil production. This region is dominated by China, India, Malaysia, Thailand and Indonesia and they are considered as the largest producers of oil in Asia Pacific. China is the fifth largest oil producing nation all around the world and moreover Asia accounts for 77% of world oil demand by 2025 and it means that the region needs to import some 81% of oil in order to meet its oil requirements.

Suhasini Haider (2022), In her paper on “India is not a conduit for Russian oil sales to other countries” laid emphasis on the views of Indian external affairs minister, Sri Jaishankar, who criticized European Nations for double standards. Some nations are even blaming India for buying Russian oil at discounted rates and selling the same to other nations at higher price. Suhasini also revealed that Indian fuel exports were 15% higher when compared to the previous year (2021).

Rahul Kalantri (2022), highlighted the present situation of crude oil market at International level and further stated that Crude oil settled on a positive note in the international markets as West Texas Intermediate (WTI) crude settled at US \$120.26 per barrel and Brent settled at US \$121.08 per barrel. After easing lockdown restrictions in China and fall in the US oil stocks, China is now threatening to add even more pressure to prices.

## RESEARCH METHODOLOGY

The study is relied on secondary data and is obtained from various published sources such as Journals, News Papers, Annual Reports, etc., a trend line or a line of best fit is obtained to know the prevailing direction of crude oil prices and to predict future or unknown values, an attempt is made to estimate the future trend of crude prices as well. A trend line with a positive slope indicates a positive relationship and a trend line with a negative slope indicates a negative relationship between the two variables. Furthermore, correlation is also used to know the extent to which two variables are linearly related i.e., as how they change together at a constant rate.

### Crude Production

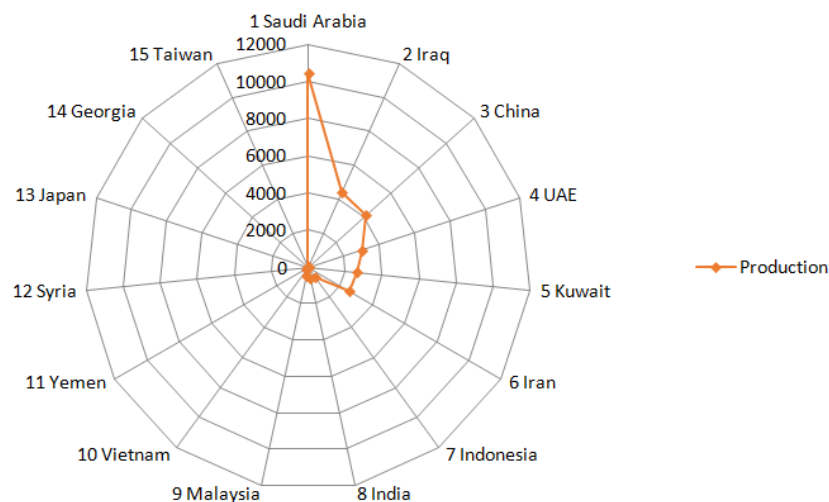
In the year 2021, India produced 604k barrels of oil per day and the oil consumption in India is also increasing day by day. After US & China, India ranks as the 3<sup>rd</sup> largest oil consumer in the world. During the same period Saudi Arabia, Iraq, China had produced 10441k, 4430k and 4185k barrels of crude oil respectively on daily basis.

**Table No. 2: Crude Oil Production (BBL/D/1K)**

S. No	Country	Production
1	Saudi Arabia	10441
2	Iraq	4430
3	China	4185
4	UAE	3011
5	Kuwait	2639
6	Iran	2564
7	Indonesia	616
8	India	604
9	Malaysia	480
10	Vietnam	183
11	Yemen	75
12	Syria	15
13	Japan	3.6
14	Georgia	0.3
15	Taiwan	0.2

Source: Trading Economics, 2021

### Crude Oil Production



Source - Computed from past /existing data (Authors research output)

As India is occupying 8<sup>th</sup> position in the list of production throughout the world, a mere production of a few lakhs (604k) Barrels per day of crude oil is not at all sufficient. India is also looking for a variety of options to reduce the import bill. It is also blending petrol with biofuels and also providing many incentives to use Electric Vehicles for its countrymen. India is also extracting shale gas from beneath the oceans for its fuel requirements. Moreover, by the

end of 2025, most of the people in India will use E- Vehicles and by doing so pollution and global warming can be reduced to some extent.

### Oil Reserves

When it comes to Oil Reserves, Venezuela has largest oil reserves (300 Billion Barrels) followed by Saudi Arabia (266.5 Billion Barrels). Russia & Ukraine are occupying 8<sup>th</sup> and 51<sup>st</sup> in the list with 80 and 0.395 Billion Barrels respectively. When we discuss about oil reserves India is placed somewhere around 24<sup>th</sup> in the list with roughly 4 billion barrels. According to some sources there is an estimation that the oil reserves in the world will last for another 50 years.

According to OPEC, more than 70 million barrels of crude is produced worldwide every day and that is almost 49000 barrels per minute.

**Table No -3: Oil Reserves (In Billions)**

S. No	Country	Reserves
1	Venezuela	300
2	Saudi Arabia	266.5
3	Canada	170
4	Iran	157
5	Iraq	143

Source: Investopedia, 2022

### Price vs Inflation

The pricing of crude is dynamic, prices are fluctuating due to many external factors such as demand-supply mismatch, cartel by OPEC (Organization of the Petroleum Exporting Countries), and now the latest being... Russian-Ukrainian war and moreover in India the price of crude is causing an havoc having an adverse effects on its economy and posing serious challenges. Table number 4 gives a brief description on pricing of crude oil and its effect on inflation. A trend line is also fitted by taking into consideration the prices of crude oil.

Price of crude is directly linked with inflation. In India the inflation rates are high due to increase in the price of crude oil at the international levels, it means that the R-U war has an impact on Indian Economy as well. The wholesale price index and inflation rate as on August 2022 for all commodities stood at 153.2 and 12.48% respectively.

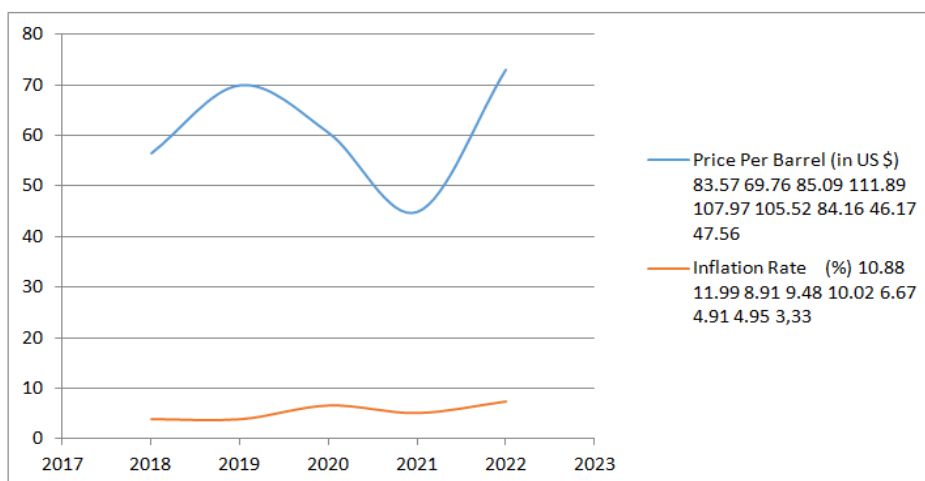
Inflation is soaring across most of the world's economies. Argentina and Turkey are currently experiencing the highest inflation rates in the G20. In October 2022, Turkey's rate reached 85.51 % (compared with prices in October 2021). Table 4 highlights a series of inflation rates from 2009 to 2022. In order to know the relationship between the two variables i.e. Price and Inflation, Correlation analysis is applied.

Table 4: Crude Oil Pricing & Inflation Rates in India

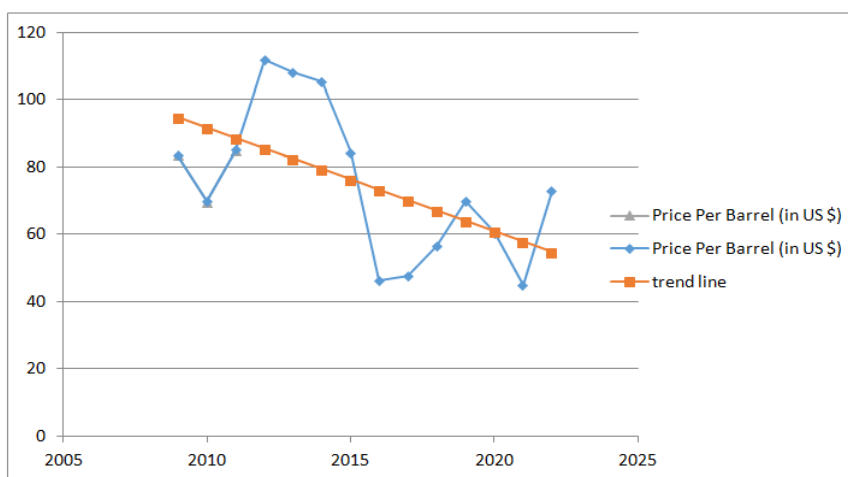
Financial Year	Price Per Barrel (in US \$)	Inflation Rate (%)
2009	83.57	10.88
2010	69.76	11.99
2011	85.09	8.91
2012	111.89	9.48
2013	107.97	10.02
2014	105.52	6.67
2015	84.16	4.91
2016	46.17	4.95
2017	47.56	3.33
2018	56.43	3.94
2019	69.88	3.90
2020	60.47	6.62
2021	44.82	5.13
2022	72.95	7.4

(Source - Secondary Data)

Correlation analysis is used to measure the strength of a linear relationship between the two quantitative variables i.e. price and inflation. The analysis proved that there exists a positive correlation between price and inflation. The value of correlation, thus obtained is 0.513584.



Financial Year	Price Per Barrel (in US \$)	x	x <sup>2</sup>	x*y	trend line
2009	83.57	-13	169	-1086.41	94.6968
2010	69.76	-11	121	-767.36	91.6252
2011	85.09	-9	81	-765.81	88.5536
2012	111.89	-7	49	-783.23	85.482
2013	107.97	-5	25	-539.85	82.4104
2014	105.52	-3	9	-316.56	79.3388
2015	84.16	-1	1	-84.16	76.2672
2016	46.17	1	1	46.17	73.1956
2017	47.56	3	9	142.68	70.124
2018	56.43	5	25	282.15	67.0524
2019	69.88	7	49	489.16	63.9808
2020	60.47	9	81	544.23	60.9092
2021	44.82	11	121	493.02	57.8376
2022	72.95	13	169	948.35	54.766



Source: Trend line computed from past /existing data (Authors research output)

Furthermore, a trend line is also fitted with the help of price values. The above figure depicts a trend line. It is observed clearly that there is a negative relationship between the two variables, even though there are some fluctuations in the values but the overall trend is a negative one. India imports 85% of its crude oil needs and its crude import bill for FY 2022-23 touched \$90.3 Billion. The surge in oil prices will result in price pressures leading to Inflation. Experts opined that oil prices are dynamic and are a major concern for global economies (including India) and the impact on the Indian economy is a result of cost-push inflation. One of the strong reason for inflation is devaluation of currency because imports become more expensive which causes cost push inflation and at the same time Aggregate Demand increases which results in demand pull inflation. For every 10% rise in oil prices results in a 0.4 percentage point rise in consumer inflation. A surge in inflation can also lead to a Current account deficit. The present rate of

inflation in India is 7.4%. Furthermore, Morgan Stanley projects retail inflation at 6% for FY 2023 which is higher than the RBI safe zone of 4.5%. Inflation that averaged around 3.9% before pandemic suddenly went out of control.

### Future Prediction

The future is unpredictable, even though an attempt is made to predict the future and formulate some strategies to cope with future challenges and to be on the safe side for the well-being of the country. Forecasting future challenges in advance is always good. If the war continues at the same pace, its impact on the Indian economy is negligible, as the future values obtained by trend analysis are lower than the present values. India is grateful for the discounted Russian crude oil at this time of adversaries. India took the correct decision by buying discounted oil for national interests.

Financial Year	Price (In US \$)
2023	51.69368
2024	48.62198
2025	45.55028
2026	42.47858
2027	39.40688
2028	36.33518
2029	33.26348
2030	30.19178

Source: Trend line computed from past /existing data (Authors research output)

### CONCLUSION

One final thing for the well-being of the Indian economy is that the Russian-Ukrainian war should cease immediately because the battles will bring no good to society and the world at large. Moreover, the price rise is a major concern of any economy all around the world. The war has brought instability in crude prices leading to price pressures, inflation, and CAD (Current Account Deficit)

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