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# Oil Crisis due to the Russian-Ukraine War

*Author*

*Anwasha Podder*

*M.Sc. in Economics*

*Calcutta University*

## Abstract

The objective of this paper is to analyze past trends of fuel prices in the World and to draw a plausible link with balance of trade so as to incorporate the impact of the ongoing Russia-Ukraine war. To conduct our analysis, we have segregated the World economy based on their income. The World Bank segregates the World economy into four parts, namely, Low-Income Countries (countries with an average income of \$1,085 or less), Lower-Middle Income Countries (countries with an average income of \$ 4,255 or less), Upper-Middle Income Countries (countries with average income ranging from \$ 4,256 to \$13,205), and High-Income Countries (with an average income of \$ 13,205 or more). To fulfil the objective of the paper we will discuss why global oil price fluctuates and what the present scenario of global oil price is. We will also try to figure out why an unfavourable trade balance can create price fluctuations.

## Background of the Oil Crisis

Oil as a commodity is subjected to larger price fluctuations compared to other products. Several factors affect the price of oil such as production by the Organization of Petroleum Exporting Countries (OPEC), the independent oil-producing country such as Russia, storage capacity, political unrest, economic downturn, and natural disasters among others. The Organization of the Petroleum Exporting Countries, OPEC, is an intergovernmental entity of 13 oil-exporting nations that aims to coordinate and unify the petroleum policies of its

member countries. The cartel regulates oil supply to keep price stability by setting production quotas for its members. OPEC dominates the majority of the global oil supply, making it the most powerful oil organization in the world. Collectively, OPEC member countries control around 80% of the world's proven oil reserves.

Crude oil prices rise when there is a decrease in supply by OPEC. Since 40% of the global crude oil is produced by OPEC and 60% of its exports are traded internationally, hence its decisions and policies have an impact on global prices. Further, Russia is the world's largest exporter of oil to global markets and the second-largest crude oil exporter behind Saudi Arabia. It is the world's third-largest oil producer behind the United States and Saudi Arabia. Therefore, Russia plays an important role in influencing global oil prices. Recently, OPEC has been working with Russia, as OPEC+ to fix the global prices and supply. However, there are crude oil-producing nations that are outside OPEC such as the United States of America, China, and Canada. Since most of these countries have high consumption levels and minimum capacity to export, they have minimal influence on controlling global prices.

## Impact of COVID 19 on the Oil Crisis

The pandemic has led to a dual shock- a negative supply shock accompanied by a negative demand shock. The negative supply shock comes first from a reduction in labor because workers get sick with COVID-19, and due to travel restrictions, quarantine efforts and some workers had to stay at home to take care of sick family members or children. Supply was also got affected by a reduction in materials, capital, and intermediate inputs due to disruptions in transport and businesses in the Middle East and North Africa (MENA) countries. The negative demand shock was at both the global and regional levels. Economic difficulties around the world and the disruption of global value chains reduced demand for the region's goods and services, most notable oil along with tourism.

### COVID scenario

During the pandemic, global oil demand witnessed a sharp plunge. According to International Energy Agency, in the year 2020, oil demand contracted to 9.3 million b/d. Further, the global oil production cut by the OPEC+ countries along with the economic disruptions caused by the coronavirus pandemic has led to volatility within global oil markets. Due to a

lack of investment and consumption of oil at a global level, oil prices collapsed and further depressed the demand in MENA where oil and gas is the most important sector in many economies.

In addition to the shock from the pandemic, the breakdown in negotiations between OPEC and its allies led to a persistent collapse in oil prices. On March 5, 2020, OPEC proposed a 1.5 mb/d production cut for the second quarter of 2020, of which 1 mb/d would come from OPEC countries and 0.5 mb/d from non-OPEC but aligned producers, most prominently Russia. However, Russia rejected the proposal, prompting Saudi Arabia, the world's largest oil exporter, to boost production to 12.3 mb/d, its full capacity. Saudi Arabia also announced unprecedented discounts of almost 20% in key markets. As a result, there was an immediate drop of more than 30% in prices.

## Post COVID

The world has been witnessing an economic recovery from the pandemic stage since 2021 and due to this, energy prices have been rising once again. But the situation turned into an energy crisis due to Russia's invasion of Ukraine in February 2022. The price of natural gas reached record highs, and as a result the price of electricity also spiked in some markets. Higher energy prices have contributed to high inflation, pushed families into poverty, forced some factories to curtail output or even shut down, and slowed economic growth to the point that some countries are heading toward severe recession. Europe, whose gas supply is vulnerable because of its reliance on Russia, could face gas rationing this winter, while many emerging economies are seeing sharply higher energy import bills and fuel shortages.

Some gas-intensive manufacturing plants in Europe have curtailed output because they can't afford to keep operating, while in China some have simply had their power supply cut. In emerging and developing economies, where the share of household budgets spent on energy and food is already large, higher energy bills have increased extreme poverty and set back progress toward achieving universal and affordable energy access. In some of the advanced economies, rising prices have impacted vulnerable households and caused significant economic, social and political strains.

# Data Source

The data was downloaded from the official website of World Bank. The panel data ranges over 6 years i.e. 2015 to 2021 across 222 countries. The countries are segregated based on their incomes as classified by the World Development Indicators report 2022.

In order to understand the relationship between oil price fluctuations and trade balance we have considered the average price for fuel imports and exports for low income countries, lower-middle income countries, upper-middle income countries, and high income countries and studied their trade balance.

# Descriptions Analysis

The data description is divide into:

- Low Income Countries
- Lower Middle-Income Countries
- Upper Middle-Income Countries
- High Income Countries.

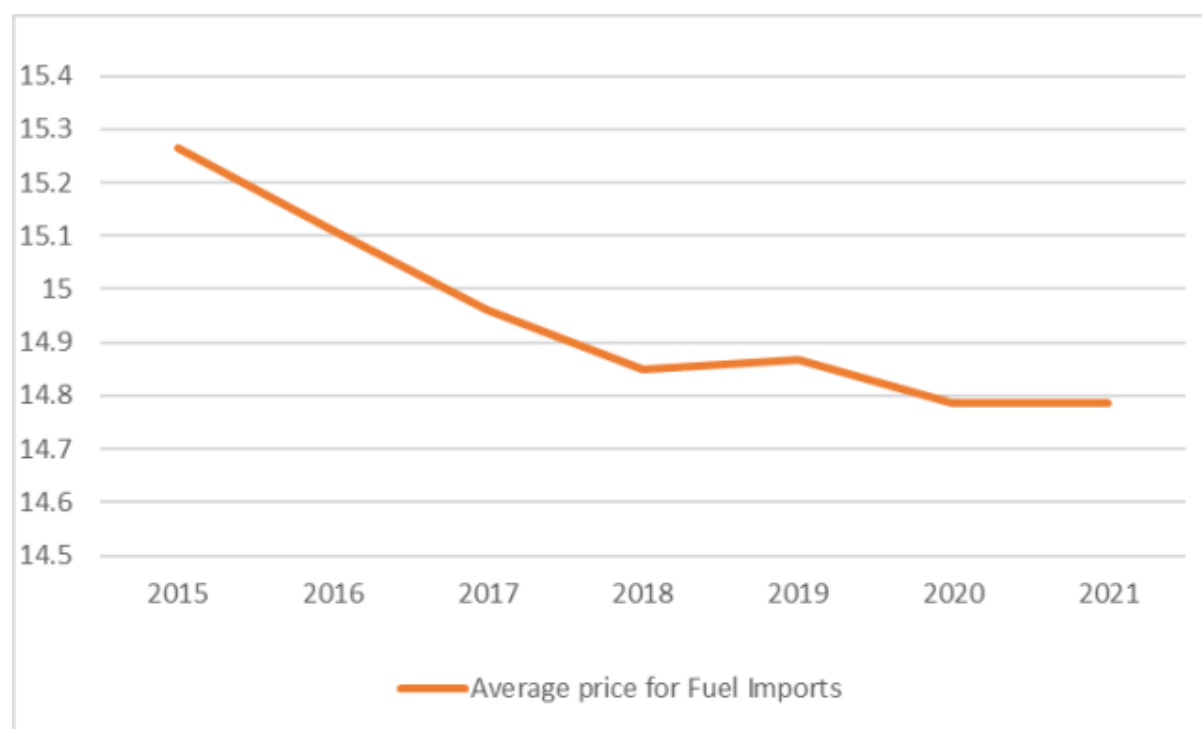
Each section consists of a trade balance table and a visual description of imports and exports of the economy across a time of 2015-2021.

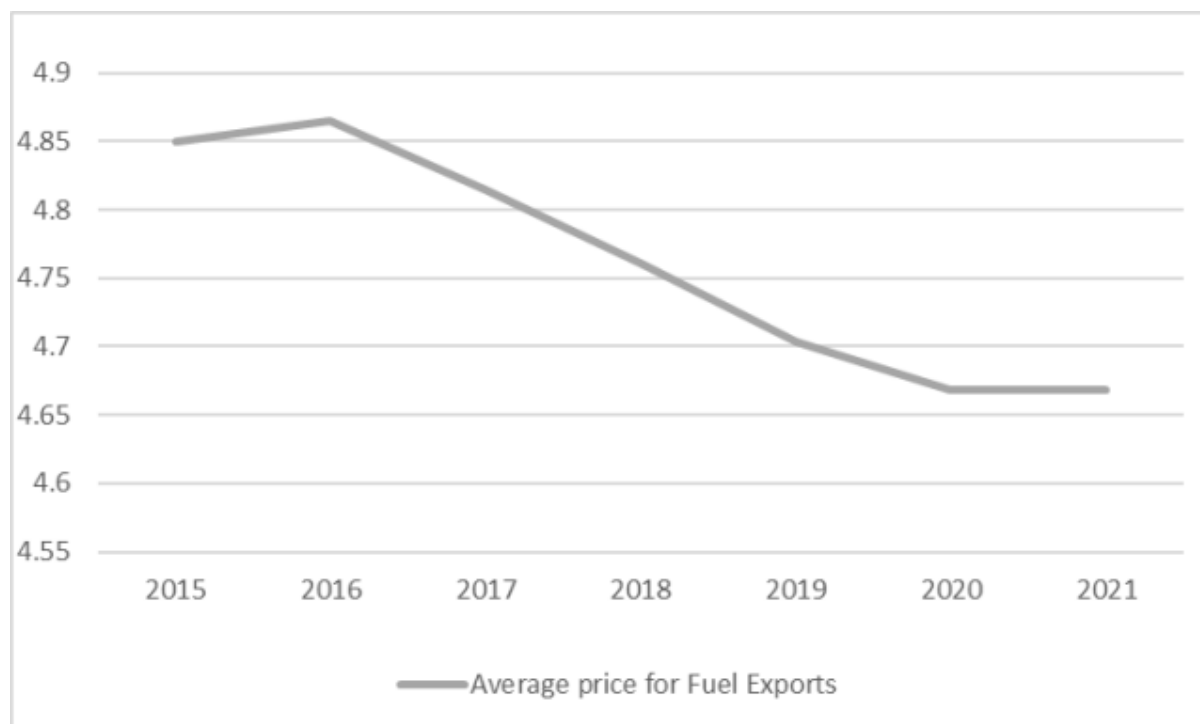
## Low Income Countries

<b>Years</b>	<b>Average price for Fuel Imports</b>	<b>Average price for Fuel Exports</b>	<b>Trade Balance</b>
2015	15.265	4.849	-10.416
2016	15.111	4.864	-10.247
2017	14.960	4.814	-10.146

Years	Average price for Fuel Imports	Average price for Fuel Exports	Trade Balance
2018	14.851	4.761	-10.089
2019	14.869	4.704	-10.165
2020	14.787	4.668	-10.119
2021	14.787	4.668	-10.119

**Table 1: Average Prices for Low Income Countries**





Trade Balance Low Income economies (Average)

### *Observation*

From the above table and graphs we can say that for low-income countries, the trade balance has been negative, i.e., the exports are greater than the imports for the following years. This can be attributed to the fact that the countries which fall under the category of low-income countries (as defined by the World Bank) are majorly oil-consuming countries and not oil-producing countries. In explaining the relationship between oil price fluctuations and the trade balance for this particular case, we can say that although the average import price for fuel and average export price for fuel have both decreased over the study period, the rate of decrease in import price is less than the rate of decrease of export price, hence a deficit trade balance. Therefore, in order to maintain a healthy trade balance, a country needs to cushion itself from oil price shocks.

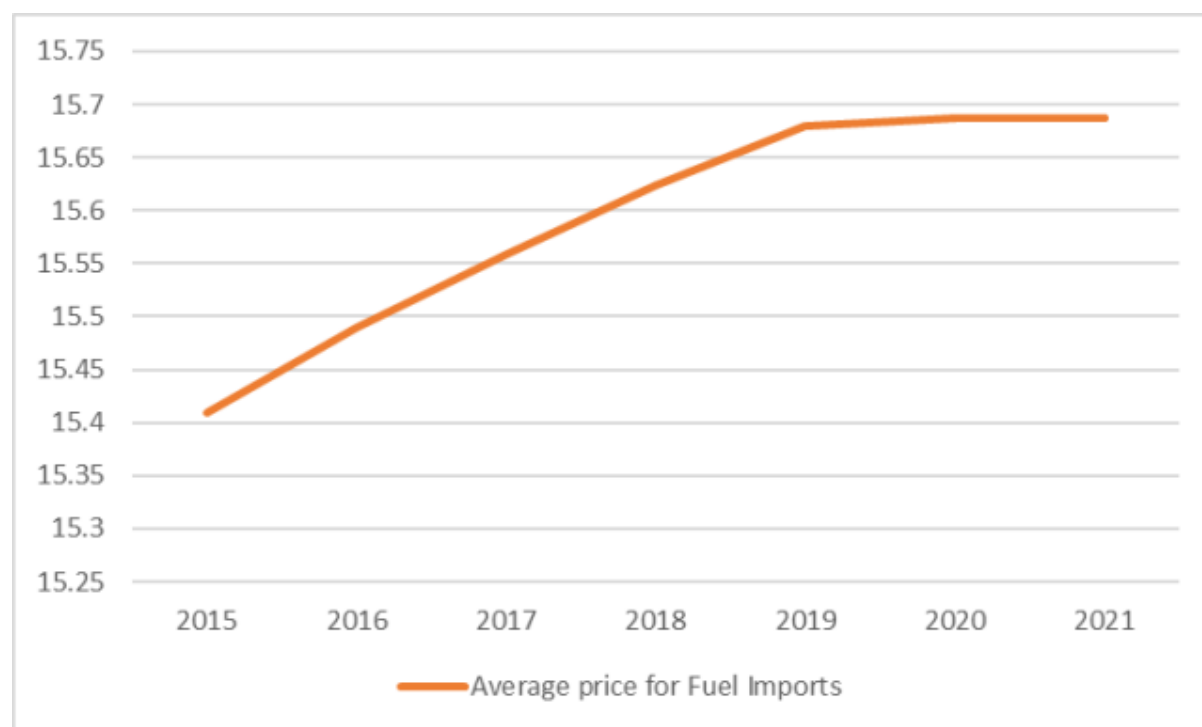
## Lower-Middle Income Countries

**Years    Average Price for Fuel Imports    Average Price for Fuel Exports    Trade Balance**

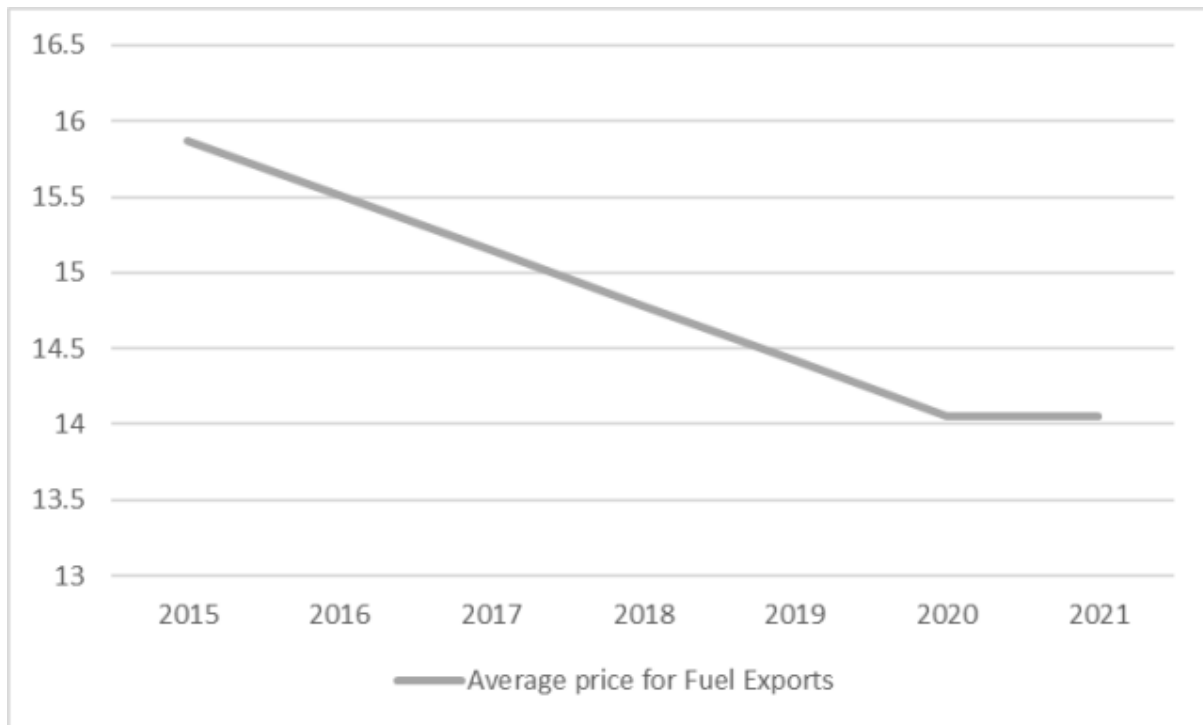
2015	15.410	15.873	0.463
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Years	Average Price for Fuel Imports	Average Price for Fuel Exports	Trade Balance
2016	15.489	15.507	0.018
2017	15.559	15.146	-0.413
2018	15.623	14.779	-0.844
2019	15.680	14.421	-1.259
2020	15.687	14.052	-1.635
2021	15.687	14.052	-1.635

Table 2: Average Fuel Prices for Lower-Middle Income Countries







Trade Balance Lower Middle Income (Average)

### *Observation*

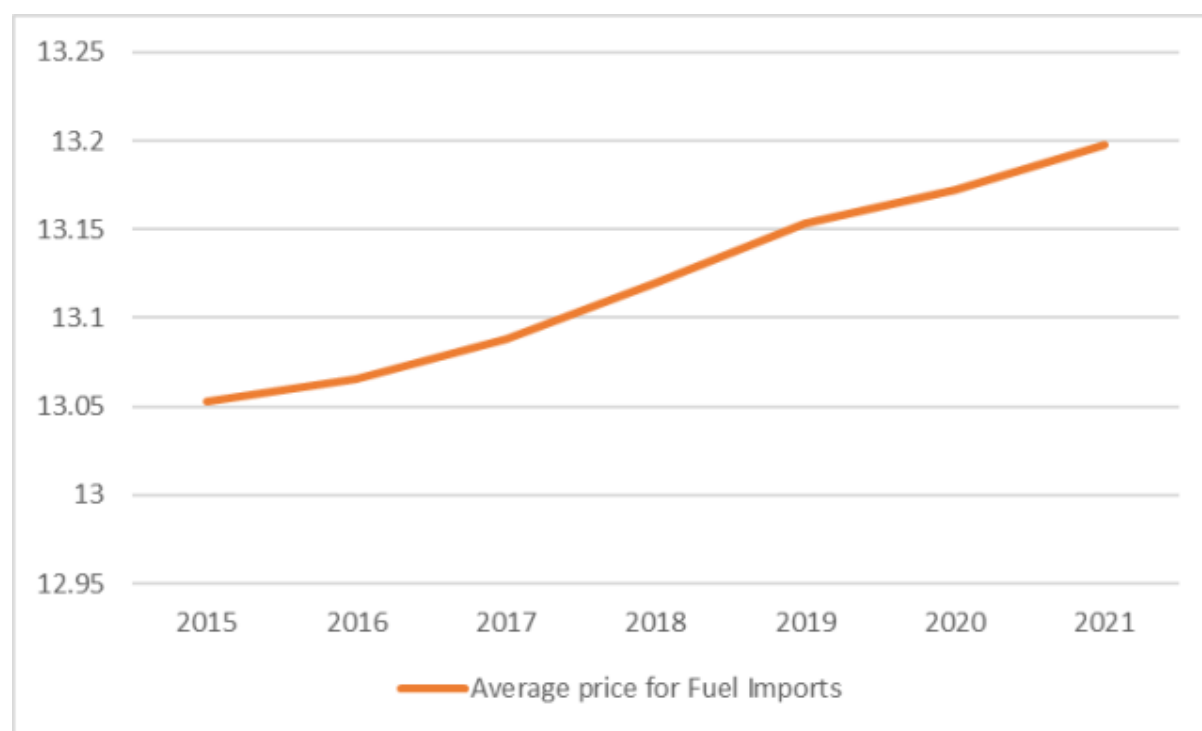
From the above table and graphs, we can say that there has been a surplus trade balance for the first two years of our study period but for the rest of the years, there has been an increasing trade deficit. Both, the average import fuel price and average export fuel price have been increasing at a decreasing rate. This can again be attributed to the fact that most of the countries are not major oil-producing countries.

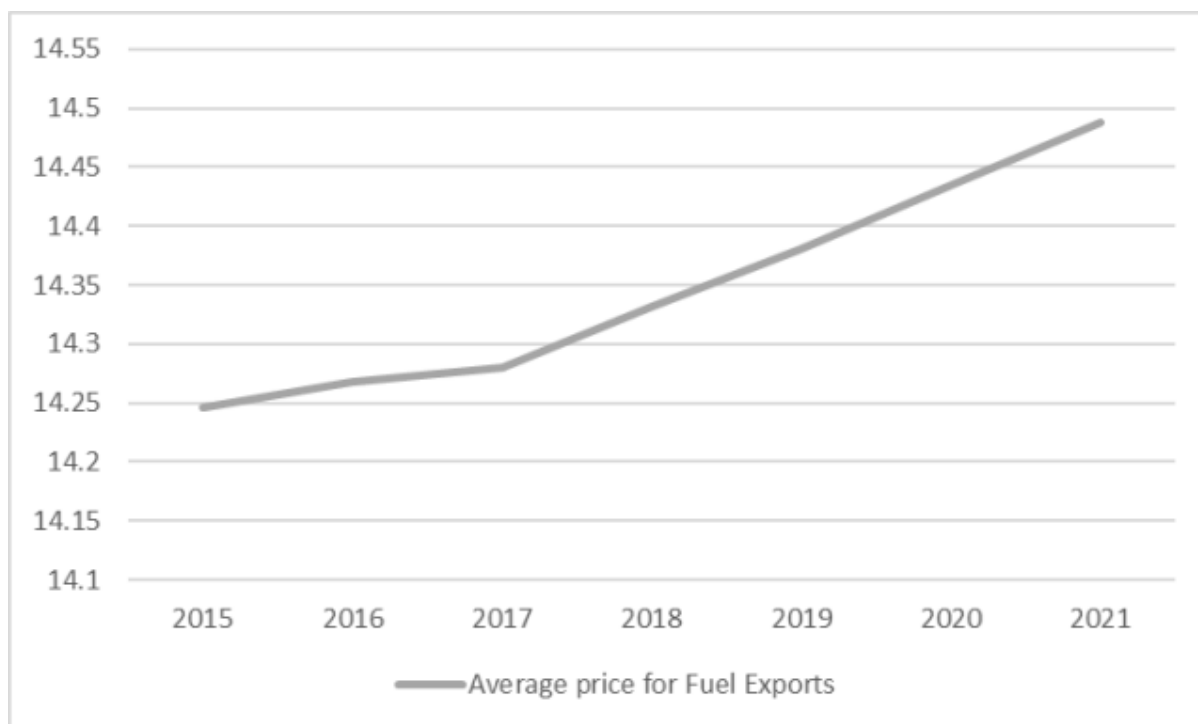
## Upper-Middle Income Countries

Years	Average Price for Fuel Imports	Average Price for Fuel Exports	Trade Balance
2015	13.052	14.247	1.194
2016	13.066	14.267	1.202
2017	13.088	14.280	1.192

<b>Years</b>	<b>Average Price for Fuel Imports</b>	<b>Average Price for Fuel Exports</b>	<b>Trade Balance</b>
2018	13.120	14.331	1.2120
2019	13.153	14.381	1.228
2020	13.173	14.435	1.261
2021	13.197	14.488	1.291

Table 3: Average Fuel Prices for Upper-Middle Income Countries





Trade Balance Upper Middle Income Economies

### *Observation*

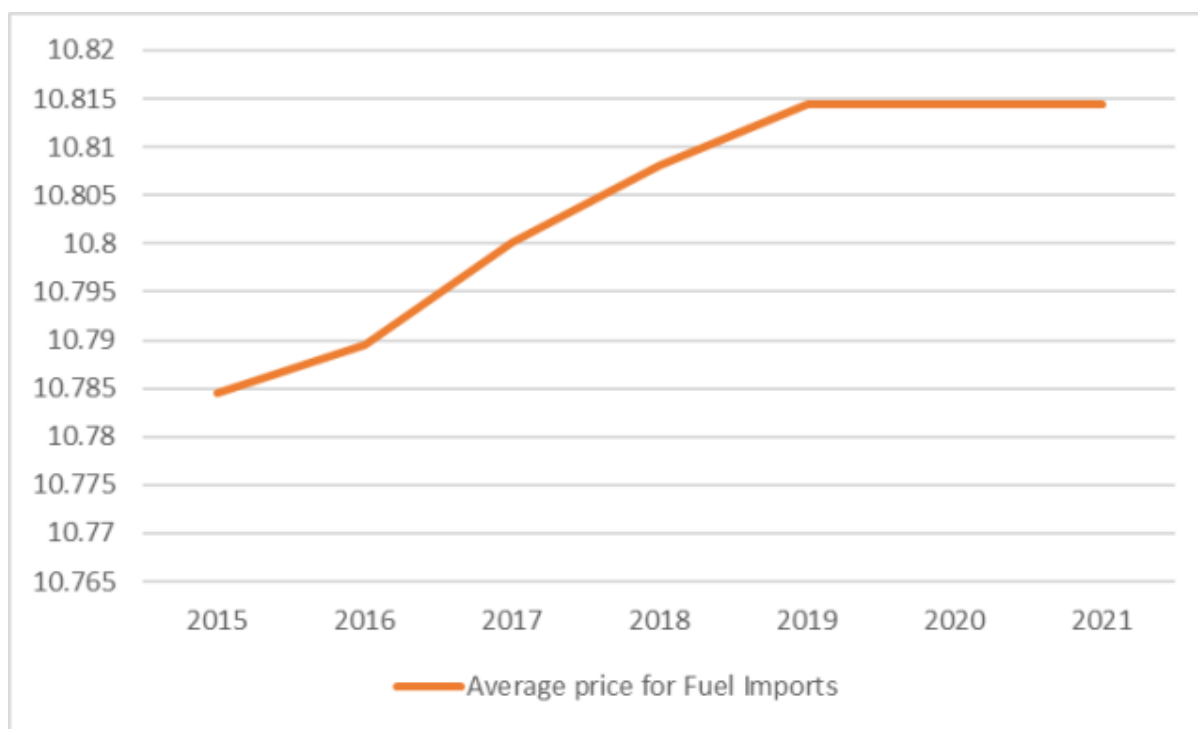
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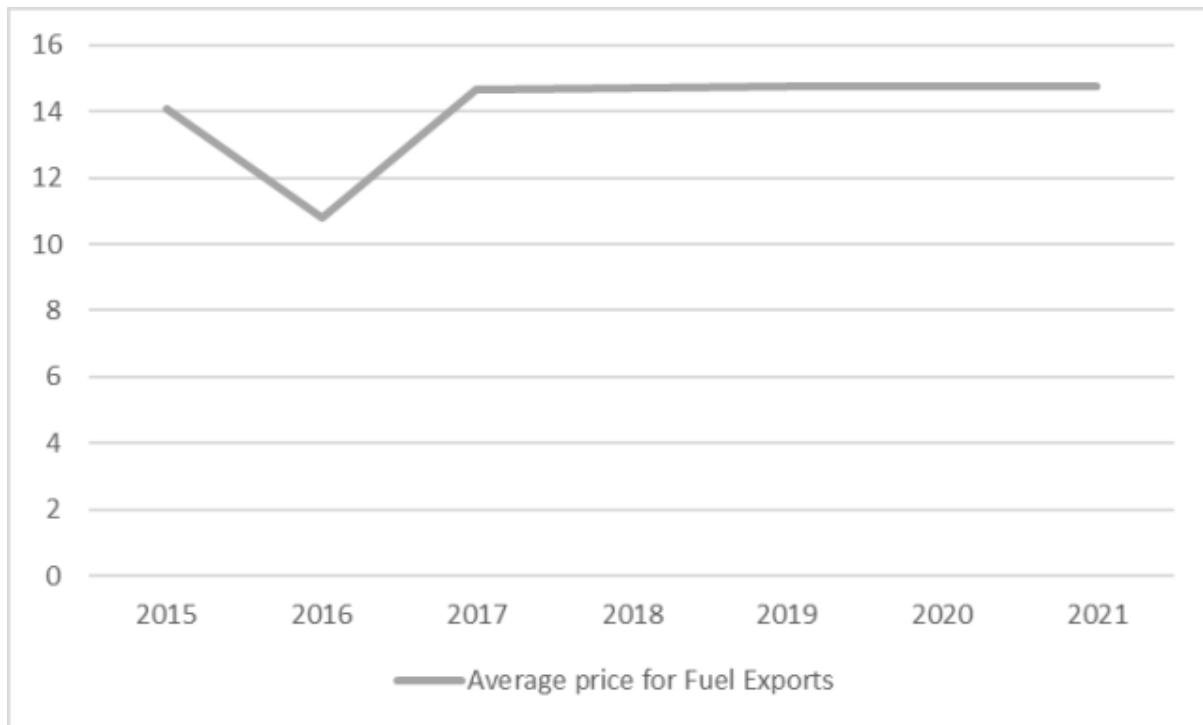
## High Income Countries

Years	Average Price for Fuel Imports	Average Price for Fuel Exports	Trade Balance
2015	10.78452752	14.0650268	3.280499271
2016	10.78945643	10.78945643	0
2017	10.8000609	14.68543447	3.885373572

Years	Average Price for Fuel Imports	Average Price for Fuel Exports	Trade Balance
2018	10.80803448	14.72326141	3.915226936
2019	10.81434857	14.76127077	3.946922202
2020	10.81434857	14.76127077	3.946922202
2021	10.81434857	14.76127077	3.946922202

Table 4: Average Fuel Prices for High Income Countries





Trade Balance High Income Economies

### *Observation*

From the above table and graphs we can say that, from the year 2015 till 2018, there has been an increase in average import fuel price and average export fuel price, with a trade surplus. From 2019 till 2021, the average import fuel price along with the average export fuel price has been increasing at a steady rate with a steady trade surplus.

## Concluding remarks on Oil Crisis

The relationship between fluctuation in oil prices and trade balance depends on whether the country is an exporter or importer of oil. A fall in the price of oil can be beneficial to countries that are major producers and importers of oil since the trade balance tends to increase. However, a rise in the price of oil can cause the income to drop for countries that are major exporters of oil and lead to a trade deficit.

Oil price fluctuations also have demand and supply side effects. For an oil-importing nation, a fall in oil price leads to a rise in disposable income, leading to a rise in demand for goods. Further, since oil acts as an input in the production of commodities such as electricity, logistics, etc., an increase in the price of oil leads to an increase in the production cost and prices of other commodities. Therefore, oil price fluctuations play a key role in impacting the

price, demand, and supply of goods and services and the overall economic growth of a country.

The present scenario is where Russia, which is one of the major oil importing nations, has invaded Ukraine. The US and Europe have issued several economic sanctions on Russia which has led to an oil price crisis in terms of a rise in oil prices. The rise in oil price again affects the consumers in terms of increase in electricity bills, and production cost of goods and services leading to an inflation type situation.

However, amidst a rising concern of a recession in the US, and an ongoing COVID restriction in China, the oil price is experiencing a decreasing trend. With an increase in the value of US dollars, importers will purchase less US dollar price-indexed oil which will lead to a decrease in oil price. China's strict zero COVID policy has led to a decrease in demand for goods and services which in turn is hampering the growth of the economy.