

*Review Article*

# The Impact of Covid-19 on the Oil Industry: A Comparison between Economical Crisis and Helath Pendamic

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**Abstract:** *One of the most important sources of energy in the world, oil, is prone to major price swings. The sales and profitability of key industries, capital budgeting plans, and the value of investments in assets denominated in foreign currencies are all significantly impacted by these price differences. Variations in the price of crude oil have the power to bring about an economic collapse in both oil-exporting and -consuming nations, in both industrialised and developing nations. Negative macroeconomic effects on total output, prices, and employment are widely attributed to oil price shocks in countries all over the world. The purpose of this research is to discuss the oil markets and its relation to prices, and how force majeure and pandemic affects the oil prices. Luberef's corporate prolife has been explored intensely in this research. Luberef is one of the leader companies of base oil refineries around the world. The purpose of this study is to look into and analyse COVID-19's effects on the oil markets, particularly the Saudi base oil market. The independent sample T-Test has been utilised to evaluate the data in this study. The results of the study showed that the COVID-19 pandemic had an impact on the prices of base oil and petroleum products. This research provides prominent and urgent insights to policy makers and investors that may caution them when oil prices are affected by a pandemic.*

**Keywords:** *Covid-19, Oil, Prices, Pandemic, Economy, Financial Crisis.*

## I. INTRODUCTION

The performance of other industries including information technology, religious tourism, and travel is significantly impacted by the oil industry in Saudi Arabia, which is crucial to the country's economy (Algamdi et al., 2021). Petroleum, also referred to as crude oil or oil, is a naturally occurring yellowish-black liquid that is found in geological formations deep beneath the surface of the Earth (Eneh, 2011). It typically goes through various fuel processing steps. Petroleum components are separated by fractional distillation, which is the division of a liquid mixture into fractions with various boiling points. It is composed of organic molecules and naturally occurring hydrocarbons with a range of molecular weights. Petroleum is a term used to describe both naturally occurring unprocessed crude oil and petroleum-based products derived from refined crude oil. When enormous quantities of dead organisms, primarily zooplankton and algae, are buried beneath sedimentary rock and subjected to intense heat and pressure, petroleum is produced (Scobie, 2017).

The petroleum industry, also known as the oil patch, includes the exploration, extraction, refining, transportation (typically via oil tankers and pipelines), and marketing of petroleum products. Fuel oil and gasoline (petrol) are the top two items in the industry. Chemical products such as plastics, fertilisers, insecticides, medicines, solvents, and synthetic scents all use petroleum as a raw ingredient (Eneh, 2011). Oil and its byproducts have earned the moniker "black gold" due to their high monetary value. The sector's three main parts are upstream, middle, and downstream.

Davis et al. (2015) state that humans are always oriented to pursuing opportunities and will therefore use all the resources at their disposal to achieve them. This research will analyze the Impact of COVID-19 and its relation with prices and similar situations in the oil industry. The impact on something can be positive or negative, which can determine the current situation and figures and how to move forward. In the oil industry, we can't ensure that the prices will be high all-time or low most of the time. However, there will always be indicators that will be facts in the near future. For example, incidents that can make price increases or decreases among certain conditions. Prices are changing people's minds and efforts in purchasing the best product at the best price. We will see in the coming sections how the financial crisis and COVID-19 impacted the prices and the fluctuations between high, middle, and low prices.

Certain events, like as Hurricane Katrina in 2005, which halted oil production along the southern Gulf Coast of the United States, have the potential to increase or lower prices (Osofsky & Osofsky, 2021). In addition, the financial crisis happened in 2008, and prices incredibly decreased. Moreover, the COVID-19 pandemic impacted the global prices of oils and

their decline, all of these events are indications and indicators of the expected price change. What motivated me in writing this research was to know more about my job industry and the factors that affect price changes, which is one of the most powerful factors in purchasing products. This research was conducted to know if the prices of petroleum products are affected by environmental changes, disasters, and pandemics over the years or it just happened as a coincidence. In other words, understanding the market situations impacting supply and demand will lead to better planning and forecasting.

Finally, it led to the research question: What effects has the Covid-19 pandemic had on Saudi Arabia's oil industry?

## II. LITERATURE REVIEW

According to Bloomberg, January 30, 2011, Saudi Aramco Base Oil Company - Luberef is one of the top suppliers of High-Quality Base Oil to all significant oil companies operating in the kingdom of Saudi Arabia as well as for other international oil companies in various regions like the GCC nations, the Middle East, and East Africa.

The Saudi Arabian government, Petromin, with a 70% market share, and Mobil Petroleum Company Inc., with a 30% market share, formed Luberef in 1976, and production began two years later. Luberef produces Group-I base oils, with a primary focus on domestic supply to major oil companies like Petromin, Fuchs, Mobil, Shell, and others (Shammas, 2000). They have successfully built Jeddah Refinery with the production of 240,000 Metric Ton.

From a single, secure source of crude oil, Luberef offers its clients a tiered and branded portfolio of consistently high-quality base oils, whose supply security are of utmost value to clients. This service is logistically convenient and trustworthy. Logistics-wise, Luberef is known for being both practical and effective. Customers are able to efficiently plan and manage their supply chains because of Luberef's supply reliability.

Uses for Luberef's base oils include gear oils, transmission fluids, hydraulic oils, turbine oils, and compressor oils in addition to passenger vehicle and heavy-duty engine oils, gear oils, and industrial applications (Shammas, 2000).

### A. OPEC and Global Oil Supply and Demand

Various economic and non-economic factors can greatly impact oil prices globally (Vasileiou, 2021). In order to maintain the prices of Crude oil per barrel, OPEC (Organization of the Petroleum Exporting Countries) has taken care of oil production all over the world. However, OPEC found it hard to maintain the price at 30\$ per barrel due to some difficulties. [1].

#### a) Natural Disasters and calamities

Natural disasters are one of the main factors that can make oil prices fluctuate unpredictably. Such calamities include hurricanes, unpredicted weather changes, floods, among others—for example, Hurricane Katrina, which took place in 2005, affected oil production in the USA Gulf Coast. However, in this case, demand was not greatly affected. Brumfiel (2004) notes that only the prices fluctuated, reaching above 70 USD per barrel.

#### b) War and Oil Prices

Palmer & Hartley (2008) states that politics can greatly influence the supply and demand of commodities in the market. For example, wars such as the one in Iraq and Afghanistan created major concerns, leading to the fluctuation in oil prices to above 136 USD per barrel in 2008. Wickramaratne (2020) states that the oil supply was greatly affected during the period due to anticipated economic changes. Demand was also greatly affected due to consumer behavioral changes. For example, the demand went down due to reduced driving, which resulted to less oil consumption.

#### c) Global Economic Crisis

Globally speaking, COVID-19 has had an influence, particularly on the supply and demand for commodities (Vasileiou, 2021). Thus, the supply and demand on the FMCG movement has decreased significantly. Supply and demand has also reduced due to employee rejection by their employers, leading to low demand in the FMCG movement and low employees' income. In addition, connections between two countries are a must to succeed in trade globalization and make other linked countries successful.

Global trade had moved to higher levels, especially in the period commencing 2008 and just before the crisis, which changed many variables. According to World Trade Organization (WTO), goods exportation has decreased by over a trillion dollars within the time frame between Feb and March 2020. China's highest figures in goods exportation before March 2020 were above 290 billion dollars, creating concern of how much higher they could get. Unfortunately, according to WTO numbers, there has been a decrease down to 185 billion dollars. The expense of the harm is higher in the oil and gas sector. (Board of Governors of the Federal Reserve System (U.S.) et al., 2019) The amount of oil consumed per day decreased to little under 80 barrels in 2019. In addition, prices as of April 2019 had decreased to less than 20 US dollars per barrel.

With time, and after relaxed regulations by governments, prices have increased, and the situation has gotten better, though not as good as before. A lot of losses have been incurred during the period as a result of the pandemic and the anticipated economic recession. China, being one of the biggest traders, is one of the most affected countries in the world. According to the international bank, more than 500 billion USD in 2018 was the total remittance to middle- and low-income countries. However, the figures may be erroneous due to the informal methods applied in the remittance process. With the COVID-19 situation, a decrease of about 20% in the transmitted payments is expected. Therefore, international organizations have declared that the COVID-19 disease could lead to poverty globally.

### ***B. The Impact of Coronavirus (COVID-19) in the global economy***

According to the International Children's Emergency Fund (UNICEF), COVID-19 is an illness brought on by a brand-new coronavirus strain. Corona, virus, and disease are all abbreviated as "CO", "VI" and "D," respectively. This condition was once known as the "2019 novel coronavirus" or "2019-nCoV." The severe acute respiratory syndrome (SARS) virus and some strains of the common cold are related to the COVID-19 virus, a novel virus.

COVID-19 has spread worldwide extremely fast and has affected operations in various institutions, including schools, universities, and companies leading to enormous economic losses and deaths. Varona & Gonzales (2021) stipulates that the virus has slowed down economic growth globally through reduced investments and an increase in the cost of living. Lockdown has been implemented worldwide to reduce the virus spread, but it has negatively affected global trade significantly. According to the International Monetary Fund (IMF), rethinking the conventional narrative about lockdowns involving a trade-off between saving lives and bolstering the economy is necessary given the effectiveness of lockdowns in reducing infections and the discovery that infections can significantly harm economic activity due to voluntary social distancing.

The Covid-19 virus is to blame for the world's current, deepest economic recession since the 2008–2009 global financial crisis (Pak et al., 2020). However, unlike 2008–2009, the crisis this time is focused on the “real economy” rather than the financial sector. Steps taken to prevent the disease from spreading are wreaking havoc on the global economy and social order, stifling demand for refined oil products, and industrial growth. People's right to fly is being restricted by governments' regulation and confinement policies; manufacturing and commercial, economic development is declining rapidly as a result of reduced consumer expenditure, factory closures, and food service and retail industry closures.

### ***C. Economic Impact***

The world's economy is poised for the biggest growth slowdown since the 2008–2009 financial crisis as a result of Covid-19's rapid global expansion. There has been several economic impacts of COVID-19 and the subsequent restrictions on the global economy. Recession is coming to the world economy. The Covid-19 outbreak's effects on supply chains, industrial output, demand, global trade flows, travel, lockdowns, and dropping stock prices have all had a significant negative impact on economic activity. In addition to consumer services such as the restaurant and retail sectors, industrial and commercial activity will be severely affected. Auto manufacturing, chemicals, metals production, consumer durables, construction materials, and construction activities will all see sharp reductions. There will be a recession in the US, Europe, and Japan. In reaction to the virus's spread, the IHS Markit prediction for global real GDP growth in 2020 has been reduced by less than 0.7%. A worldwide recession is defined as growth of less than 2.0%. Energy consumers will benefit from the recent significant decline in oil prices, but energy producers will suffer. The impact on oil-producing nations and areas will likely be far more significant, with the overall effect on global economy likely to be negative.

### ***D. Impact on Lubricants trade in 2020***

It is possible to assess the impact on the demand for lubricants across key segments and geographical areas based on the current IHS Markit base case scenario study of the Covid-19 impacts on the economy and refined oil product demand. Total lubricants demand in 2020 was expected to fall by over 3.7 Mt, to 36.9 Mt, compared to a fall of 2.8 Mt seen in 2009. The experience of 2009 is illustrative for evaluating longer-term changes in consumer behavior in the face of a severe economic shock, with drain intervals likely to lengthen as consumers delay oil changes. Combined with sharp declines in motor fuel demand due to lockdowns and travel restrictions – with falls in all transport sector fundamentals: distances traveled, the volume of goods transported, number of passengers carried – this translates to a significant reduction in demand for lubricants in the transport segment. Although a similar effect of increasing consumption.

Efficiency was also observed in the non-transport segment in 2009, and this was much smaller in magnitude. Non-transport segment demand is assumed to remain more closely correlated with economic activity, and it will see volumes fall accordingly, reflecting the impact of both the direct effects of Covid-19, such as factory closures or worker absence due to illness or enforced social isolation policies, and indirect effects of the resulting economic recession, especially in sectors such as construction or automotive production. Some sectors, such as agriculture, are currently forecast to be less affected.

Covid-19 has had a tremendous impact on sectors all over the world, particularly Saudi Arabia's oil and gas sector. Luberef, the only supplier of Base Oil in the kingdom, has also been greatly affected. However, it is clear that Luberef got affected from a sales and marketing perspective and monitoring the market supply and demand. In the next section, methodology, a thorough analysis shall be conducted on the price before, during, and after COVID-19. Comparisons of market effects during similar incidents in the past shall be presented.

### III. METHODOLOGY

This section mainly presents the data collection and analysis methods applied in this paper. The most important purpose of the methodology is to figure out the most appropriate way to collect and organize the data (Patel & Patel, 2019). In this section, an examination of the correlation between crude oil prices and Luberef's product prices shall be conducted. Additionally, we will analyse how financial crises affect base oil prices and sales, and then we will talk about how Covid-19 affects base oil prices and sales.

Firstly, we will compare the average prices of 6 months before Covid-19 and the average prices of 6 months during COVID-19, which is stated as COVID\_AVE\_1. Secondly, we will compare the average prices of 6 months during COVID-19 and the average prices of 6 months after COVID-19, which is stated as COVID\_AVE\_2. Thirdly, we will compare the average prices of 6 months before Covid-19 and the average prices of 6 months after COVID-19 which is stated as COVID\_AVE\_3. Fourthly, we will compare the average prices of 6 months before financial crisis and the average prices of 6 months during financial crisis which is stated as FC\_AVE\_1. Fifthly, we will compare the average prices of 6 months during financial crisis and the average prices of 6 months after financial crisis which is stated as FC\_AVE\_2. Sixthly, we will compare the average prices of 6 months before financial crisis and the average prices of 6 months after financial crisis which is stated as FC\_AVE\_3.

Seventhly, we will compare the average prices of 6 months before COVID-19 and the average prices of 6 months before financial crisis which is stated as COVID\_FC\_AVE1. Eighthly, we will compare the average prices of 6 months during COVID-19 and the average prices of 6 months during financial crisis which is stated as COVID\_FC\_AVE2. Finally, we will compare the average prices of 6 months after COVID-19 and the average prices of 6 months after financial crisis which is stated as COVID\_FC\_AVE3.

### IV. RESULTS

A T-test was conducted on the oil products prices before and after the market crisis in 2008 and the pandemic Covid-19. This section highlights the results of this test. The first section shows the results for before and after Covid-19. The second section shows the results of before and after the financial crisis in 2008. The third section will discuss these results and provide an answer to the research question.

#### A. Covid-19 effects

There was a significant difference in the scores of prices before ( $M=480.097$ ,  $SD=179.818$ ) and prices during ( $M=372.352$ ,  $SD=182.413$ ), conditions  $t(5)=17.988$ ,  $p=0.0000097510$ . In other words, these findings are consistent with the hypothesis that Covid-19 had a major negative impact on petroleum product prices. COVID\_AVE\_1 displays the analysis' findings.

**Table 1: T-test results for COVID\_AVE\_1 prices**

	<i>Before COVID</i>	<i>In COVID</i>
Mean	480.0971120933	372.352593905
Variance	32334.7306628130	33274.5883222922
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9968214461	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	17.9885383347	
P(T<=t) one-tail	0.0000048755	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.0000097510	
t Critical two-tail	2.5705818356	

There was a significant difference in the scores of prices during ( $M=372.352$ ,  $SD=182.413$ ) and prices after ( $M=493.751$ ,  $SD=233.110$ ), conditions  $t(5)= -5.622$ ,  $p=0.0024643391$ .

In other words, these findings are consistent with the hypothesis that Covid-19 had a favourable impact on petroleum product pricing. COVID\_AVE\_2 shows the results from the analysis.

**Table 2: T-test results for COVID\_AVE\_2 prices**

	<i>In COVID</i>	<i>After COVID</i>
Mean	372.3525593905	493.7515845437
Variance	33274.5883222922	54340.7247994050
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9973310306	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	-5.6224515418	
P(T<=t) one-tail	0.0012321696	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.0024643391	
t Critical two-tail	2.5705818356	

There was a significant difference in the scores of prices before (M=480.097, SD=179.818) and prices after (M=493.751, SD=233.110), conditions  $t(5) = -0.597$ ,  $p = 0.5763696780$ . In other words, these findings are consistent with the assertion that COVID-19 had a favourable impact on petroleum product pricing. COVID\_AVE\_3 shows the results from the analysis.

**Table 3: T-test results for COVID\_AVE\_3 prices**

	<i>Before COVID</i>	<i>After COVID</i>
Mean	480.0971120933	493.7515845437
Variance	32334.7306628130	54340.7247994050
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9964664365	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	-0.5972288621	
P(T<=t) one-tail	0.2881848390	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.5763696780	
t Critical two-tail	2.5705818356	

#### **B. Financial crisis 2008 effects**

There was a significant difference in the scores of prices before (M=927.494, SD=363.311) and prices during (M=656.336, SD= 397.958), conditions  $t(5) = 7.765$ ,  $p = 0.0005664820$ . In other words, these findings are consistent with the idea that the financial crisis had a negative impact on petroleum product pricing. FC\_AVE\_1 shows the results from the analysis.

**Table 4: T-test results for FC\_AVE\_1 prices**

	<i>Before FC</i>	<i>In FC</i>
Mean	927.4941191110	656.3362215210
Variance	131995.0123654640	158371.1180503640
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9788531743	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	7.7656757546	
P(T<=t) one-tail	0.0002832410	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.0005664820	
t Critical two-tail	2.5705818356	

There was a significant difference in the scores of prices during (M=656.336, SD=397.985) and prices after (M=513.872, SD= 187.917), conditions  $t(5)=1.646$ ,  $p=0.1605321092$ . In other words, these results support the claim that the financial crisis significantly affected prices of petroleum products negatively. FC\_AVE\_2 shows the results from the analysis.

**Table 5: T-test results for FC\_AVE\_2 prices**

	<i>In FC</i>	<i>After FC</i>
Mean	656.3362215210	513.8721247221
Variance	158371.1180503640	35312.8184530234
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9947171293	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	1.6467246604	
P(T<=t) one-tail	0.0802660546	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.1605321092	
t Critical two-tail	2.5705818356	

There was a significant difference in the scores of prices before (M=927.494, SD=363.311) and prices after (M=513.872, SD= 187.917), conditions  $t(5)=5.578$ ,  $p=0.002558514$ . In other words, these results support the claim that the financial crisis significantly affected prices of petroleum products negatively. FC\_AVE\_3 shows the results from the analysis.

**Table 6: T-test results for FC\_AVE\_3 prices**

	<i>Before FC</i>	<i>After FC</i>
Mean	927.4941191	513.8721247
Variance	131995.0124	35312.81845
Observations	6	6
Pearson Correlation	0.983404215	
Hypothesized Mean Difference	0	
df	5	
t Stat	5.574814769	
P(T<=t) one-tail	0.001279257	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.002558514	
t Critical two-tail	2.570581836	

There was a significant difference in the scores of prices before (M=480.097, SD=179.818) and prices before (M=927.494, SD= 363.311), conditions  $t(5) = -5.834$ ,  $p=0.0020922051$ . In other words, these results support the claim that COVID-19 and the financial crisis significantly negatively affected petroleum products' prices. COVID\_FC\_AVE1 shows the results from the analysis.

**Table 7: T-test results for COVID\_FC\_AVE1 prices**

	<i>Before COVID 19</i>	<i>Before FC</i>
Mean	480.0971120933	927.4941191110
Variance	32334.7306628130	131995.0123654640
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9876350771	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	-5.8340863206	
P(T<=t) one-tail	0.0010461025	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.0020922051	
t Critical two-tail	2.5705818356	

There was a significant difference in the scores of prices during (M=372.352, SD=182.413) and prices during (M=656.336, SD= 397.958), conditions  $t(5) = -3.139$ ,  $p= 0.0256923976$ . In other words, these results support the claim that COVID-19 and the financial crisis significantly affected the prices of petroleum products negatively. COVID\_FC\_AVE2 shows the results from the analysis.

**Table 8: T-test results for COVID\_FC\_ AVE2 prices**

	<i>In COVID</i>	<i>IN FC</i>
Mean	372.3525593905	656.3362215210
Variance	33274.5883222922	158371.1180503640
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9817794258	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	-3.1391002340	
P(T<=t) one-tail	0.0128461988	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.0256923976	
t Critical two-tail	2.5705818356	

There was a significant difference in the scores of prices after (M=493.751, SD=233.110) and prices after (M=513.872, SD= 187.917), conditions  $t(5) = -0.809$ ,  $p = 0.4550049673$ . In other words, these results support the claim that COVID-19 and the financial crisis significantly affected the prices of petroleum products positively. COVID\_FC\_ AVE3 shows the results from the analysis.

**Table 9: T-test results for COVID\_FC\_ AVE3 prices**

	<i>After COVID19</i>	<i>After FC</i>
Mean	493.7515845437	513.8721247221
Variance	54340.7247994050	35312.8184530234
Observations	6.0000000000	6.0000000000
Pearson Correlation	0.9810044809	
Hypothesized Mean Difference	0.0000000000	
df	5.0000000000	
t Stat	-0.8095078956	
P(T<=t) one-tail	0.2275024836	
t Critical one-tail	2.0150483733	
P(T<=t) two-tail	0.4550049673	
t Critical two-tail	2.5705818356	

## V. DISCUSSION

We have checked and analyzed the prices of petroleum products before 6 months of COVID-19 and determined that the prices were high comparing it to the prices during COVID-19, which was decreased by 37 percent average in total products. We compared the prices during 6 months of COVID-19 and after 6 months of COVID-19 and found that the prices gradually increased to 25 percent average increases in total products. In addition, we have compared the prices of petroleum products before 6 months of COVID-19 and after almost 2 years of COVID-19 and found that the prices were increased till it reached to 2 percent average increases in total product, which means that the markets have barely recovered from the pandemic.

On the other side, we have checked and analyzed the prices of petroleum products before the financial crisis back in 2008 and clearly see that the prices were high comparing it to the prices during the financial crisis, which was decreased by 60 percent average in total products. We have compared the prices during 6 months of the financial crisis and after 6 months of the financial crisis and found that the prices were decreased gradually till it reach to 18 percent average decreases in total products. In addition, we have compared the prices of petroleum products before the financial crisis and after 2 years of the financial crisis and found that the prices were highly affected and never reached the same level of highness. However, it reaches to 79 percent average decreases in total products. In summary, we can conclude that both Covid-19 and the financial crisis significantly impact prices. Both financial and health pandemics have similar effects, which is the answer to our research questions.



## VI. CONCLUSION

In the end, base oil and lubricants prices are affected by two main indicators. The first one is supply; the oil industry's supply side is governed by major oil-producing countries like Russia, Saudi Arabia, and the US. The Organization of Petroleum-Exporting Countries (OPEC) is crucial in deciding the supply. In comparison to historical statistics, we anticipate a significant increase in global oil production over the next few decades.

The second indicator is demand. While a group of oil-producing countries monopolizes the supply side, the demand side covers the entire world population. There are various factors such as wars, economic crisis, and pandemics, amongst others, that can affect the demand side. However, the most important is the supply and demand indicators. This analysis revealed that COVID-19 has impacted the economy and affected the base oil and petroleum products globally through price decreases. On the other side, a similar situation was witnessed back in 2008, when the financial crisis caused a decrease in prices during and after the crisis. It is observed that the recovery process from the mentioned crises took a lot of time, revealing yet another similarity in both situations.

Some of the challenges faced during the data collection and analysis in this paper include limited resources in crude and base oil products and their reliability and varying time frame of pandemic and financial crisis from one country to another around the world, therefore posing challenges specifying the real-time of incidents.

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