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The Impacts of Wars on Oil Prices

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ABSTRACT

When wars emerge, the price of all goods and services would increase normally, especially for raw materials like oil. The study aims to analyze the relationship between several important wars and oil prices, including the factors which influence the fluctuation of oil price, and the similarities and differences of the oil price change in different wars. Through analyzing two wars, the first Gulf War and the second Gulf War, the similarities and differences of the fluctuation of the global oil price is found. And by analyzing the consequences of the fluctuation of the oil price during these two wars, the trend of oil price fluctuation due to the Russia-Ukraine war could be predicted.

Keywords: *Oil price, Gulf war, Russia-Ukraine war prediction, Economics.*

1. INTRODUCTION

There were several wars around the world which hugely influenced the global economic condition. When analyzing global economy, the oil price is a necessary standard for measuring. The fluctuation of the oil price would reflect some huge events. Normally, the oil price has something to do with wars in different time periods. When the wars occur, due to the large amount of utilization of weapons, the demand for the raw material oil will hugely increase, and meanwhile the supply of the oil will be trapped in shortage. Hence, the price of the oil began fluctuating. The fluctuation of oil prices would cause some consequences to the global economic status.

Global oil prices rose steadily from $14.87 per barrel in 1988 to $23.19 per barrel in 1990. After the first Gulf war, between 1990 and 1994, global oil prices steadily declined by approximately one third. Global oil prices recovered from $15.66 per barrel in 1994 to $20.46 per barrel in 1996 [1]. However, the price of the oil in the second Gulf War increased from a trough of $25.36 on November 7th, 2020 to the peak level of $37.87 on March 12th, 2003. And it finally fell into $22-$28, reducing 25% compared to the last phase.

This paper summarizes factual phenomena by applying data analysis. It first analyzes the causes of the two Gulf Wars and the influences brought by these two wars to the oil market. Then through data analyzing, some regular patterns in the fluctuation of the oil price have been found. And finally, by using these regular patterns, the author predicts the change in the oil price in both domestic markets of these two countries and the worldwide oil market. This paper makes the combination between the reality and the Economics become more realistic and visible, thus encouraging more people to learn about Economics.

2. BACKGROUND INFORMATION

2.1 The influence and reasons of the fluctuation of the oil price

The price fluctuation of oil changes in different wars.

It is known that the oil from the Middle East is essential to many countries around the world, and Kuwait, Saudi Arabia, and Iraq are known as the main oil producers and exporters. One of the primary reasons for the war between Iraq and Kuwait is that Iraq was under a gigantic financial obligation due to a long term of Iran-Iraq War from 1980 to 1988 [1].

Global oil prices rose steadily from $14.87 per barrel in 1988 to $23.19 per barrel in 1990 [2]. Because of the Iran-Iraq War, Iraq owed a large amount of money to many countries including Kuwait, and depended gigantically on the revenues from the export of unrefined oil. Hence another reason behind the Iraq's attack on Kuwait emerges. Iraq claimed that Kuwait and Saudi Arabia were overproducing oil, so it is impossible for the oil price to maintain as high.as before. When Iraq attacked Kuwait in 1990, the given official reason was that Kuwait was overproducing oil intentionally so that Iraq would be incapable to hold its ground economically.

The attack of Iraq to Kuwait raises the oil price from $34 to about $77 per barrel. After a U.S.-led military fusion succeeded in evacuating Saddam Hussein's Iraqi forces from Kuwait in early 1991, the oil price fell to approximately $37.3 per barrel [3]. After the Gulf war, between 1990 and 1994, global oil prices steadily declined by approximately one third. Global oil prices recovered from $15.66 per barrel in 1994 to $20.46 per barrel in 1996 [2]. According to the blue line in Figure 1, which shows the change of the oil price in the first Gulf War in first sixty-five days, the price index remains at 100-120, which is relatively high. But when the war lasts longer, at point 0, the price index has a sharp decrease from 120 to relatively 80. And from zero to the next sixty-five days, the price remains at 80 to 90, lasting in a steady rate.

However, the price of the oil in the second Gulf War changed from a trough of $25.36 on November 7th, 2002 to a peak level of $37.87 on March 12th, 2003. And it finally fell into $22-$28, reducing 25% compared to the last phase [4]. The orange line in Figure 1 below represents that the oil price change in the second Gulf War is in its increasing trend. In the first sixty-five days, the change of the oil price is under 80 and lasts in a relatively steady condition. However, as the conflict becomes more severe, the change of price rapidly rushes from approximately 80 to 120. In the following sixty-five days, the price of oil maintains an increasing trend and once reaches at the peak approximately 185. And in the final 15 days, the price decreases a little but still remains high at 160, still remaining at a high level.

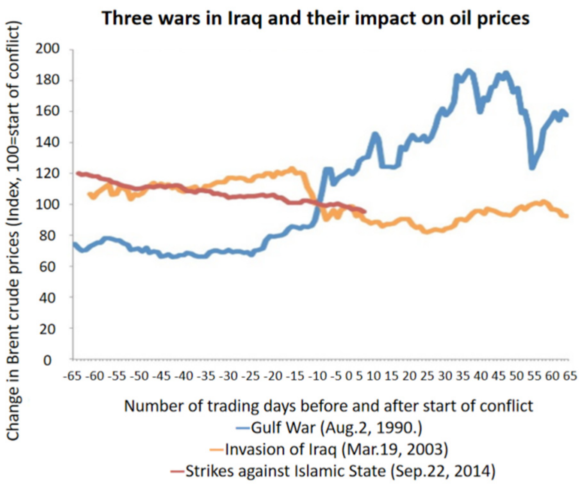

Figure 1 The index of crude oil price change for the first Gulf War and the second Gulf War.

2.2 The consequences of the fluctuation of the oil price

Oil prices on Monday fell by over 30%, which is the biggest fall since the 1991 Gulf War. Saudi Arabia slashed its export oil prices over the weekend in retaliation to Russia's refusal to agree to the further production cuts. Also, Iraq was the major sufferer of the impacts of finance. It suffered losses in military equipment as well as infrastructure which may take a long time and billions of dollars to rebuild. And both Kuwait and Saudi Arabia suffered some infrastructural losses, which reached billions of dollars. The cleaning of the oil slicks costed $700 million, which might be the major economic impact of the Gulf War. However, due to the rising oil prices and the growth of the oil industry after the Persian Gulf War, Kuwait was able to make up for many of its economic losses [6].

In the second Gulf War from 2003 to 2010, one day after the United States and it allies launched a massive attack on Iraq, oil prices in New York plunged an unprecedented $10.56 a barrel to $21.44--a dime below its price on August 1st, the day before Iraq invaded Kuwait [5]. With the beginning of hostilities, the price began falling. On Friday, March 28th, 2003, the NYMEX (New York Mercantile Exchange) may contract closed at 430.16 per barrel, while the Brent may contract closed at $26.35 per barrel. The difference in NYMEX and Brent prices largely reflects the low stocks in the US due to the Venezuelan strike, which means that most Venezuelan oil is exported to the US. This also leads to the lack of OPEC (Organization of Petroleum Exporting Countries) capacity in oil production: one estimate asserted that OPEC could only produce an increase of 1.1 million barrel per day. And the inventories of oil in US reaches the trough: as of March 14th, 2003, commercial crude oil stock stood at about 270.2 million barrels, which was the lowest to the end of March 2003 since 1974 [7].

3. SIMILARITIES AND DIFFERENCES OF THE PRICE CHANGE IN SEVERAL WARS

3.1 Similarities

The most obvious similarity is that both of these two gulf wars are between the United States and Iraq. This is quite common because Iraq is one of the oil-rich countries in Middle East. Oil is an important resource around the world, and its value could be considered as dollars. In order to attain these precious resources to maintain its superiority, the US invaded Iraq.

The first similarity is that in both wars, the Gulf suffered more losses as it is the place where the war took place. These wars were against the same ruler, which offered the second Gulf War the same consequence as the Persian War against Saddam Husain. These wars resulted in major loses for both countries and finally resulted in the defeat of Iraq and collapse of the government of Iraq. Another one is that after the wars, the oil price has sharply decreased compared to the peak oil price. The fall in the oil price is an unchangeable phenomenon. This is because of the connection between these two gulf wars. The origin is from the first gulf war happened in 1991. At that time, the NYMEX crude futures plunged by one-third, or

$10.56 a barrel for oil, which was the biggest single-day price drop ever [7]. And this extended till the first days of the conflict in 2003. “Pollyanna would be proud of these hard-nosed speculators driving oil prices down as Iraq oil wells burn, with spot down 25 percent in a week, they appear to believe that war in Iraq will be a swift affair. Future prices suggest that when it is over the Organization of Petroleum Exporting Countries will shower the world with crude and the price will fall out of its $22-$28 a barrel band late next year [8].” According to this, it could be sure that the falling price of oil at the end of each war is an inevitable result. This is called “The Gulf War Syndrome” [7].

3.2 Differences

Actually, these two wars have huge differences. The oil market environment at the time of the first Gulf War conflict in 1990-1992 and the second one is sharply contrasted. Generally, an extremely weak oil market and the falling prices characterize the six-month period of the first Gulf War in 1991. In contrast, the oil markets of the months prior to the second Gulf War in 2003 were generally strong [7].

According to Figure 2, the price of the oil in these two different periods varies. When the Gulf war started in 1990, the oil price was actually between $20 and $25, which is in an acceptable range; while during the second Gulf War in 2003, the initial oil price was already higher than that of the first Gulf War, reaching a range of $25 to $30. At that time, the real GDP growth at the beginning of these two periods were similar, which was 5% and 4% respectively. And the growth in the first quarter of 1990 was relatively higher than that in 2003 due to the relatively lower oil price as raw materials. After one quarter, the real GDP growth in 1990 Q2 was 0.5%, while in 2002 Q2 was 1%. But both two represented the decreasing rates. At the beginning of the quarter three, the oil price in two periods started to increase to its peak. And this time, the real GDP growth in 1990 turned into a negative value, which was -1%; while the value in 2003 was still positive, maintaining the value of 1%, the same as the last quarter. After the peak, the prices of the oil in both periods started to decrease, and here the gap between the value of the real GDP growth in two periods was widened a lot: the difference between these two values reached approximately 7%! And finally, in 1991 and 2003, the price of the oil recovered to a relatively normal value. However, it is worth to mention that the final price of oil in1991 is lower than the original value before the war, but the price for that in 2003 is still higher than the initial one. And here, the real GDP growth in 1990 was still negative, whereas in 2003 was still positive, the difference between them has decreased to 5.5%. The fluctuation of the oil price in these two periods represents the relationship between the oil price change and the real GDP growth. Normally, when the oil price is higher, the real GDP growth should be higher as well. This represents that the demand for oil as the raw material has increased. However, there are two exceptions, which occurs at the beginning of the wars and after the peak of the price, showing an opposite result.

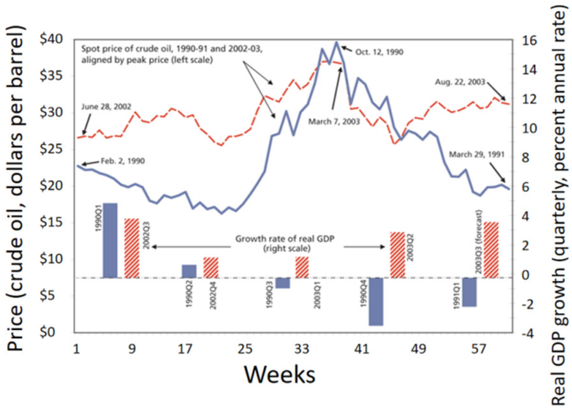

Figure 2 Oil prices and GDP Growth during two Gulf Wars.

4. THE PREDICTION OF THE OIL PRICE IN THE RUSSIA-UKRAINE WAR

After analyzing the fluctuation of the oil price in these two wars, it is possible to predict the trend of the oil price changing caused by the war between Russia and Ukraine. The oil price has been volatile in recent weeks. It soared to record highs in March before tumbling more than 20% last week to less than $100. But in the latter half of the last week, the oil price increased again to rise above the level, showing an increasing trend [9]. In Figure 3 and Figure 4, the trends of the price change of two types of the crude oil are similar.: They both started at approximately 80 and reaches the peak at about 130 and decreases to about 100 to 110. This trend is corresponding to the trend measured in the previous part: the falling of final oil price is unavoidable.

On Monday March 21st, 2022, Mizuho Bank pointed out in a note that there were two factors pushing oil prices higher: the lingering uncertainty of the Russia-Ukraine war, and the trust that China’s most recent Covid effect can be less desperate than expected [9]. The Russia-Ukraine war has led to concerns over supply disruptions due to the U.S. sanctions on Russian oil. According to statistics from Goldman Sachs, Russia supplied 11% of global oil consumption in 2021 [9].

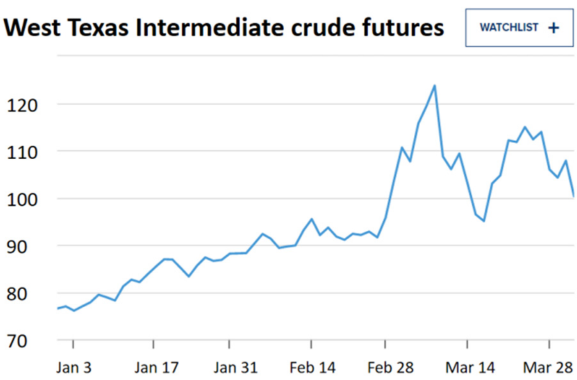

Figure 3 The change of West Texas Intermediate crude futures.

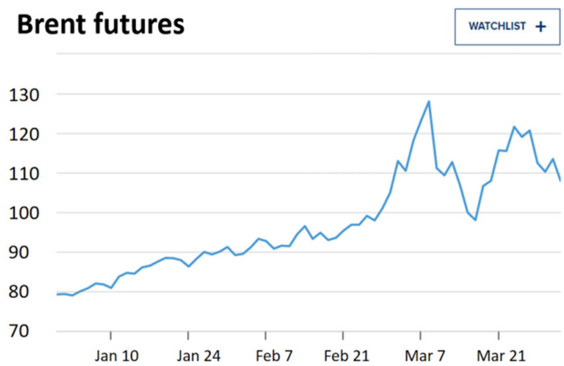

Figure 4 The change of Brent futures.

The fluctuation of oil price not only affects two directly-related oil markets in Russia and Ukraine, but also influences the worldwide oil market, including Europe and America. On March 21st, European Union governments were set to meet the U.S. President as the EU considers an oil embargo on Russia over the unprovoked invasion of Ukraine. The Commonwealth Bank of Australia warned that oil prices have fallen below the recent peaks because markets are still largely pricing oil by "assessing the likelihood of a diplomatic solution to the Ukraine conflict [9]." And according to the current sanctions on Russia, physical shortages will eventually play a more dominant role in the oil price determination," said Vivek Dhar, the bank's director of energy commodities research.

Therefore, it could be predicted that under this situation, the oil price at the end of the Russia-Ukraine war would represent a decreasing rate, being reduced to a lower point compared to the price now. And the decrease of the price of the raw material could reduce the production cost and the use of weapons may increase, causing a worse result.

5. CONCLUSION

This paper summarizes some similarities and differences between these two Gulf Wars, including the similarity of "The Gulf War Syndrome", an unavoidable result of the falling oil price, and the difference in the relationship between the real GDP growth in different time periods and the corresponding change in the oil price. By analyzing the differences and similarities, the fluctuation of the oil price in the newest war, the Russia-Ukraine War, could be predicted. The possible result is that the oil price may continue to be lower, and may further lead to a worse result.

Although the reason for the sudden increase or decrease of the oil price in certain period is still unknown, the political changes of those war periods may have taken up a considerable portion in the factors which could influence the price of oil. Future research can focus on the model that could roughly predict the change of the oil price in certain range, thus helping producers and consumers avoid risks in a certain degree.

REFERENCES

[1] Research Matic, "Comparison and Contrast of The Persian Gulf War and The Iraq War", 2013, from https://www.researchomatic.com/comparison-and-contrast-of-the-persian-gulf-war-and-the-iraq-war-158526.html.

[2] M.A.R. Estrada, D.H. Park, M. Tahir, A. Khan, Simulations of US-Iran war and its impact on global oil price behavior, Borsa Istanbul Review, Volume 20, Issue 1, 2020, pp. 1-12. DOI: https://doi.org/10.1016/j.bir.2019.11.002.

[3] M. Kerlikowski, History of Oil Prices, Investopedia, August 31, 2021, from https://www.investopedia.com/history-of-oil-prices-4842834.

[4] Bootie, The Second Gulf War 2003 - 2010, 2009, https://www.thefewgoodmen.com/thefgmforum/threads/the-second-gulf-war-2003-2010.416/.

[5] M. Renner, P. Aarts, Oil and the Gulf War, Political Science, July 1, 1991. DOI:10.2307/3013071.

[6] Britannica, The Editors of Encyclopaedia, Persian Gulf War, Encyclopedia Britannica, 2022, from https://www.britannica.com/event/Persian-Gulf-War. Accessed 22 April 2022.

[7] R. Looney, Oil Prices and the Iraq War: Market Interpretations of Military Developments, 2003.

[8] Oil, Finance Time, March 22, 2003, p.26.

[9] W.Z. Tan, Oil prices jump again on Russia-Ukraine fears as IEA calls for cut in energy usage, CNBC, 2022.