The Influence of the Ukraine Conflict on American Capital Market and Asset Price

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Abstract. The escalation of the Russian-Ukrainian war not only strengthened the geopolitical turmoil, but also affected the global capital market. This paper collects information about the S&P 500 and other indexes; Comparison of yields on 2-year, 5-year and 10-year U.S. treasury bonds and VIX index; CPI, gold price, gold inventory and gold futures price, etc.; Crude oil production, crude oil prices and inventories, crude oil futures prices and other data before and after the war (February 23, 2021 to February 23 and 2022, February 24, 2022 to now). It aims to study the objective impact of the Russian-Ukrainian war on the US capital market and asset price trend. It is found that the volatility of the stock index of U.S. stocks increased at the beginning of the war, and the overall U-shaped; The VIX index also increased, meaning investors wanted to increase purchases of assets with safe-haven properties such as U.S. Treasuries and gold; The short-term increase in demand for gold futures and crude oil futures will increase the price of gold and crude oil, but will gradually return to the normal level as the war progresses.

Keywords: Russo-Ukrainian War; American asset price; capital market.

1. Introduction

Since ancient times, with the development of human civilization, the war has never stopped. Human beings start conflicts because of interests, and war is the most extreme armed conflict between two parties to achieve their own political, economic or territorial goals. The development of war is often accompanied by some inevitable hazards, including human life, ecological environment and national economy. In recent decades, countless wars of different scales have emerged one after another, such as the war in Afghanistan, the war in Iraq, the war in Libya and so on. The Russian-Ukrainian war in 2022 has fully demonstrated the harm of the war to the world economy. The outbreak of Hybrid warfare between Russia and Ukraine took place as early as 2014 and has been carried out at low intensity in the early stage. In 2022, the scale of the Russo-Ukrainian war rapidly developed into one of the largest wars in Europe since the Second World War. Unlike in the past, both countries directly involved in the war are major producers of commodities. The war has disturbed the production of commodities in both countries to a certain extent, which has led to a significant increase in global prices, especially in the prices of oil and natural gas and food. The unique background of this war makes the impact of the Russian-Ukrainian war far beyond the humanitarian crisis, slowing down the global economic development and raising inflation. Therefore, will the Russian-Ukrainian war have a direct impact on the US economy thousands of miles from the battlefield? And how will this war affect the prices of all kinds of American assets? This article will draw and analyze and discuss the impact and trend of the Russian-Ukrainian war on the prices of U.S. stocks and indexes, debt, gold and gold futures, oil and oil futures by extracting U.S. asset price data for different periods.

2. Literature Review

Hong Yan believes that the occurrence of the war in Afghanistan has strengthened the Taliban regime and further enhanced the strength of the Afghan Taliban, which has caused great impact on the capital markets of the United States and the West [1]. Since 2003, in order to avoid the huge impact of the war on American and western capital markets, governments have implemented a series of macro-policy tools on American and western capital markets. Among the macro-policy tools of

various governments, the most important one is the asymmetric tactics which are mainly military means; The most important is financial market intervention. In addition, as the hub of national economy and financial market, capital market is also highly valued and regulated by governments of various countries. In addition, the European capital market, which is closely related to the US capital market, has experienced turbulent changes for several years before the outbreak of the European war. In addition, various factors, such as the great difference in the level of economic development among European countries and the complicated and changeable international situation, will bring varying degrees of impact to European capital markets [2]. According to the relevant literature, the war in Afghanistan had a great impact on the global stock market: the US capital market had an impact on the development of the international financial system; The increase of corporate debt pressure and slow economic growth in the United States; Changes in global capital markets have hindered the economic development of countries such as the United Kingdom and slowed down their economic growth. The development gap between emerging economies and developing countries is widening and the financial security situation is not optimistic. Judging from the macro-economic situation, under the background of a new round of global division of labor and major adjustments, the recovery speed of the world economy has slowed down or even stagnated, and the domestic situation in the United States is becoming complicated and unstable [3]. As far as the stock market is concerned, since Japan and the United States launched the war in Afghanistan on October 22, 2001, it has rapidly soared from more than 1,000 points to more than 3,000 points in just four months. According to US Department of Defense statistics, the Nasdaq Composite Index has risen 8.3% in the nine months to February 18, 2011 since the war in Afghanistan. The S&P 500 rose 6.4%. The Dow Jones Industrial Average rose 3.7% [4]. This paper analyzes and summarizes the influencing factors from the perspective of the securities market.

Li Cuiting believes that the Iraq war has many impacts on the capital market, the most important of which is the impact on US investment, but these impacts cannot be ignored by other factors [5]. For example, investment behavior has an important impact on the U.S. economy. It can be said that it affects most of the factors in U.S. GDP, especially oil price and stock market. Joy compared Saddam with the world's largest oil exporter, believing that the war was to a large extent beneficial to the dollar and not to oil [6]. But at present, this view is too one-sided. In addition, as the war has led to a sharp rise in global crude oil prices and gold prices, the international capital market has become increasingly risk-averse. But at the same time, the governments of various countries have also taken actions to prevent the oil price from rising too fast or falling significantly. This has also caused some scholars to analyze the importance and limitations of these three aspects, but to analyze the reasons for the positive impact of the Iraq war on the U.S. economy from macro and micro levels [7].

He Wenping mainly analyzes the impact of the Libyan war on the US capital market and draws the following conclusions: First, from a micro perspective, some studies believe that the Libyan military crisis has prompted the US stock market to rise, but this contradicts President Obama's stance on the Libyan crisis and the related US economic development plan [8]. Second, from a macro perspective, it can analyze the economic turmoil caused by the war in Libya in combination with the military conflicts in other countries. The third reason is to analyze the macro financial environment and capital market of the United States from a macro perspective [9]. According to the report of the US "Strategy Page" (2001), the risks and countermeasures faced by the global financial markets in this large-scale armed conflict are analyzed. It can be seen that after the outbreak of the war, the three major U.S. stock indexes all showed a decline reaction, and the decline was smaller than that of other countries [10]. After making a comprehensive analysis of the military crisis in Libya, Galantino and others came to the following conclusions: First, the military rebellion in Libya lasted for a long time, and without U.S. intervention, the damage to the country's financial system would reach a high level in a short time [11]. Although the threat of force is far more important to a country's sovereignty than economic intervention. However, for the national financial system, although the threat of force cannot prevent the outbreak of the crisis, it can have a wider and deeper impact [12]. Therefore, in order to safeguard its own interests, it should continue to promote economic and diplomatic military

intervention and transfer the threat of force to the international community in a timely manner, so as to deter the international community.

From the previous analysis and report on the impact of the war in Afghanistan and Iraq and the war in Libya on the capital market of the United States and the prices of various assets, it can be concluded that the war had a great impact on the capital market of the United States, and various assets also changed accordingly, which in turn had a negative impact on the development of international finance. This article will draw and analyze the price data of various American assets before and during the Russo-Ukrainian War and discuss how the Russo-Ukrainian War will affect various American assets.

3. Analysis

3.1 Data Sources

All the data and information in this paper about U.S. stocks and indexes, debt, gold and gold futures, oil and oil futures are all derived from iFinD database, which is used to draw graphs to objectively show the price trends of the four assets.

3.2 Stock Prices and Indices

Changes in share prices not only change with changes in economic cycles, but also indicate changes in economic cycles. An index is a sample that is representative of different market segments. It not only provides information about financial markets, but also provides regular overviews of different market segments. For the period from February 23, 2021 to February 23, 2022, the trends for different US price indices are depicted in Figure 1. In this picture, it can be observed that the four price indices all reached their lowest point in early March 2021 and reached their highest point from December to the beginning of the second year. The S&P 500, NASDAQ and NYA indexes all showed a continuous growth trend during this period. Although the DJIA index experienced unstable fluctuations, it still showed a growth trend, and its appreciation was the largest of the four indexes. In Figure 2, all four indexes reflect a strong downward trend from February 24 to early October 2022. Among them, the DJIA index reflects a bigger fluctuation. Compared with the previous year, it experienced a maximum in early March (35294.19) and then a minimum at the end of September (28725.51), which also indicates that the gap between its maximum and minimum is the largest (6568.68). The gap between NASDAQ's maximum and minimum values also reached 4044.02, followed by the NYA Index, with a difference of 3542.58 between the maximum and minimum points. Overall, the values of these four indexes after the Russian-Ukrainian war turned into a grim situation were basically smaller than those of the year before the war.

Figure 1 and 2 show four different price indices one year before the Russian-Ukrainian war and seven months after the war. Obviously, the four price indices continued to climb during the year before the war. However, on the eve of the outbreak of the war, all four indexes showed a downward trend, and slowly recovered soon after the outbreak of the war and continued to decline with a slow trend as the war continued. The four price indices before and after the Russian-Ukrainian war have a U-shape. At the same time, it can also be observed that the reaction of the stock market to the war is prepositive, and the stock index fell on the eve of the war, which of course cannot be separated from the influence of market sentiment.

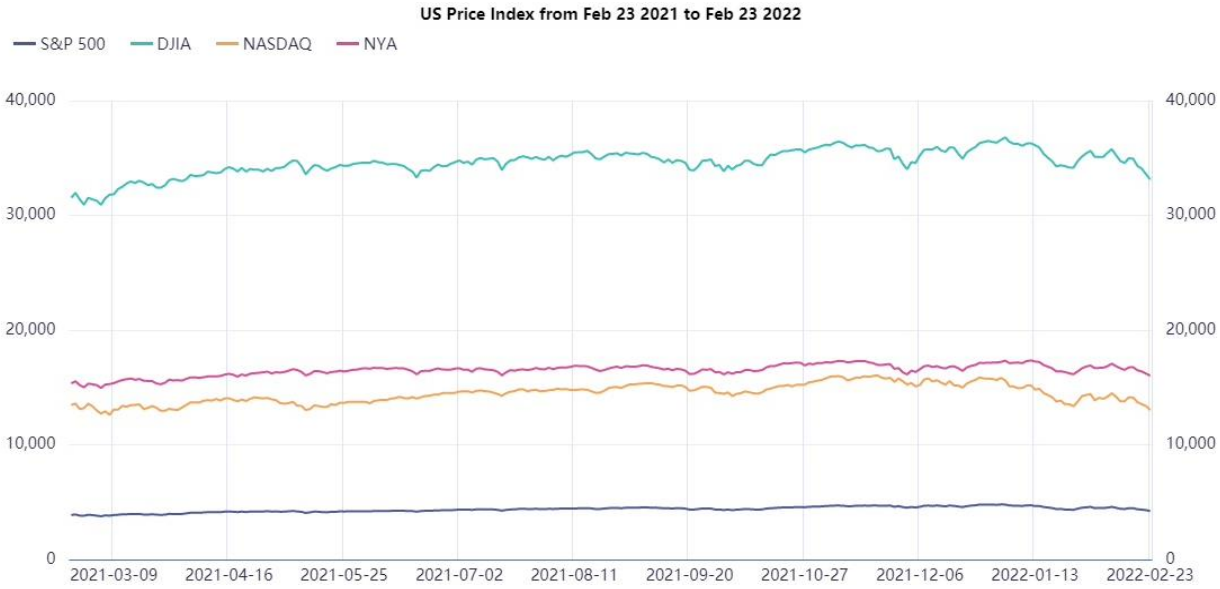

Figure 1. US price index from Feb 23 2021 to Feb 23 2022
(Photo credit: Original)

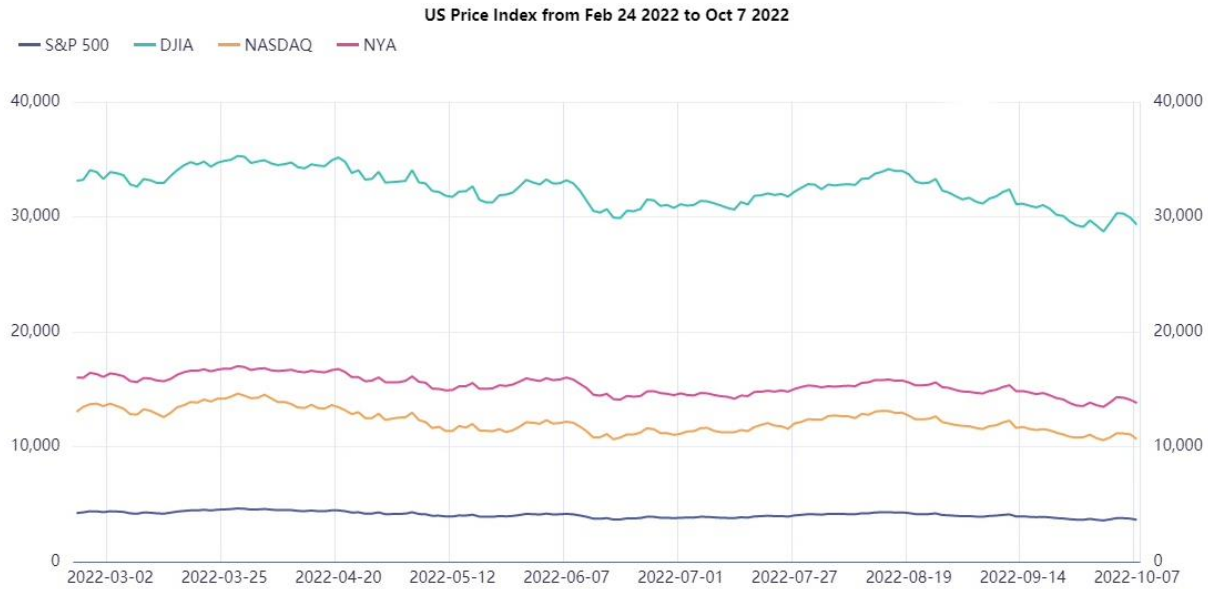

Figure 2. US price index from Feb 24 2022 to Oct 7 2022
(Photo credit: Original)

3.3 Debt

U.S. debt is a national bond issued by the U.S. Treasury Department on behalf of the federal government for the purpose of financing the budget debt of the federal government. Depending on the maturity, US debt can be divided into treasury bills, treasury bills and treasury bonds. Generally, the longer the maturity period, the higher the coupon rate, because the longer the period, the greater the risk of uncertainty and the higher the risk premium as compensation. The yield on 10-year U.S. debt can reflect the market's economic fundamentals and future inflation expectations of the major global economies represented by the United States. Figures 3 and 4 show the yields of US treasuries of different durations before and after the Russo-Ukrainian War. Before the war, the three different U.S. treasury bonds showed an upward trend, although they experienced some fluctuations. Among them, the yield of 10-year treasury bonds is the highest, while that of 2-year treasury bonds is the lowest of the three, but its yield is growing at the fastest rate, which shows its potential. However, after the war began, the yields on all three US treasuries fell in the short term, but then recovered

quickly, and grew nearly four times faster after the war than before. It is worth noting that the yield growth rate of the 2-year treasury bonds is still the highest among them, so that the yield of the 2-year treasury bonds surpassed the 10-year and 5-year ones at the beginning of July and became the highest yield among the three.

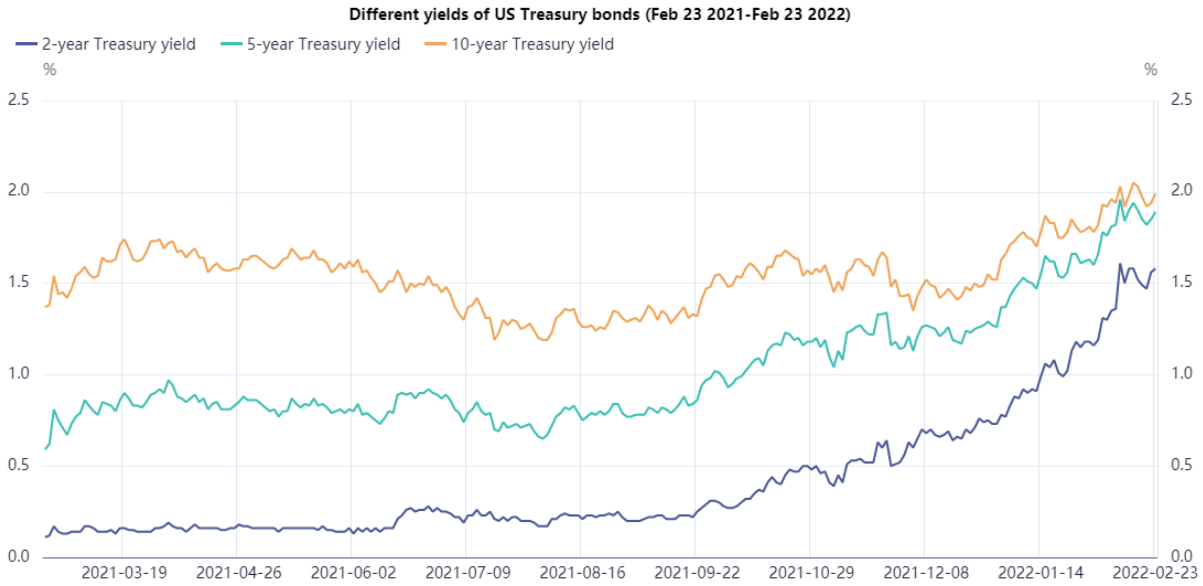

Figure 3. Different yields of US Treasury bonds from Feb 23 2021 to Feb 23 2022 (Photo credit: Original)

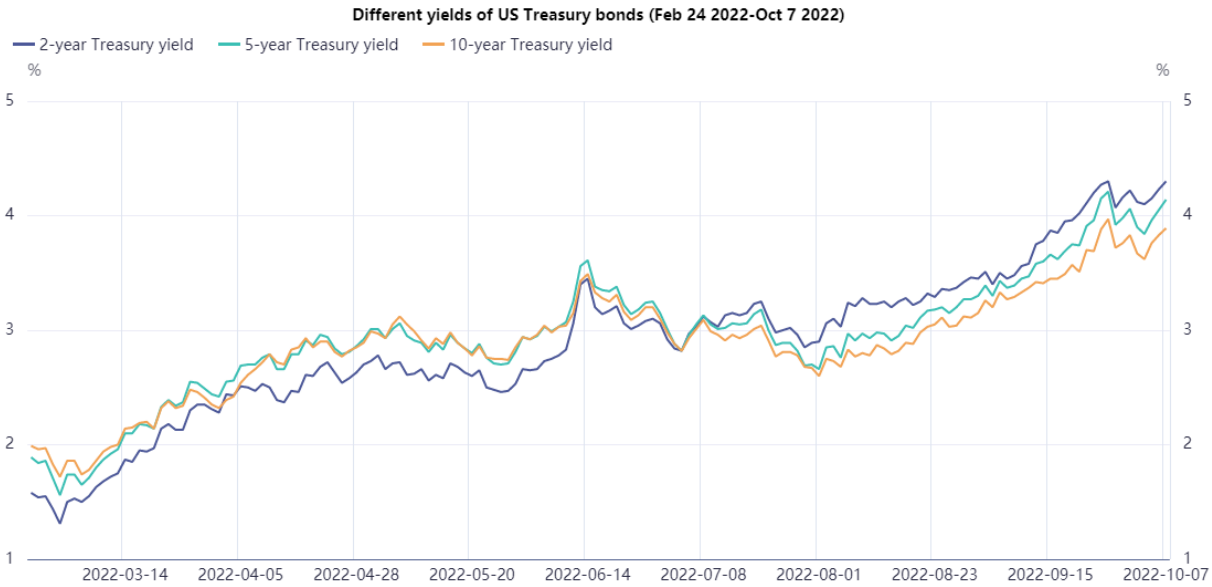

Figure 4. Different yields of US Treasury bonds from Feb 24 2022 to Oct 7 2022 (Photo credit: Original)

Figure 5 reflects VIX, which is used to measure the expected annualized volatility of the S&P 500 over the next 30 days. VIX is compiled based on the implied volatility of options. In options trading, the implied volatility usually represents the expectation of the future risk level of the market. Therefore, VIX is often regarded as one of the tools to judge the market fluctuation before the market responds. The VIX peaked at 36.45 in the early days after the war. After that, VIX remained at a high level for a long time in the process of constant fluctuations under the influence of the changing war situation and various political factors around the world. Therefore, when there are more people in the market who want to buy U.S. debt, the demand for U.S. debt increases and the demand for U.S. debt

exceeds the supply, the transaction price will rise, and the rise in price will lead to a decrease in the real yield on U.S. debt. So, the more people need US debt, the lower the yield will be. On the other hand, when people don't want to hold U.S. bonds and sell them collectively, the supply exceeds the demand and they can only sell them if they reduce the price. At that time, those who accept U.S. bonds are all buying them at a low price. For them, the real yield on U.S. bonds at maturity will rise.

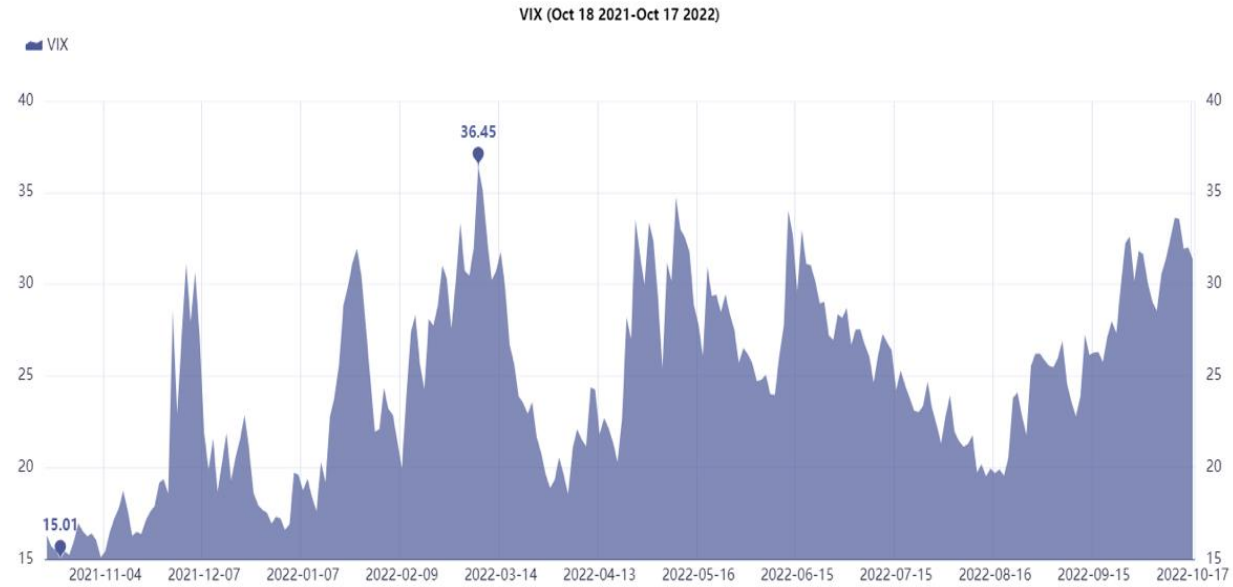

Figure 5. VIX from Oct 18 2021 toOct 17 2022
(Photo credit: Original)

3.4 Gold and Gold Futures

As a safe-haven asset, gold is sensitive to the development of geopolitics. When international geopolitics changes, the price of gold will also fluctuate greatly, especially when large economies and important regions are involved. As a commodity, gold has commodity properties. The price of any commodity will be affected by the relationship between supply and demand, so the relationship between supply and demand of gold is the most basic factor affecting the price of gold. When the supply exceeds the demand in the gold market, the price of gold will drop. When the gold market is short of supply, the price of gold will rise. Figure 6 shows the relationship between gold price and COMEX gold futures inventory. For the gold price, it started to rise rapidly immediately before the war began. The growth trend continued until the beginning of the war and continued to fluctuate slightly at a high level, then continued to decline, with the difference reaching 400 USD/oz. The U.S. CPI in Figure 7 shows that the CPI started to rise before the war and stabilized four months after the war, as the Federal Reserve stepped up interest rate hikes in June to reduce inflation. For COMEX gold futures, after the war began, its reserves first experienced an increase, stabilized for a period of time and then fell sharply.

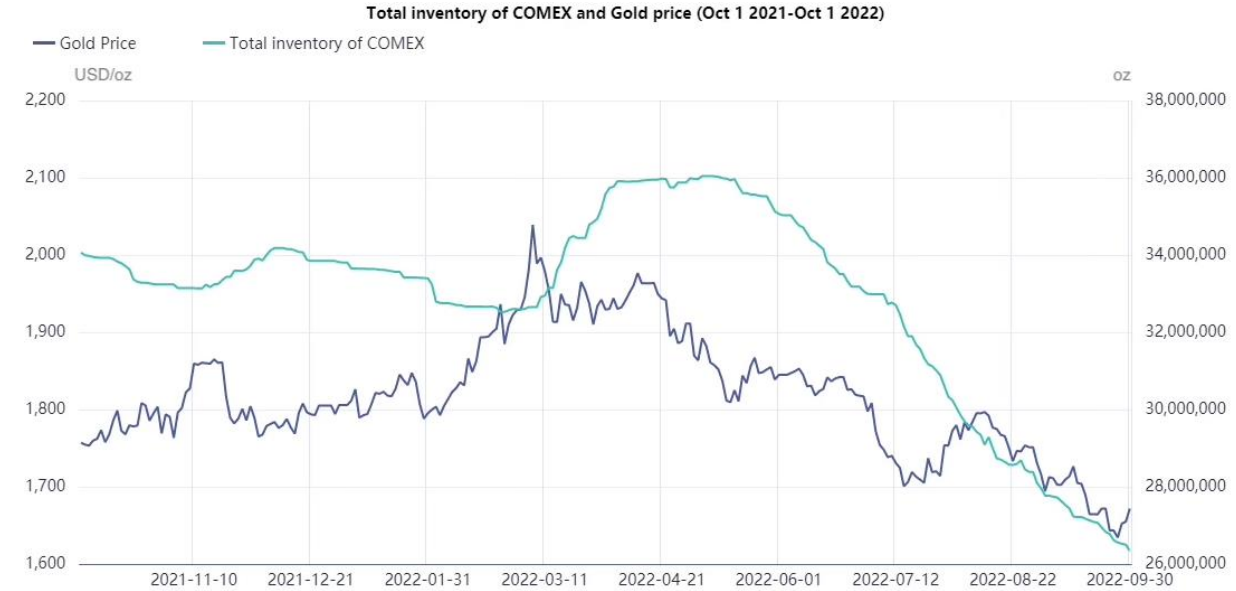

Figure 6. Total inventory of COMEX and Gold price from Oct 1 2021 to Oct 1 2022
(Photo credit: Original)

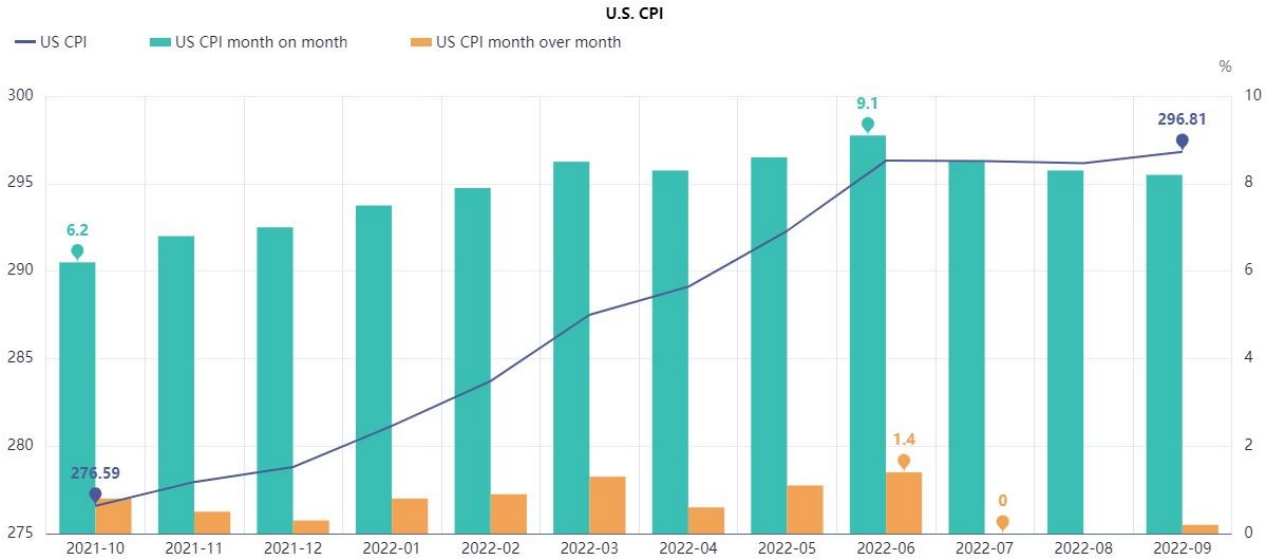

Figure 7. US CPI from Oct 2021 to Sep 2022
(Photo credit: Original)

Figure 8 shows that commercial short positions in COMEX futures have been at the highest level, far more than commercial short positions. In contrast, non-commercial short positions in COMEX futures have been at the lowest, far smaller than non-commercial long positions. Political turmoil such as war will undoubtedly reduce the gold production capacity of gold-producing countries and directly reduce the worldwide supply of gold. When the fiscal deficits of gold-producing countries increase, they will exchange large amounts of gold for foreign exchange in order to maintain the value of their currencies and reduce the supply of gold. In addition, from the perspective of investment, political instability after the war will cause a large number of investors to withdraw from other financial markets to invest in gold preservation. Such physical investment will bring more security to investors, which will expand the demand for gold and stimulate the price of gold to rise. On the whole, the geopolitical pattern that has an impact on the stability of the monetary credit system, or the geopolitical events that have an impact on the supply of resources and the price of resources, are the major reasons that affect the change of gold price. During the period before and after the war, the demand for gold increased. The price of gold also rose, but with the war going on and the war situation

becoming clear, the price of gold gradually fell back to normal or continued to fall. And the slow decline in COMEX inventories means that gold prices will also weaken.

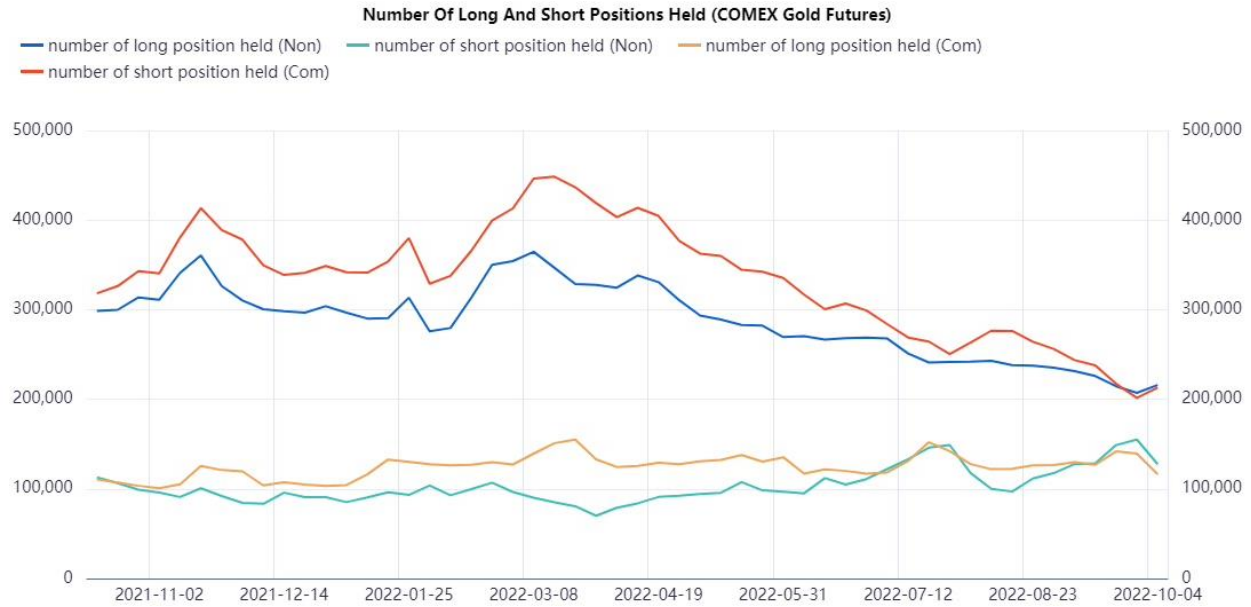

Figure 8. Number of long and short positions held (COMEX Gold Futures)
(Photo credit: Original)

3.5 Oil and Oil Futures

As one of the most widely used energy sources, oil plays an important role in industrial manufacturing, daily life supply and national strategic development. Due to the particularity of the Russia-Ukraine war itself, Russia and Ukraine, as important suppliers of global energy, industrial raw materials and agricultural products and important transportation routes connecting Eurasia, are important participants in major industries in the world. The conflict between Russia and Ukraine and the resulting economic sanctions have brought a greater storm to the already unstable supply chain of the global industrial chain and changed the global oil trade route forever. The oil flow has experienced the most important restructuring change in recent decades. The U.S. crude oil index is shown in Figure 9. It climbed to its peak at 125.42 before the start of the war and then fluctuated until it finally reached a downward trend. In contrast, the dollar index, whose value tends to stabilize during the oil index's upward phase, then fluctuates upward. There is a negative correlation between the two indexes. Judging from the performance of crude oil price. The geo-military conflict has a direct impact on energy products. The outbreak of war will significantly affect the production capacity and supply of crude oil. As can be seen from Figure 10, US crude oil production increased slightly after the beginning of the war, accompanied by a continuous decline in crude oil inventories, from 18,474.79 to 16,373.54. As for the relationship between US crude oil import and export and US crude oil output, as shown in Figure 11, US crude oil imports have always been larger than US crude oil exports, both of which became more unstable after the war, with fluctuations increasing to peaks.

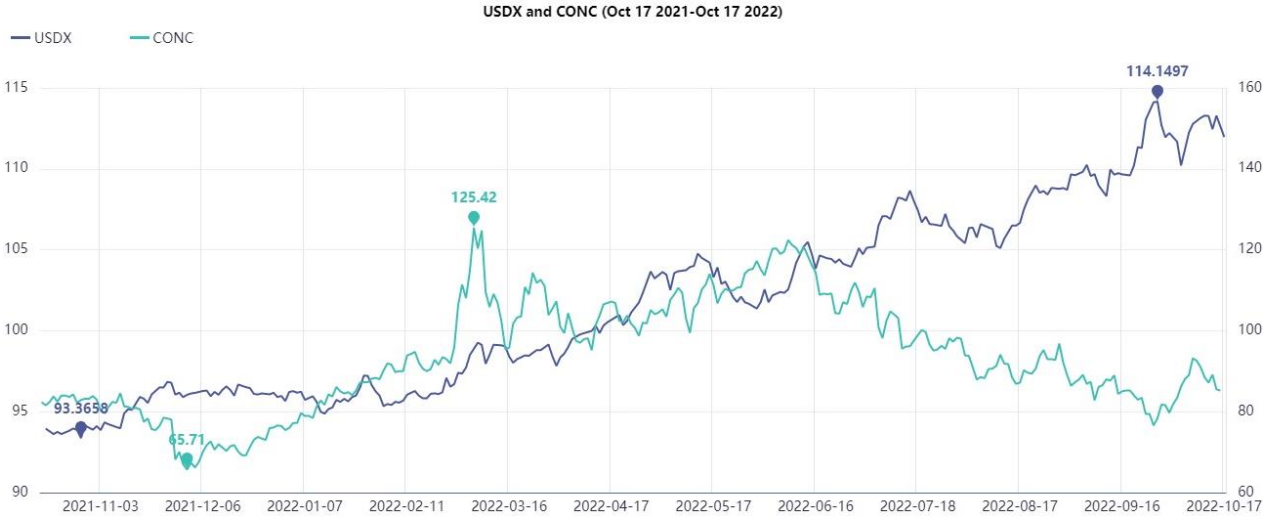

Figure 9. USDX and CONC from Oct 17 2021 to Oct 17 2022
(Photo credit: Original)

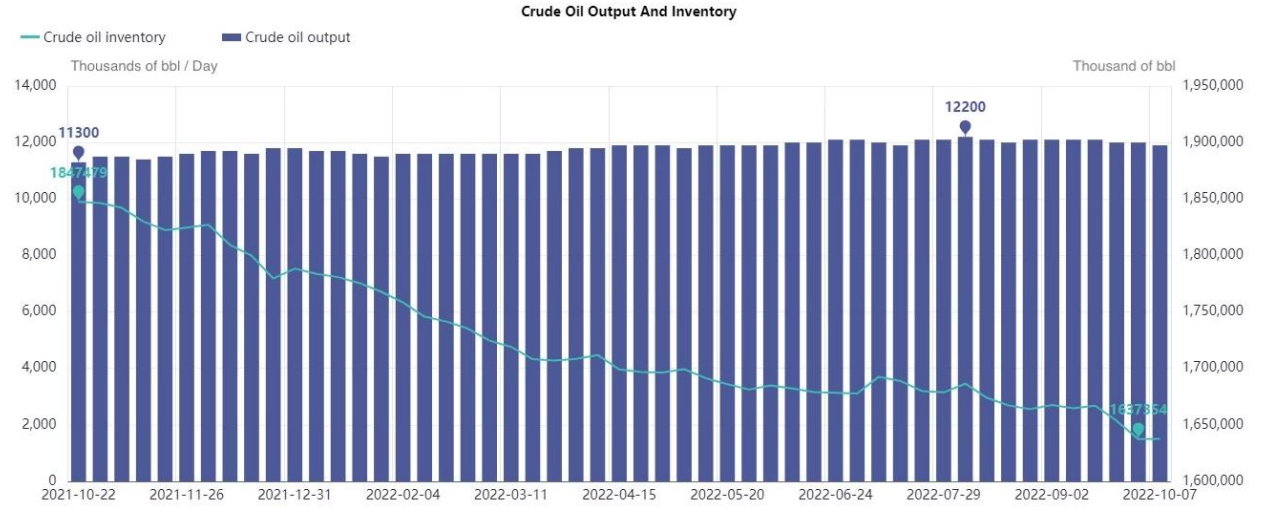

Figure 10. Crude oil output and inventory
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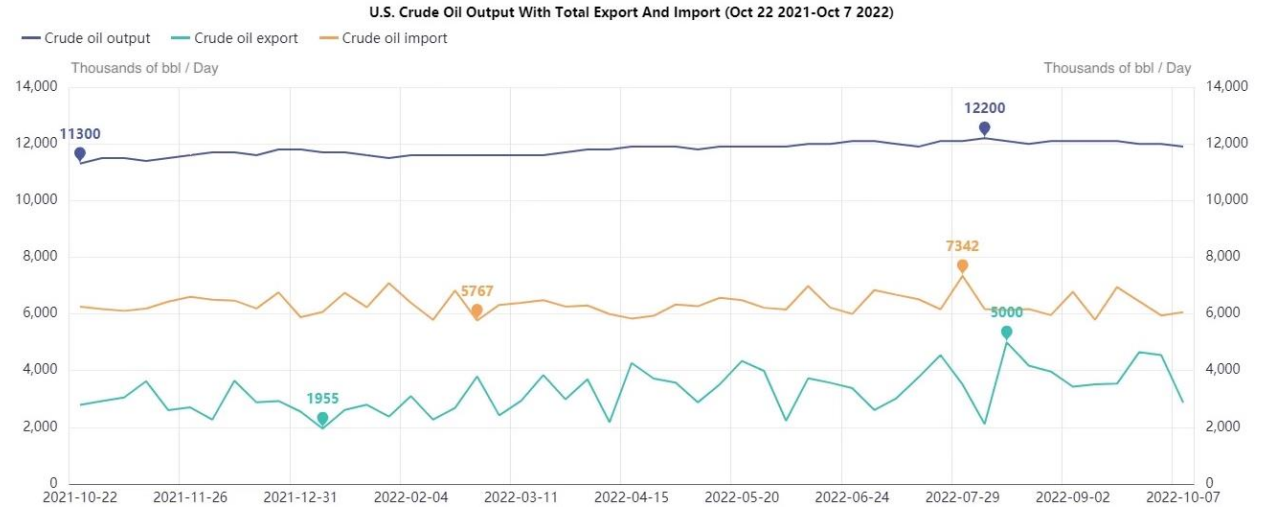

Figure 11. U.S. crude oil output with total export and import from Oct 22 2021 to Oct 7 2022
(Photo credit: Original)

NYMEX WTI is a highly liquid futures contract and has been a core benchmark contract throughout the Americas and Canada. NYMEX Brent is more representative of international crude oil prices. Figure 12 shows the closing and settlement prices of WTI futures and the volume of transactions over the past year. The volume of transactions surged to 886,170 at the beginning of the war and then remained at around 400,000. The price of WTI futures also increased only in the early stage of the Russian-Ukrainian war, showing a low level before and after the war. The price of Brent futures in Figure 13 has been increasing continuously before the war began. It is worth noting that it increased its growth rate at the beginning of the war, reached its peak value directly, and then hovered at a high level until the end of June, when it slowly showed a downward trend. Inflation in many countries around the world, the tightening of the financial environment due to the US interest rate hike, the significant pressure on global economic growth, the worries of slowdown and recession flooding the crude oil market, and the international crude oil price is obviously under pressure. In the second half of 2022, the war took a turn for the better and the geopolitical support weakened, which led to a drop in the overall oil price and a gradual return to normal.

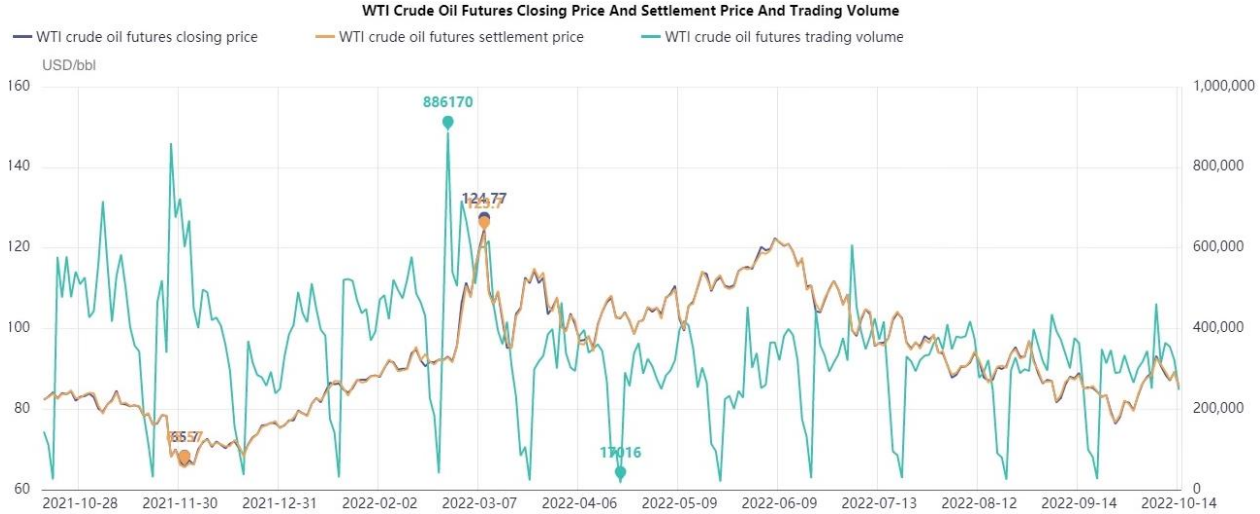

Figure 12. WTI crude oil futures closing price and settlement price and trading volume (Photo credit: Original)

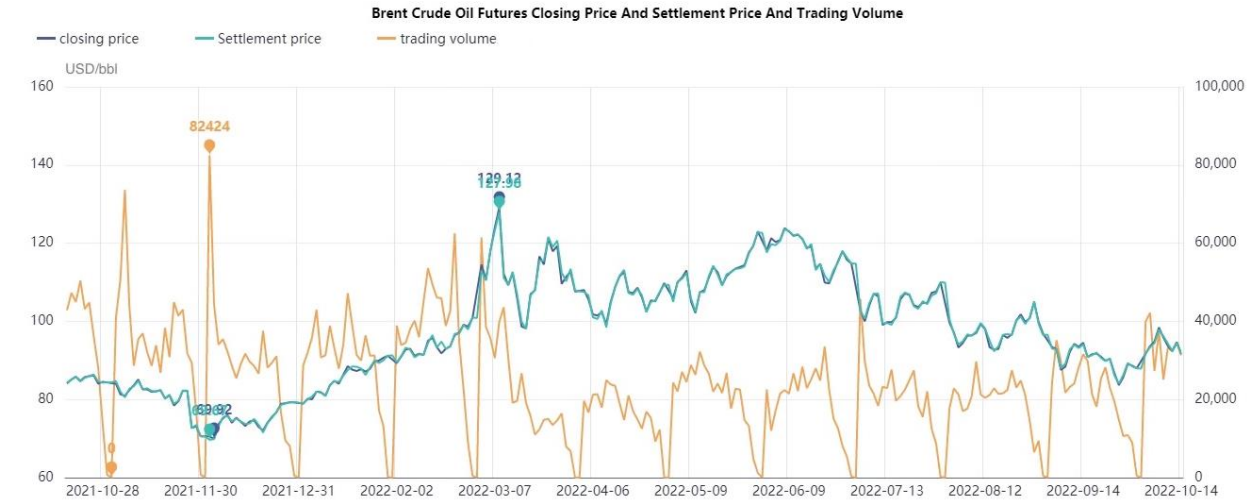

Figure 13. Brent crude oil futures closing price and settlement price and trading volume (Photo credit: Original)

4. Conclusion

Different from the existing academic literature, the focus of this article is to analyze the impact of the Russo-Ukrainian War on the US capital market and asset prices from four representative aspects. The analysis of the stock and bond markets under the influence of the war through sorting out the data and drawing can well reflect the current situation of the US capital market in general and predict the future trend. Two important reserve assets can also show the situation of asset prices during this period of war. The development of the situation in Ukraine affects the nerves of the international financial market. The war between Russia and Ukraine has become an uncertain factor that once again caused great turbulence in the international financial market after the outbreak of the COVID-19 epidemic. In the short term, although the Russian-Ukrainian war has rapidly impacted the global foreign exchange and capital markets, spread to the international energy market and pushed up the price of safe-haven assets, the probability of a global financial crisis caused by the conventional war between Russia and Ukraine is very low due to the limited economic scale of the two countries. In the medium to long term, the impact on the international financial market depends on the development of the situation, especially the interaction between Russia and the US, Europe and the West. The prices of major assets are also determined by the supply-demand relationship.

Moreover, the findings of this study are generally the same as the conclusions of the existing literature on other wars on asset prices and capital markets. The war sent the stock market down, but as the war went on, the stock market slowly recovered and the overall index looked like a "U". The war will raise the sentiment indicator, reflecting investors' safe-haven reaction to the market. Therefore, investors are more willing to put money into stable assets, such as bond markets, gold, etc. Moreover, the chain reaction brought about by the war will cause global inflation, and gold is a hedge against inflation. The increase in oil price means that inflation will follow and the uncertainty of economic development will increase. At this time, the role of gold in hedging will be favored by people, and the increase in demand will also lead to an increase in the price of gold. There is a positive correlation between gold and crude oil. The rise in crude oil price indicates that the price of gold will also rise. The fall in crude oil price indicates that the price of gold will also fall. It is worth mentioning that the two major countries involved in the Russo-Ukrainian war are both big commodity producers. The war will also affect several aspects of the above analysis to varying degrees, but the overall situation remains basically unchanged.

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