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# *The Effect of Federal Reserve's Rate Hikes: A perspective of Financial Market*

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***Abstract:*** In recent years, due to the global economic recession caused by the Covid-19 pandemic, the Federal Reserve has increased the interest rate to a historical high level in recent years. In this article, the author plots the diagram of index vs. Time to show the overall economic situation. This article concentrates on the effect of the rate hikes of Federal Reserve. The purpose is guiding the investors and governments to make decision under the challenging situation. Based on the timeline of rate hikes, there are improvement of the overall economy in US. It is a chance for investors to invest the money. There are chances for investors to invest when the US Federal Reserve increase the interest rate. The investors will have more confidence to increase income if the overall economic condition is improved by the rate hike. The government can control the level of the investors' confidences to keep stable development of economy by controlling time of rate hikes.

***Keywords:*** interest rate, Fed, financial market

## 1. Introduction

The global economy experienced a great recession from 2020 to now. The world GDP decreased and rate of employment decreased in the most of countries in 2020. All of these signals reflect the negative aspects for the following development of the global economy. As the greatest economic entity in the world, the U.S. also experienced the great economic instability. To deal with the instability and the effects from the global economy, the U.S. government published some economic policies and monetary policies. This article concentrates on the monetary policies published by the U.S. government and the Federal Reserve. In this article, the analysis about the hike interest rates from the Federal Reserve during the period of Covid-19 pandemic and the global economy recession. The U.S. government print more money during the economy recession because it needs the stable of the national companies to keep the employment rate and the social stability. That will cause more US dollar circulate in the market. Then, the currency inflation will happen. To avoid the severe currency inflation, US government need to encourage savings of people. So, the interest rate hike policy is published. The Federal Reserve increases the interest rate 8 times in 2022. According to the Table 1, the Federal Reserve increase the interest rate frequently in 2022. The Federal Reserve is the central bank of U.S. It should serve for the macroeconomic and the development of U.S. people and society. "a bank is a business entity that collects funds in the form of deposits and distributes them to the public in the form of credit and/or other forms to improve the standard of living of the people at large. The function of the Bank itself is as a collector and channel of public funds to support national

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development to improve equality in the standard of living of the community." [1]. The increased interest rate will absorb more dollars and reduce the amount of dollar which circulates in the market. The less money in the market will reduce the inflation rate. The inflation rate can change the living qualities of US people. " In particular, in the US the annual inflation rate by May 2020 was 0.95% with the Covid basket" [2]. The relative low inflation rate is the consequence of the increase interest rate from Federal Reserve. The intentions of the investors is not only changed by income rate, but also the risk. The economic recession increases the systematic risk for almost all investment methods. "Said policies' effectiveness has been questioned given empirical evidence that investment is not that responsive to interest rates" [3].

Table 1: Fed rate hikes 2022-2023: taming inflation.

| FOMC Meeting Date | Rate Change (bps) | Federal Funds Rate |
|---|---|---|
| Jan 31 to FED 1 | +25 | 4.50% to 4.75% |
| Dec 14, 2022 | +50 | 4.25% to 4.50% |
| Nov 2, 2022 | +75 | 3.75% to 4.00% |
| Sept 21, 2022 | +75 | 3.00% to 3.25% |
| July 27, 2022 | +75 | 2.25% to 2.50% |
| June 16, 2022 | +75 | 1.5% to 1.75% |
| May 5, 2022 | +50 | 0.75% to 1.00% |
| March 17, 2022 | +25 | 0.25% to 0.50% |

Data source: https://www.forbes.com/advisor/investing/fed-funds-rate-history/

This article mostly concentrates on the effect of increasing the interest rate of the Federal Reserve to the money market and bond market. The analysis of the situation is helpful for government to make policy and for investors to build their investment portfolios. This article will introduce the effect of interest rate hike in these different aspects: firstly, the effects to money market and the foreign exchange rate; secondly, the effect to the stock market; thirdly, the effect to the bond market.

## 2. Stock Market

The stock market is very elusory for the investor. As an investment method with relative high-risk, the uncertainty of the income is relatively big, and it brings the possible high income or loss. "Falling stock prices across the world mean that markets become more volatile due to the leverage effect – a drop in stock value leads to an increase in financial leverage. This eventually makes the stock riskier and increases volatility" [4]. The uncertainty is one of the most important variables about the intentions of the investors. The uncertainty will reduce the intentions of investors about invest in specific stock. Besides, the stock market is experiencing a huge influence of the global economy recession. The systematic risk increases because of the Covid-19 pandemic. "The *t*-statistics for all 30 industries are greater than 2.0, indicating that total risk in all U.S. industries have significantly increased due to the COVID-19 regime change" [5].

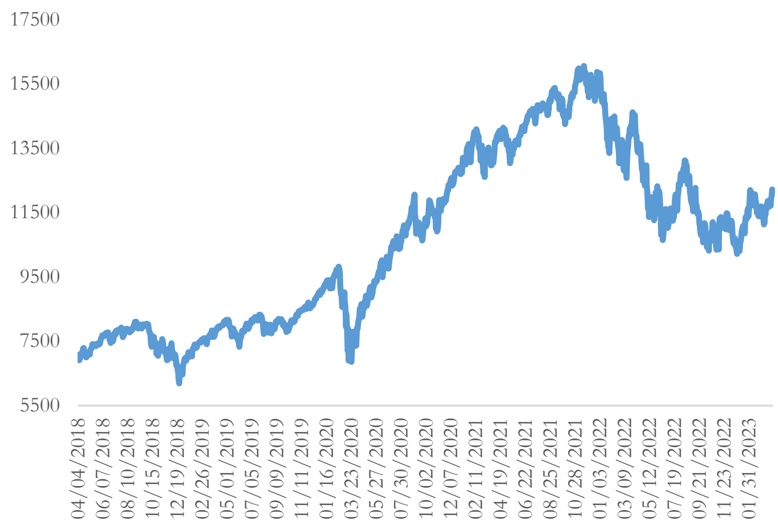


Figure 1: Nasdaq index.

Data source: https://www.nasdaq.com/market-activity/index/comp/historical

Photo credit: Original

From the Nasdaq index and SSEC index (please see Figure 1 and Figure 2), the indexes decrease after the outbreak of Covid-19. The indexes decrease quickly for the period that the situation that American or Chinese people experience the most serious situation. Except the recession caused by systematic risk, the capital flows are an expression of investors' confidence and prediction of market of a country. These predictions will shape the development of this country in the future. Mostly, the capital inflow benefit to a country. "Capital flows can help increase the depth and liquidity of securities markets, and promote the overall development of domestic capital markets. Greater foreign institutional ownership leads to significant increases in innovation, more informationally-efficient stock prices in emerging markets, and improvements in stock liquidity" [6]. These effects are all positive for the stock market of this country. The supply(investment) increases, the price of commodity(stock) will increase when the demand stays the same. The stock price will increase when the capital inflows in this country. The price increases mean the investor will have stronger intentions to invest this stock because the stock model always predict the change of stock price mostly based on recent trend. The U.S. dollar appreciation because of the interest rate hike will attract more investor to buy dollars and invest dollars in stock; then, the stock index increases. The one-day jump on July 27th, 2022 directly caused the tremendous increase in Nasdaq. This phenomenon shows the directly relationship between the increase of interest rate and the Nasdaq which is one of the most important reflections of the confidences of the investors. For the management of international company, the change of currency exchange rate will strongly affect the profit of company and the confidence of investors. If the company produce in U.S, the US dollar appreciation will reduce its profit and have negative effect on the stock price. In contrast, the companies which produce out of the U.S. will benefit from the U.S. dollar's appreciation and it has positive effect on the stock price of these companies. The U.S. dollar's appreciation will benefit the import and is bad for export for U.S. Besides, holding some stocks is a high-risk activity. Due to the situation that most investors are risk-averse investors, so more money will flow in the the low-risk investment and the risk-free investment, such as the bond and deposit money in the bank. Less rate of investment in the high-risk products means investors are losing the confidence to the stock market. Less investment may cause the stock

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prices goes down. The decrease of stock price may cause the investors close out the stock in panic. There are many examples of close out in panic, such as the Great Depression.

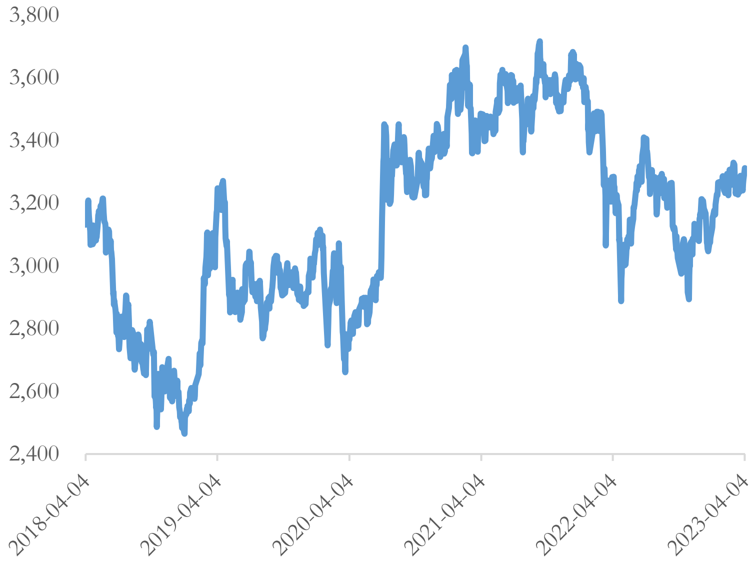


Figure 2: SSEC index.

Data source: https://cn.investing.com/indices/shanghai-composite-chart
Photo credit: Original

## 3. Bond Market

Besides the effect on the money market, there are also some effects on the bond market. Covid-19 affects the global economy strongly. As a global economic entity, the US economy is under considerable effect. "Perhaps most dramatic was the near tripling in the average cost for investment-grade bond transactions, from around 30 basis points (per dollar of principal traded) in February to nearly 90 basis points in mid-March, levels not seen since the financial crisis that precipitated the Great Recession." [7]. Many huge companies are international companies. This analysis is specific for the companies that produce outside of the US. Their large scales have the stronger effect on the bond markets. Due to the situation that the companies cannot change the sell price of the commodities, and they need a period to produce and sell the products, the profits of these companies will be strongly affected by the change of the interest rate of the US dollar because most commodities sold in the international market are traded in US dollars. The profits of the companies are the possible returns of the investors to the bond of this company. The possible returns of the investors are directly related to the wishes of the investors to invest this bond and the bond prices. The consequence is that the bond price of this company will go down. This is the indirect effect of the change in interest rates to the bond market. In contrast, those companies that produce in the US and sell outside of the US will benefit from the increase of interest rates. This policy will weaken their foreign competitors. The Federal Reserve publishes the policy of rate hike to strengthen the competitiveness of their currency and companies.

This situation of the bond market from the analysis of economists of the Federal Reserve shows the severe situation of the recession of the investment of the bond market. The investment and the fluidity of the bond market reduces if consider the inflation of the US dollars. To analyze and predict the trend of the interest flow of a country. The trend of the interest flow of a country implies the

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development of this country. It can guide the investor to decide their investment strategy. The change of the interest rate can cause the US dollar's appreciation. The appreciation of the US dollar increases the relative value compared to the other currencies. The total investment will increase when the US dollar's appreciation increases. More capital will flow into the US. The capital of other countries will flow out. The US dollar's appreciation is beneficial for the goods import and harmful for export. The changes of the investors' confidence to these specific ranks of companies can have a domino effect on these businesses. A situation like "bank run" will happen on bonds of some companies which are shocked severely during the pandemic. The pandemic causes the reduction of prices of the bonds. Then, the reduction of the price of the bonds causes more people to lose confidence in these bonds. The mutual effects between the bond price and investors' confidence cause bankruptcies of many companies and banks, such as the Lehman Brothers which used to be the fourth largest bank in the US but it was bankrupt during the global economic crisis in 2008. Compared to the incidents in the past, there are similar incidents that happened this year. The bankruptcy of the Silicon Valley bank and the severe slump in stock of the Wells Fargo Bank is the start of this crisis. The deep-seated financial problems from 2008 will cause more turbulence from the US bonds market to the global bonds market. The investors should reconsider the systematic financial risk even for the big and old banks. These banks may have the possibility of bankruptcy, which means that the so-called risk-free investment in the past also has some risk of loss of principal. Because of the increase of the systematic risk and the non-systematic risk for some banks in specific fields, the investor will tend to build a more diversifiable investment portfolio. "The results provide evidence that bank diversification differently affects financial stability during the financial crisis from how it does during non-financial crisis period; specifically, the slope of the inverted U-shape is steady in the non-financial crisis period but steeper in the financial crisis period. "[8]. With the steeper curl of the model, the income is becoming more sensitive because of the financial crisis. Investors will become more careful in investment. Besides, an investor is not the only character who will react to the financial crisis. The government is the most important role in shaping the investment environment. The government implements economic policy to push their society's development. The policy implemented by the government will change the investment environment and the investors' strategies. "This study explores the impact of EPU (economic policy uncertainty) on IC （intellectual capital） investment. This part shows strong evidence of a negative impact of EPU on IC investment, implying EPU hinders corporate IC investment." [9]. The government should consider the chain reaction of the investors to avoid the capital flight. So does the company, such as the bank. "March 8 – Silicon Valley Bank announced a $1.8 billion loss on the sale of securities, including the Treasury and mortgage bonds, which had lost significant value over the previous year due to an aggressive series of interest rate hikes at the Federal Reserve."[10]. The statement about the risk of bonds is regarded as the trigger of the failure of Silicon Valley Bank.

## 4. Conclusion

Based on the research above, the Covid-19 pandemic which started from 2019 to now, has destructive effect on the bonds market and stocks market. After the pandemic, the US Federal Reserve increased the interest rate in a large scale. The decreases of Nasdaq and SSEC can prove the negative effects of pandemic. Most researches express the pessimistic attitudes to the following development of global economy. It's definitely a challenge for the investors and governments to keep developing under the effects of unstable environment. So, the analysis of the environment of global economy is important. The changes of Nasdaq and SSEC index can guide the investors to invest because the indexes is a reflections of the whole situation of economy. Investing the stocks or bonds when the indexes is increasing can let the investors have more chance to earn money. The analysis of different investment strategy is helpful for the investors to make decision among the different investment portfolios. This

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article is a general review of the effects of Covid-19 to the global economy and helps the investors to grasp the chance to invest when the macroeconomic is improving. There is a disadvantage that the different regions are impacted by the Covid-19 in different angles because of the different industrial division in this region. The analysis of every specific region or business is more meaningful and useful to guide the strategy of investors and government.

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